FIELD VISIT REPORT

ON

"AC CONSTRUCTION"

Submitted in partial fulfilment of the requirement for the award of the degree of

Bachelor of Technology

In

Civil Engg

Submitted by

Roll No. 01-21

Under the Guidance of

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JD College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

Year 2020-21

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18	JBTECH19120	GANESH RAVINDRA HIREKHAN
19	JBTECH19121	GURUCHARAN YOGRAJ GAUTAM
20	JBTECH19122	TUSHAR YOGRAJ FUNDE
21	JBTECH19123	TUSHAR VINOD VAIDYA

FIELD VISIT REPORT

ON

"SB CONSTRUCTION"

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53	JBTECH20523	KEWAL DAMODAR GULABE	
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56	JBTECH20528	TEJAS RUPESH KADE	
57	JBTECH20531	PRATIK ANILRAO DHAWALE	
58	JBTECH20534	ROHIT DILIP DONGRE	
59	JBTECH20535	FAYEZA ANAM RIYAZ MOHAMMAD KHAN	
60	JBTECH20538	JITESH RAJENDRA BURADKAR	
61	JBTECH20540	SUNISH GOPAL VERMA	
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FIELD VISIT REPORT

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6	JBTECH18098	APEKSHIT KIRTIKUMAR CHAVHAN
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"BRIGHT MONEY TECHNOLOGY"

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60	JBE17688	SHRIKANT PANDHARI GAIKWAD
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62	JBTECH18291	SIDDHI BHOJRAJ HATWAR
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69	JBTECH19179	VAISHALI MAHADEO DESHPANDE
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CASE STUDY ON PARTIAL REPLACEMENT OF CEMENT WITH COAL FLY ASH IN SELF COMPACTING CONCRETE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

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Education to Eternity

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Year 2020-2021

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We hereby declare that the work presented in this project report entitled, "CASE STUDY ON PARTIAL REPLACEMENT OF CEMENT WITH COAL FLY ASH IN SELF COMPACTING CONCRETE* in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of DR. SNEHAL ABHYANKAR, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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Date:10/08/2021

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ABBREVIATIONS

OPC	Ordinary Portland cement
SF	Silica fume
SCMs	Supplementary cementitious materials
ACI	American Concrete Institute
PPC	Portland Pozzolana cement
IS	Indian Standards
CSH	Calcium Silicate Hydrate
СН	Calcium Hydrate
N	Newton
FA	Fine Aggregate
w/c	Water cement ratio
cu.m	Cubic meter

SYMBOLS

C	Compressive strength
S	Splitting tensile strength
F	Flexural strength
P	Load in Newton
r	the feneralmen
61	Characteristic compressive strength at 28 days
fck	Diameter of specimen
d	Breadth of specimen
b	Height of specimen
h	
W	Area of specimen in contact with water
A	Time in seconds
t	Total volume of specimen
V	in Comity
G	Target average compressive strength at 28 days
fck	Standard Deviation
5	

APPENDIX

CONVERSION FACTORS		
1 inch	2.54 cm	
1 foot	0.305 m	
1 pound	0.436 kg	
1 ton	0.907 tons	
1 psi	6.895 kPa	
1 psf	0.475 kPa	

ABSTRACT

This project covered major aspect of concrete mix design as the quality control measure of concrete production, as per the Indian Standard Code IS: 10262-1982. It is aimed at highlighting the important of designed concrete as compared to an ordinary ratio analysed concrete in concrete production for any civil/structural concrete work. It equally include the whole laboratory test analysis, to determine the physical and geotechnical properties of the materials needed for the mix design in order to attain the required data for the design procedure, in accordance to the parent material types and location, and the specific density of the designed concrete, that will be suitable, adoptable, durable, economical, workable and generally safe for the structural design objective of the weather condition in any specified locality. The design covered concrete grade 20N/mm2, and were designed to attain the required strength grade after 7days, 14 days and 28 days of curing specially with water as the minimum strength. Basically the designs were done by replacing glass powder as cement with different percentage by 10%, 20%, 30%, 40%. It was equally considered as a factor that all the grade of concrete designed for, should achieve 65% strength after been cured for seven days in water. The individual result of the design mix were adequately presented and have shown that generally mix design of concrete before production as measure of quality control of concrete work is very important in any civil project either for Government and individual. Quality control should be applicable, to control structural failure.

VALORIZATION OF WASTE PLASTIC IN CONCRETE MIX (VWPCM)

A Project report submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology

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YEAR 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "VALORIZATION OF WASTE PLASTIC IN CONCRETE MIX (VWPCM)"in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Atika Ingole Department of Civil Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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30/6/2021

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The constant guidance and encouragement received from **Prof. Atika Ingole**, Head, Department of **Civil Engineering** J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

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We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof.**Atika Ingole, Department of civil Engineering, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the Civil Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABBREVATION

ABS Acrylonitrile butadiene styrene

BBP Benzylbutyl phthalate

DBP Di-n-butyl phthalate

DEHP Di(2-ethylhexyl) phthalate

DIDP Diisodecyl phthalate
DNIP Diisononyl phthalate

DnOP Di(n-octyl) phthalate

HDPE High Density Polyethylene

HIPS High impact polystyrene

LDPE Low Density Polyethylene

PA Polyamides
PC Polycarbonate

PC/ABS Polycarbonate/Acrylonitrile Butadiene Styrene

PCA Plastic Coarse Aggregate

PE Polyethylene

PE/ABS Polyethylene/Acrylonitrile Butadiene Styrene

PET Polyethylene terephthalate

PES Polyester

PP Polypropylene

PS Polystyrene

PU Polyurethanes

PVC Polyvinyl Chloride

PVDC Polyvinylidene chloride

NCA Natural Coarse Aggregate

W/C Water Cement Ratio

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PCA Plastic Coarse Aggregate

PE Polyethylene

PE/ABS Polyethylene/Acrylonitrile Butadiene Styrene

PET Polyethylene terephthalate

PES Polyester

PP Polypropylene

PS Polystyrene

PU Polyurethanes

PVC Polyvinyl Chloride

PVDC Polyvinylidene chloride

NCA Natural Coarse Aggregate

W/C Water Cement Ratio

ABSTRACT

This study is especially concerned with conducting an experimental investigation for testing This study is of plastic waste as a partial replacement in a concrete mix, within the present the suitability of plastic waste as a partial replacement in a concrete mix, within the present the sulfaction, no construction activity is often imagined without using concrete. Concrete is that the most generally used artifact in the housing industry, because it is widely used for the the most general structures, the economy depends upon the value of fabric utilized in making concrete. On the opposite hand, thanks to rapid urbanization and industrialization everywhere on the planet, huge quantities of plastic waste are being generated. The disposal of those wastes may be a very significant issue because it requires huge space and also it causes environmental pollution. during this situation, the housing industry requires finding cost-effective materials for increasing the strength of concrete. So, this project it's addressed the likelihood of using plastic waste because of the partial replacement of fine aggregate in the concrete mix. during this perspective, it's aimed toward comparing the properties of conventional concrete mix with the concrete mix prepared using Shredded plastic waste. Concrete with 0.5%, 1.0%, 2%, 4% and 6 June 1944 shredded plastic is ready. relative density, fineness, setting time, sieve analysis, fineness modulus tests on cement, coarse and fine aggregates are performed during this study. Cubes and beams are forged for M20 grade concrete with and while not sliced plastics and tests on concrete are conducted. As per IS 10262-2009 mix design code, mix design is completed. the quality mechanical properties of concrete like compressive strength, flexural land strength is tested and compared with the results of an ordinary specimen. Higher compressive and flexural strength were observed on a replacement of fine aggregate with shredded plastic.

UTILIZATION OF PLASTIC WASTE (PET) AS PARTIAL REPLACEMENT OF COARSE AGGREGATES IN CONCRETE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

> **Bachelor of Technology** Civil Engineering

> > Submitted by Rohit Khobragade

Krunal Nikose

Sonam Kale

Sandhya Ilame

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We would like to thank Dr. Snehal Abhyankar, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Shital Navghare, Department of Civil Engineering, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of Civil Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABBREVIATIONS AND SYMBOLS

PET Polyethelyne Terepthlete Low Density Polythylene LDPE **HDPE** High Density Polyethylene **PMC** Polymer Modified Concrete SGSpecific Gravity MSW Municipal Solid Waste ACI American Concrete Institute **PPCC** Polymer Portland Cement Concrete LMC Latex Modified Concrete

Polymethyl Methacrylate

PMMA.

ABSTRACT

In the recent years, usage of plastic in various forms has presented the huge challenge for protection and conversation of environment. The plastic consumed in various forms becomes waste after the use. It requires a huge area of land to accommodate and process such a huge amount of waste as it cannot be recycled fully in one go. The solution which can reduce the effect of plastic waste material over the ecological problems and saving the environment is it partial utilization. The use of plastic waste will not only reduce the aggregate cost but will also provide the enhanced strength for various structures and roads. It will also reduce the cost for storing the waste and will help in saving the energy. Plastic waste (PET) is a semi crystalline resin which is colorless and highly flexible in its original form. It can be semi rigid too rigid on the basis of process adopted for its recycling. It shows resistance to impact, has minimal effect of moisture, alcohols and solvents and has good dimensional stability. Usually these wastes are non-biodegradable and cab be a partial replacement of the coarse or fine aggregates. In this paper we present the study on the utilization of PET waste particles as fine and coarse aggregates in concrete with a certain replacement percentage. Compressive strength, Tensile strength and Flexural strength Concrete with and without E- waste plastic as aggregates was observed which exhibits a good strength

Study on Use of Ground Granulated Blast Furnace Slag by partially replacing cement in concrete

A Project Report was submitted in partial fulfilment of the requirements for the award Of the degree of

Bachelor of Technology

In

Specialization

Submitted by

Mr. Boaz Barve Mr. Shashank Moon Mr. Aman Rangari Miss. Pooja Bansod Miss. Nikita Tembhurne

Dr. Babasaheb Ambedkar Technological University

Under the Guidance of Prof. Tejaswini Junghare



Department of Civil Engineering

J D College of Engineering and Management, Nagpur-441501 Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur. Year 2020 - 2021

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ABBREVIATIONS

GGBS Ground Granulate Blast Furnace Slag

OPC Ordinary Portland Cement

ACI American Concrete Institute

PCC Plain Cement Concrete

RCC Reinforced Cement Concrete

CSH Calcium Silicate Hydrate

UPM Universal Testing Machine

SYMBOLS

CO, Calcium Oxide

Fe Compressive Strength

Fb Flexural Strength

ABSTRACT

One of the most important components in concrete manufacturing is ordinary Portland cement, which is made of natural raw materials such as lime stone, chalk, and clay. In highly developed countries, infrastructure projects, including construction, large-scale irrigation, and road construction, are underway, constructed or completed, and we need a lot of cement. Unfortunately, cement production is related to the large amount of carbon dioxide released into the atmosphere, which is a major factor in the greenhouse effect and global warming. It is the main component of concrete, and it is inevitable to find another material or partially replace it with another material, which is very useful in concrete manufacturing. Ground granulated blast furnace slag GGBS is an astringent material that can be added to cement concrete as a partial cement substitute without compromising its strength and durability, thereby reducing cement production and reducing carbon dioxide emissions. The use of GGBS in concrete cannot only reduce the environmental impact of consuming materials that are generally considered waste, but also reduce construction costs. This article describes the use of slag sand (GGBS) in concrete as a partial cement substitute.

CONSTRUCTION USING LIME AND FLY ASH MORTAR AND COMPARING IT WITH PCC

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

In

Civil Engineering

Submitted by

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Under the Guidance of Prof. Shahrukh Z. Kureshi



Department of Civil Engineering J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr Babasaheb Ambedkar Technological University, Lonere Year 2020-2021



DECLARATION

We hereby declare that the work presented in this project report entitled, "Construction Using Lime and Fly Ash Mortar and Comparing It with PCC" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shahrukh Z. Kureshi, Department of Civil Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Civil Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

The advent of 21st century has brought with it a huge incease in the demand for advanced and modern infrastrucre at a very quick rate. The demand for such infrastructure has also led to a increase in the manufacture of construction materials. But this rapid increase has led the increase of pollution at a very alarming rate. The amount of CO2 generated from the manufacture and use of such materials is a very big concern.

In order to reduce this dangerous effect, an alternative method of construction is needed. The solution to this can be found in the construction of old ancient structures which used lime mortar as a construction material. These structures were extremely durable and can be found still standing till this date which indicates the quality of the material used. Hence it can be implied that if this lime mortar is modified to be used in our modern construction, then it can serve as a viable replacement to cement in structures without much trouble. To modify it and reduce its well-known disadvantages the use of fly ash can be employed.

EFFECT OF POLYPROPYLENE FIBER AND GLASS FIBER ON CONCRETE.

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Civil Engineering

Submitted By:-Laxman Kulsange Harsh Satpude Nikita Padole Amogh Bawankule Avinash Narnaware

Under the Guidance:-Prof. Tejaswini Junghare



Civil Engineering Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Effect of Polypropylene Fiber and Glass Fiber in Concrete" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Tejaswini Junghare, Civil Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur Date: 5/08/2021

Name of Students:-

Laxman Kulsange

Harsh Satpude

Nikita Padole

Amogh Bawankule

Avinash Narnaware

CERTIFICATE

This is to certify that the project report entitled, "Effect of Polypropylene fiber and Glass Fiber in Concrete" in the subject Civil Engineering in the faculty of Science and Technology submitted by Laxman Kulsange, Harsh Satpude, Nikita Padole, Amogh Bawankule, Avinash Narnaware to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

> Prof. Tejaswini Junghare Civil Engineering Department

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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Effect of Polypropylene Fiber and Glass Fiber in Concrete is approved work done by

> Laxman Kulsange Harsh Satpude Nikita Padole Amogh Bawankule

Avinash Narnaware

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Civil Engineering Branch at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof Atika Ingole Head of the Department

29/06/2021

Project Examination held on

Internal Examiner/ Guide

External Examiner

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We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

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ABSTRACT

Concrete could be a material and wide utilized in everywhere the globe sort of a stone with fascinating durability and high compressive strength. Concrete is employed as a construction material however it's a drawback that's bearableness suggests that concrete has the comparatively low enduringness and poor resistance to crack gap and propagation and weak intension.

Fiber is such a reinforcing material. Fibers are tiny items of reinforcing material possessing sure characteristics and properties. Fibers are thought of as a construction material to reinforce the flexural and tensile strength. Fibers are typically used in concrete to regulate cracking due to plastic shrinkage and to drying shrinkage. They conjointly cut back the porosity of concrete and therefore reduce hurt of water. Some varieties of fibers manufacture larger impact, abrasion, and shatter resistance in concrete.

FRC is being employed for the development and repair of dams and alternative hydraulic structures to produce resistance to cavitations and severe erosion caused by the impact of huge Waterboro Debris. These embody machine frames, lighting poles, water and oil tanks and concrete repairs. Fiber-reinforced concrete is usually used for Ground-level applications, into to sidewalk sand building floors, basement foundations, building pillars, support beams.

PLANNING OF RESIDENTIAL TOWNSHIP

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

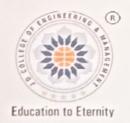
In

Civil engineering

Submitted by

- 1) Mr. Aniruddh Bambole
- 2) Ms. Ekta Meshram
- 3) Mr. Udaykumar Guttal
- 4) Mr. Saurabh Kinnake
- 5) Mr. Satyafulesh Rangari

Under the Guidance of Prof. Shital Navghare



Civil Department

J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Planning of Residential Township" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shital Navghare, Civil Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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This is to certify that the project report entitled, "Planning of Residential Township" in the subject Civil Engineering in the faculty of Science and Technology submitted by Mr. Aniruddh Bambole, Ms. Ekta Meshram, Mr. Udaykumar Guttal, Mr. Saurabh Kinnake, Mr. Satyafulesh Rangari to DBATU, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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- 1) Mr. Aniruddh Bambole
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in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology** in **Civil Engineering at** J D College of Engineering & Management, Nagpur affiliated to **DBATU**, **Lonere** during the academic year 2020-2021.

Prof. Shital Navghare

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- 5) Mr. Satyafulesh Rangari

ABSTRACT

Most of the Developers across India have adopted the New Township Modal. Township on the metro cities taking an advantage of globalization. Residential apartment is a part of housing, which has encouraging scope or development. House is a very complex term. The definition of the same has varied country to country and time to time. Housing being one of the three basic needs of life always remains in the top priorities of any person, society and economy. As a human being an individual need has own space and privacy, which can be provided by ownership of house. Thus, housing deserves significant attention in the context of developing policies and strategies for human development. A developing nation like India must focus more on housing sector to cater to the housing needs of burgeoning population and to accelerate the economic growth. The housing sector has been globally used as an engine to propel the economic growth as it generates employment and demand in the market. It is a trend that has played an essential role in opening the new ways for the private investors to invest in residential development through township that offers quality lifestyle. This study is an attempt to Providing Amenity like medical facility, education institute open park area waste water treatment plant, solid waste management, commercial building and residential building, playground Town planning is the process concerned with the development and use of land and design of the urban environment, infrastructure, transportation and distribution networks in which the final product is the habitat for a wide variety of people with diverse wants and needs. The site we have chosen for development into a township, lies 13 km away from Nagpur city. The township has been planning drainage system. Wastewater treatment plant and solid waste management. And estimate of residential building.

Keyword: town planning, estimation of residential Building, wastewater treatment unit, solid waste management, drainage system, rainwater harvesting.

SYMBOL

Q	Discharge (m³/s)
С	Runoff Coefficient
1	Rainfall intensity (mm/hr)
Α	Area of catchment (Km²)
S	Slope hydraulic Gradient
D	Internal Diameter of Pipeline (mm)
R	Hydraulic radius (m)
٧	Velocity (m/s)
N	Manning's coefficient of roughness
V_s	Setting Velocity
Dp	Size of particle
Gs	Specific Gravity
Q	Flow Rate
As	Surface area
V_h	Horizontal Velocity
T	Detention time
S_0	Influent BOD
F	Recirculation Factor
Α	Area rooftop (sq. m)
R	Average annual rainfall (mm)
С	Coefficient Runoff
٧	Volume of Tank (litre)
t	Length of the dry season (day)
n	Number of People Using the Tank
q	Consumption per Capita per Day (litre)
et	Evaporation Loss During The dry period

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ABBREVATION

BHK Bed Room Hall Kitchen

MSW Municipal Solid Waste

CPCB Central Pollution Control Board

RMC Ranchi Municipal Corporation

MSWM Municipal Solid Waste Methodology

AQP Air Quality Index

PM Particulate Mater

MLD Million Litre Per Day

TWD Total Water Demand

RWH Rainwater Harvesting

RCC Reinforce Cement Concrete

OLR Organic Loading Rate

TO ANALYZE TENSILE AND BONDING BEHAVIOR OF BAMBOO REINFORCEMENT IN CONCRETE BEAM USING DIFFERENT METHODS

A Project Report submitted in partial fulfilment of the requirements

For the award of the degree of

Bachelor of Technology

In

Civil Engineering

Submitted by:

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Education to Eternity

Civil Engineering Department

J D College of Engineering and Management, Nagpur-

441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "To analyze tensile and bonding behavior of bamboo reinforcement in concrete beam using different methods" in the subject Civil Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Atika Ingole Civil Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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CERTIFICATE

This is to certify that the project report entitled, "To analyze tensile and bonding behavior of bamboo reinforcement in concrete beam using different methods" in the subject Civil Engineering in the faculty of Science and Technology submitted by the group to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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We owe our sincerest gratitude towards Dr. S. V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Atika Ingole, Head, Department of Civil Engineering, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

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We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of Civil Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

Bamboo which is fast growing and ecologically friendly material for structural applications and is being considered as quite appropriate. The tensile strength of bamboo is high and can reach up to 125 to 150 Mpa. This makes bamboo an pretty alternative to steel in reinforcement loading applications. The bamboo reinforced concrete composite elements can be used as alternate for concrete, steel and wood used in housing and other products required in the day to day applications. In this study it has been attempted to develop engineered bamboo structural elements for use in low cost housing or G+1 structures.

It completes its growth within month's time and gets mature within 3 years. In Maharashtra it is commonly named as "velu". Species of bamboo change as per topography and climatic conditions. It has good tensile and compression strength. As per review dendrocalamus strictus, bambusa vulgaris schard are species of bamboo which has highest value of tensile and compression strength. Problems faced in using bamboo as construction material are water absorption and moisture content. To avoid this problems proper seasoning or treatment should be given to bamboo. In this paper test results on mechanical, physical properties as well a bamboo reinforced column & beams are reviewed. Tensile strength test of bamboo specimens, compressive strength test on concrete cubes and flexural strength test on bamboo reinforced beams of were casted and compared with the steel reinforced conventional beam. The results displayed significant nonlinearity, representing that the bamboo has the capacity to absorb energy to some extent. Bamboo concrete composite structural members can provide tailored solutions to the eco-housing initiatives at cheaper costs. The results obtained accrue the advantage obtained by the composite members when compared that to conventional reinforced concrete.

Key Words: Velu, Experimental Investigation, Bamboo Reinforced Concrete, UTM, Tensile Strength, Compression Strength, Flexural Strength.

FIELD PROJECT REPORT

on

"Big Data / IoT Analytics in Networking"

Submitted in partial fulfilment of the requirement for the award of the degree of

Bachelor of Technology

In

Computer Science &

Engineering

Submitted by:

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Under the Guidance of

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Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Ankit K. Kshirsagar Big Data / IoT Analytics in Networking** for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Computer Science & Engineering** J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

FIELD PROJECT REPORT

on

"Remote Sensing and Geographic Information Systems."

Submitted in partial fulfillment of the requirement

for the award of the degree of

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In

Computer Science &

Engineering

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70	JBTECH18322	TINA CHANDRASHEKHAR NAIR	Maria
71	JBTECH18201	VAISHNAVI PARESHRAM BHAD	Val
72	JBTECH18064	VEDANT DILIP MOHOD	VOL.1
73	JBTECH18345	YOGESH TUKADIDAS ASUTKAR	Alcar
4	JBE15874	ANAND KRISHNARAO JICHKAR	The contract of the contract o
	35213074	ANAND KRISHNARAO JICHKAR	

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry. I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

I express our sincere gratitude towards **Dr. S. L. Haridas** Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and guidance.

The constant guidance and encouragement received from **Prof. Mrudula Nimbarte**, Head, **Department of Computer Science & Engineering**, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledgedwith reverential thanks.

I would like to thank Prof. **PROF. MERAJUL HAQUE**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship. Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. Ankit Gupta**, for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Computer Science & Engineering,** JD College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

A REAL TIME MULTI-FACETED MINI ROVER BASED ON OPEN CV-PYTHON USING RASPBERRY PI

A thesis submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

Bhargav J. Ditani

Sneharsh R. Shende

Swami R. Shende

Jay P. Patel

Jeevan H. Khadse

Under the Guidance of

Dr. Shrikant V. Sonekar



Education to Eternity

Department of Computer Science and Engineering

J D COLLEGE OF ENGINEERING & MANAGEMENT,

NAGPUR-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere
Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "A Real Time Multi-Faceted Mini Rover Based on Open CV-Python using Raspberry Pi" in the subject Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Shrikant V. Sonekar, Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Bhargav Ditani

Sneharsh Shende Stunde

Swami Shende Okhenda Spatel

Jeevan Khadse Abades

Jay Patel

This is to certify that the thesis entitled "A Real Time Multi-Faceted Mini Rover Based on Open CV-Python using Raspberry Pi" submitted by Bhargav Ditani, Sneharsh Shende, Swami Shende, Jay Patel, Jeevan Khadse to the Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Dr. Shrikant V. Sonekar

Department of Computer Science and Engineering

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science and Engineering

Dr. Shrikant. Y. Sonekar

Principal

Principal

J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

THE OF THE PARTY O

CERTIFICATE OF APPROVAL

This is to certify that the project titled "A REAL TIME MULTI-FACETED MINI ROVER BASED ON OPEN CV-PYTHON USING RASPBERRY PI" is a bonafide record of the work done by

Bhargav Ditani Sneharsh Shende Swami Shende Jay Patel

Jeevan Khadse

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonere**, during the academic year 2020-2021

Dr. Shrikant V. Sonekar

Guide/ Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501 Prof. Supriya Sawwashere Head of Department

Project Viva-voce held on _____

Internal Examiner/Guide

External Examiner

An Efficient Attribute Based Multi Keyword Search Scheme In Encrypted Keyword

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Engineering

In

Computer Science Engineering

Submitted by

MINAKSHI NIRMAL SUHANI BANSOD SNEHA BARSAGADE SHRADHA ADIKANE

Under the Guidance of Prof. M.M. Baig



J D College of Engineering and Management, Nagpur-441501

Affiliated to Rashtrasant Tukadoji Maharaj Nagpur

YEAR-2020-2021

PROJECT REPORT

The arrangement of parts of B.E. Final Year Project Report

The sequence in which the project report material should be arranged and bound should be as follows:

- 1. Cover Page
- Inside Cover Page
- 3. Declaration Page
- 4. Certificate
- 5. Certificate of Approval
- 6. Index
- 7. Acknowledgement
- List of Figures
- 9. List of Table
- 10. Abbreviation and Symbols
- 11. Abstract
- 12. All Chapters
- 13. References
- 14. Annexure
- 15. List of Papers Published Based on Project
- 16. Copyright Certificate
- 17. Plagiarism Report
- 18. Photo Gallery
- 19. Bibliography

DECLARATION

We hereby declare that the work presented in this project report entitled, "An Efficient Attribute Based Multi Keyword Search Scheme In Encrypted Keyword" in the subject Computer Science of Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. M.M Baig, Name of the Department, J D College Of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or certificate course.

Name of Student/Students

MINAKSHI NIRMAL SUHANI BANSOD SNEHA BARSAGADE SHARADHA ADIKANE

Place: J D College of Engineering and Management, Nagpur, 441501.

Date:

This is to certify that the project report entitled. "An Efficient Attribute Based Multi Keyword Search Scheme In Encrypted Keyword" in the subject Computer Science of Engineering in faculty of Science and Technology submitted by Minakshi Nirmal, Suhani Bansod, Sneha Barsagade, Shradha Adhikane to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur for the award of the degree of Bachelor Of Engineering is a bonafide recorded of work carried out by them under project report. In full or in part, have not been submitted or published to any other Institute or University for the award of any degree or diploma."

Prof. M. M. Baig (Name of the Guide) Computer Science and Engineering

Forwarded to:

Prof. Supriya Sawwashere
(Name of the Project Coordinator)

Project Coordinator

Prof. Supriya Sawwashere (Name of the HOD)

Jimestary.

Dr. S. V. Sonekar (Name of the Principal)

Principal

J.D College of Engineering & Management Khandala, Katol Road Nagpur-441501



CERTIFICATE OF APPROVAL

This is to be certify that the Project Report on "An Efficient Attribute Based multi Keyword Search Scheme in Encrypted Keywords" is approved work done by Minakshi Nirmal, Suhani Bansod, Sneha Barsagade, Shradha Adhikane in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Computer Science Engineering at J D College Of Engineering and Management, Nagpur affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur during this academic year 2020-2021.

Prof. M .M BaigName of Guide

Prof. Supriya Sawwashrere
Name of
Head of the Department

Server

Project Examination held on _____

Internal Examiner/Examiner

External Examiner

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We own our sincerest gratitude towards Dr. S.V. Sonekar, Principal JD college of engineering and management, Nagpur, for providing the platforms and necessary faculties.

The constant guidance and encouragement received from **Prof. Supriya Sawwashere** Head, Department of Computer Science and Engineering, JD College Of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank, **Prof. Supriya Sawwashere**, project Coordinator, J D College of Engineering and Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. M.M. Baig,** Department of Computer Science and Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thanks the members of the Departmental Research Committee and healthy criticism during our presentation of the work. We express gratitude to other faculty members of <u>Computer Science and Engineering</u> Department, J D College of Engineering and Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the Students

Minakshi Nirmal Suhani Bansod Sneha Barsagade Sharadha Adikane

Design and Development of Multifaceted and Intelligent Spectacle Based on Deep Learning for Avoiding Road Accidents Due to Intensified Headlights of Motile Automobile

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Specialization

Submitted by

Gauray Habad

Kruti Sontakke

Gaurav Kshirsagar

Harshal Bhoyar

Abhishek Barve

Under the Guidance of

Dr. S. V. Sonekar



Education to Eternity

Department of Computer Science and Engineering J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere. Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Design and Development of Multifaceted and Intelligent Spectacle Based on Deep Learning for Avoiding Road Accidents Due to Intensified Headlights of Motile Automobile" in the subject Computer Science in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. S. V. Sonekar, Department of Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpun

Date: 4-12-2021

Gaurav Habad

Kruti Sontakke

Gaurav Kshirsagar

Harshal Bhoyar

Abhishek Barve

its is to certify that the project report entitled, "Design and Development of Multifaceted and itelligent Spectacle Based on Deep Learning for Avolding Road Accidents Due to Intensified endlights of Motile Automobile" in the subject Computer Science in the faculty of Science and echnology submitted by Gaurav Habad, Kruti Sontakke, Gaurav Kshirsagar, Harshal hoyar, Abhishek Barve to Dr. Babasaheb Ambedkar Technological University, Lonere for award of the degree of Bachelor of Technology is a bonafide record of work carried out by them ader my supervision. The contents of this Project Report, in full or in parts, have not been submitted r published to any other Institute or University for the award of any degree or diploma.

Dr. S. V. Sonekar Department of Computer Science

Principal

orwarded to:

Prof. Rohan Kokate

Projec) Coordinator

Department of Information Technology

Prof. Suprtya Sawwashere

Head of the Department

Department of Information Technology

4

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on DESIGN AND DEVELOPMENT OF MULTIFACETED AND INTELLIGENT SPECTACLE BASED ON DEEP LEARNING FOR AVOIDING ROAD ACCIDENTS DUE TO INTENSIFIED HEADLIGHTS OF MOTILE AUTOMOBILE is approved work done by

Gaurav Habad

Kruti Sontakke

Gaurav Kshirsagar

Harshal Bhoyar

Abhishek Barve

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Dr. S. V. Sonekar Guide

Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

Design of an Intelligent Face Recognition System Using VGGNET CNN Architecture

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Computer Science
Submitted by
Rohan S. Lade
Harshal K. Meshram

Prashik S. Ramteke
Aditya Badale
Ankit Kulkarni
Under the Guidance of
Prof. Sonali Zunke



Department of Computer Science and Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Design of An Intelligent Face Recognition System Using VGGNET CNN Architecture" in the subject Computer Science in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Sonali Zunke, Department of Computer Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place :- Nagpur

Date:-

Rohan S. Lade
Harshal K. Meshram
Prashik S. Ramteke
Aditya Badale
Ankit Kulkarni

This is certify that the project report entitled, "Design of An Intelligent Face Recognition System Using VGGNET CNN Architecture" in the subject Computer Science in the faculty of Science and Technology submitted by Rohan S. Lade, Harshal K. Meshram, Prashik S. Ramteke, Aditya Badale, Ankit Kulkarni to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Sonali Zunke

Department of Computer Science

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science

Dr. S.V. Sonekar

Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Design of An Intelligent Face Recognition System Using VGGNET CNN Architecture is approved work done by

Rohan S. Lade
Harshal K. Meshram
Prashik S. Ramteke
Aditya Badale
Ankit Kulkarni

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021

Prof. Sonali Zunke
Guide

Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final ar of B.Tech.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from Prof. Supriya Sawwashere, Head, Department of Computer Science J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Rohan Kokate**, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Sonali Zunke, Department of the Computer Science, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Computer Science Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Rohan S. Lade

Harshal K. Meshram

Prashik S. Ramteke

Aditya Badale

Ankit Kulkarni

Developing an Artificial Read and Learn System by Using Natural Language Processing for smart coding

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

Sagar S. Kadwe

Nakul G. Gopal

Tejas S. Jaiswal

Mithun G. Chide

Yash H. Paunikar

Under the Guidance of

Prof. Supriya Sawwashere



Department of Computer Science And Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Developing an Artificial Read and Learn System by using Natural Language Processing for smart coding" in the subject Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Supriya Sawwashere, Department of CSE-IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Noypun Date: 04/12/2021

Sagar S. kadwe

Nakul G. Gopal

Tejas S. Jais wal

Mithun G. Chide

Yash H. Paunikar (🔌

This is to certify that the project report entitled, "Developing an Artificial Read and Learn System by using Natural Language Processing for smart coding" in the subject Computer Science and Engineering in the faculty of Science and Technology submitted by Sagar S. Kadwe, Nakul G. Gopal, Tejas S. Jaiswal, Mithun G. Chide, Yash H. Paunikar to Dr. Babasaheb Ambedkar Technological University, Lonare for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Supriva Sawwashere
Department of Information Technology

Forwarded to:

Prof. Rohan Kokate Project Coordinator

Prof. Supriya Sawwashere
Head of the Department
Department of Computer Science

Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on DEVELOPING AN ARTIFICIAL READ AND LEARN SYSTEM BY USING NATURAL LANGUAGE PROCESSING FOR SMART CODING is approved work done by

Sagar S. Kadwe

Nakul G. Gopal

Tejas S. Jaiswal

Mithun G. Chide

Yash H. Paunikar

In partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** in Computer Science and Engineering at J D College of Engineering & Management, Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University, Lonare** during the academic year 2020-2021.

Prof. Supriya Sawwashere
Guide

Prof. Supriya Sawwashere
Head of the Department

Project Examination held on

Internal Examiner/ Guide Examiner

External

IOT Based On-Road Vehicle Breakdown Assistance

A thesis submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

Megha Dongre

Shalini Verma

Kalyani Dhote

Achal Dighore

Sanjeevani Tumdam

Under the Guidance of Prof. Milind Tote



Education to Eternity

Department of Computer Science and Engineering

J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "IOT Based On-Road Vehicle Breakdown Assistance" in the subject Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the Technology is the original contribution carried out by us under the guidance of Prof. Milind Tote, Computer Science and Engineering, J.D. College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree ordiploma or certificate course.

Place: Nagpur

Date:

Name of Students

Megha Dongre

Shalini Verma Shalin

Kalyani Dhote Lokulyani
Achal Dighore Ahal

Sanjeevani Tumdam Laujeevani

This is to certify that the thesis entitled "IOT Based On Road Vehicle Breakdown Assistance" submitted by Megha Dongre, Shalini Verma, Achal Dighore, Kalyani Dhote, Sanjeevani Tumdam to the Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Prof. Milind Tote

Department of Computer Science and Engineering

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science and Engineering

Dr. Shrikant V. Sonekar

Principal Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the project titled "IOT Based On Road Vehicle Breakdown Assistance" is a bonafide record of the work done by

Megha Dongre

Shalini Verma

Kalyani Dhote

Achal Dighore

Sanjeevani Tumdam

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at J. D. College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, during the academic year 2020-2021.

Prof. Milind Tote
Guide

Prof. Supriya Sawwashere

Head of Department

1		
Project Viva-voce held on		
Internal Examiner/Guide	External Examiner	

IOT Based Real Time Android Application For Fire Monitoring, Detection and Extinguishing System using GSM

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor Of Technology

In

Computer Science & Engineering

Submitted by

Dipali Chakole

Naina Mahile

Nikita Kotangale

Mitali Charde

Triveni Pendam

Under the Guidance of Prof. Supriya Sawwashere



Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

We hereby declare that the work presented in this project reportentitled, "IOT Based Real Time Android Application For Fire Monitoring, Detection and Extinguishing System using GSM" in the subject Computer Science in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Supriya Sawwashere, Computer Science, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree ordiploma or certificate course.

Place:Nagpur

Dipali Chakole herede

Naina Mahile

Nikita Kotangale @kolangale

Mitali Charde

Triveni Pendam 🐉

Date:

This is to certify thatthe project report entitled, "IOT Based Real Time Android Application For Fire Monitoring, Detection and Extinguishing System using GSM" in the subject Computer Science in the faculty of Science and Technology submitted by Dipali Chakole, Nina Mahile, Nikita Kotangale, Mitali Charade, Triveni Pendamto Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technologyis a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Computer Science & Engineering

Forwarded to:

(Prof. Rohan Kokate)

Project Coordinator

(Prof. Supriya Sawwashere)

Head of the Department

Computer Science & Engineering

Principa

Principal

J.D. College of Engineering & Management Khandala, Katol Road

Nagpur-441501

This is to certify that the Project Report on IOT Based Real Time Android Application For Fire Monitoring, Detection and Extinguishing System using GSM is approved work done by

Dipali Chakole Naina Mahile Nikita Kotangale Mitali Charde Triveni Pendam

in partial fulfillment of the requirements for the award of the degree of Bachelor Of Technology in Computer Science & Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Supriva Sawwashere

Guide

Prof. Supriya Sawwashere Head of the Department

Project Examination heldon_____

InternalExaminer/ Guide

External Examiner

IoT Based Smart Energy Meter and Billing System

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology In

Information Technology

Submitted by
Shubham Thulkar
Praful Ikhankar
Rahul Wadhai
Mrunali Meshram
Triveni Tekam

Under the Guidance of Prof.Rohan Kokate



Department of Information Technology

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare

Year 20-2021

We hereby declare that the work presented in this project report entitled, "IoT Based Smart Energy Meter and Billing System" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof.Rohan Kokate, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Mr. Shubham Thulkar

Mr. Praful Ikhankar

Mr. Rahul Wadhai Miss. Mrunali Meshram

Miss. Triveni Tekam

This is to certify that the project report entitled, "IoT Based Smart Energy Meter and Billing System" in the subject Information Technology in the faculty of Science and Technology submitted by Shubham Thulkar, Praful Ikhankar, Rahul Wadhai, Mrunali Meshram, Triveni Tekam to Dr. Babasaheb Ambedkar Technological University, Lonare.

For the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof.Rohan Kokate)
Information Technology

Forwarded to:

(Prof. Rohan Kokate) Project/Coordinator

(Prof. Supriya Sawashere)

Head of the Department Information Technology

(Dr. S. V. Sonekar) Principal

This is to certify that the Project Report on IoT Based Smart Energy Meter and Billing System is approved work done by

Mr. Shubham Thulkar

Mr. Praful Ikhankar

Mr. Rahul Wadhai

Miss.Mrunali Meshram

Miss. Triveni Tekam

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare during the academic year 2020-2021.

Prof. Rohan Kokate
Guide

Prof. Supriya Sawashere
Head of the Department

Project Examination held on	

Internal Examiner/ Guide

External Exam

A PROJECT REPORT ON

"MONITORING AND CONTROLLING THE CROPS FROM DISEASES BY DESIGNING SMART IRRIGATION AND GREEN AGRICULTURE FARM SYSTEM USING MACHINE LEARNING TECHNIQUES"

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology in Specialization

Submitted By
CHITRA BHUJADE
DIKSHITA TAMBE
HARSHADA MOHINKAR
PRATIKSHA TANDEKAR
VANASHREE MOHURLE

Under the Guidance of PROF. M. M. BAIG



Department Of Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Monitoring And Controlling The Crops From Diseases By Designing Smart Irrigation And Green Agriculture Farm System Using Machine Learning Techniques "in the subject Science Computer & Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. M. M. Baig, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: NACHPUR

Date: 13/12/21

Name of Student/Students

Chitra Bhujade

Dikshita Tambe

Harshada Mohinkar

Pratiksha Tandekar

Vanashri Mohurle

13 tamber 14 pmohinkas

Amohor et

This is to certify that the project report entitled, "Monitoring And Controlling The Crops From Diseases By Designing Smart Irrigation And Green Agriculture Farm System Using Machine Learning Techniques" in the subject Science Computer & Engineering in the faculty of Science and Technology submitted by chitra Bhujade, Dikshita Tambe, Harshada Mohinkar, Pratiksha Tandekar ,Vanashree Mohurle to Dr. Babasaheb Ambedkar Technological University, Lonere.

for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof.M. M. Baig

Department of Computer Science & Engineering

Forwarded to:

Prof. Rohan Kokate Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science & Engineering

Principal

Dr. S. V. Sonekar

This is to certify that the Project Report on MONITORING AND CONTROLLING THE CROPS FROM DISEASES BY DESIGNING SMART IRRIGATION AND GREEN AGRICULTURE FARM SYSTEM USING MACHINE LEARNING TECHNIQUES

is approved work done by

Chitra Bhujade

Dikshita Tambe

Harshada Mohinkar

Pratiksha Tandekar

Vanshree Mohurle

in partial fulfillment of the requirements for the award of the degree of Bachelor Of Technology in computer Science & Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. M. M. Baig

Guide

Prof. Supriya Sawwashere

computer science & Engineering

Project Examination held on_____

Internal Examiner/ Guide

External Examiner

My Purse Magic Purse : A Safety Gadget

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor Of Technology

In

Computer Science & Engineering

Submitted by

Mona Chaware

Dipali Itankar

Diksha Dharale

Divya Borkar

Shraveenkumar Pendyala

Under the Guidance of Prof. Madhuri B. Babar



Computer Science & Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-22

We hereby declare that the work presented in this project report entitled, "My Purse Magic Purse: A Safety Gadget" in the subject Computer Science in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Madhuri Babar, Computer Science, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:Nagpur

Mona Chaware
Difankes
Dipali Itankar

Diksha Dharale

Divyi Borkar

Shraveenkumar Pendyala

Date: 20 - 1 - 2022

3

This is to certify thatthe project report entitled, "My Purse Magie Purse: A Safety Gadget" in the subject Computer Science in the faculty of Science and Technology submitted by Mona Chaware, Dipali Itankar, Diksha Dharale, Divya Borkar, Shraveenkumar Pendyala to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

oller of

(Prof. Madhuri B. Babar) Computer Science & Engineering

Forwarded to:

(Prof.\Rohan Kokate)

Project Coordinator

(Prof. Supriya Sawwashere)

Head of the Department

Computer Science & Engineering

Principa

Principal

J.D. College of Engineering & Management Khandala, Katol Road

nandala, Katol Koa Nagpur-441501

This is to certify that the Pro	ject Report on My Purse Magic Purse : A Safety Gadget is approved
WOLK -	

Mona Chaware

Dipali Itankar

Diksha Dharale

Divya Borkar

Shraveenkumar Pendyala

in partial fulfillment of the requirements for the award of the degree of Bachelor Of Technology in Computer Science & Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Close o

Prof. Madhuri B. Babar

Guide

Prof. Supriya Sawwashere Head of the Department

Project Examination held on 29-6-2021

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Officiating Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from, Head, Department of –Prof. Madhuri B. Barbar J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thanks Prof. Rohan Kokate, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Madhuri B. Barbar, Department of Computer Science, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thanks the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work.

We express gratitude to other faculty members of Computer Science Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Mona Chaware Dipali Itankar Diksha Dharale Divya Borkar Shraveenkumar Pendyala

Proactive Aquatic Floating Garbage Collecting Boat Operating by Android Application

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor Of Technology In Computer Science Engineering

Submitted by

Ashwini Bhave

AnkitaThakre

Payal Ashtikar

Mayuri Jambhulkar

Apurva Vishwakarma

Under the Guidance of **Prof. Sonali Zunke**



Department of Computer Science And Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare

Year 20-2021

We hereby declare that the work presented in this project report entitled, "Proactive Aquatic Floating Garbage Collecting Boat Operating by Android Application" in the subject Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Sonali Zunke, Computer science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificatecourse.

Place:Nagpur

Date: 30 10 202

Miss. Ashwini Bhave

Miss. Ankita Thakre

Miss. Payal Ashtikar

Miss. Mayuri Jambhulkar

Miss. Apurva Vishwakarma

This is to certify that the project report entitled, "Proactive Aquatic Floating Garbage Collecting Boat Operating by Android Application" in the subject Computer Science and Engineering in the faculty of Science and Technology submitted by Ashwini S. Bhave, Ankita A. Thakre, Payal D. Ashtikar, Mayuri B. Jambhulkar, Apurva R. Vishwakarma to Dr. Babasaheb Ambedkar Technological University, Lonare.

For the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree ordiploma.

(Prof. Sonali Zunke)
Computer Science and Engineering

Forwarded to:

Project Coordinator

(Prof. SupriyaSawwashere)

Head of the Department

Computer Science and Engineering

(Dr. S. V. Sonekar)
Principal

This is to certify that the Project Report on PROACTIVE AQUATIC FLOATING GARBAGE COLLECTING BOAT OPERATING BY ANDROID APPLICATION is approved work done by Miss. Ashwini Bhave, Miss. Ankita Thakre, Miss. Payal Ashtikar, Miss. Mayuri Jambhulkar, Miss. Apurva Vishwakarma

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare during the academic year 2020-2021.

Prof.Sonali Zunke
Guide

Prof. Supriya Sawwashere Head of the Department

Project Examination heldon_____

Internal Examiner/Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH.

We owe our sincerest gratitude towards Dr. S.V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from Prof. Supriya Sawwashere, Head, Department of CSE-IT, J D College of Engineering & Management Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Rohan Kokate**, Project Coordinator, J D College of Engineering & Management, and Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project. We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Sonali Zunke**, Department of CSE-IT, J D College of Engineering and Management Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of CSE-IT Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of thiswork.

Miss. Ashwini S. Bhave Miss. Ankita A. Thakre Miss.Payal D. Ashtikar Miss.Mayuri B. Jambhulkar Miss. Apurva R. Vishwakarma

Self -Driving Car Using Artificial Intelligence And Image Processing

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Computer Science And Engineering

Submitted by
Shrutika Bhonde
Sakshi Bhonde
Aboli Padole
Kishori Kshirsagar
Pragita Bagde

Under the Guidance of **Prof. Manoj Titre**



Department of Computer Science And Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "Self-Driving Car Using Artificial Intelligence And Image Processing" in the subject Computer Science Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Manoj Titre, Department of CSE, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: NAGPUR Date: 17/12/2021

Shrutika Bhonde 3.3 Bhonde.

Sakshi Bhonde 5. R. Bhonde

Aboli Padole Robelle

Kishori Kshirsagar k.P. kshirsagae

Pragita bagde Bayde

Artificial Intelligence And Image Processing" in the subject Computer Science And Engineering in the faculty of Science and Technology submitted by Shrutika Bhonde, Sakshi Bhonde, Aboli Padole, Kishori Kshirsagar, Pragita Bagde to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Manoj Titre

Department of Computer Science and Engineering

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science and Engineering

Principal

This is to certify that the Project Report on SELF-DRIVING CAR USING ARTIFICIAL INTELLIGENCE AND IMAGE PROCESSING is approved work done by

Shrutika Bhonde
Sakshi Bhonde
Aboli Padole
Kishori Kshirsagar
Pragita Bagde

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science And Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Manoj Titre Guide

Prof. Supriya Sawwashere
Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

Traffic Signal Management for Ambulance Using Radar with Medical History Card Through Biometric

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Specialization

Submitted by

Asmita Das

Ayushi Agashe

Divya Pathak

Prajwal Jambhulkar

Under the Guidance of

Prof. Supriya Sawwashere



Department of Computer Science

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-21

We hereby declare that the work presented in this project report entitled, "Traffic Signal Management for Ambulance Using Radar with Medical History Card Through Biometric" in the subject Computer Science in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Supriya Sawwashere, Department of CSE-IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Asmita Das Ayushi Agashe Divya Pathak Prajwal Jambhulkar

This is to certify that the project report entitled, "Traffic Signal Management For Ambulance Using Radar With Medical History Card Through Biometric" in the subject Computer Science in the faculty of Science and Technology submitted by Asmita Das, Ayushi Agashe, Divya Pathak, and Prajwal Jambhulkar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Supriya Sawwashere
Department of Computer Science

Forwarded to:

Prof. Rohan Kokate Project Incharge

Prof. Supriya Sawwashere
Head of the Department
Department of Information Technology

Dr. S.V. Sonekar Principal

This is to certify that the Project Report on Traffic Signal Management For Ambulance
Using Radar With Medical History Card Through Biometric is approved work done
by

Asmita Das

Ayushi Agashe Divya Pathak Prajwal Jambhulkar

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the

Prof. Rohan Kokate Project Incharge

academic year 2020-2021.

Prof. Supriya Sawwashere
Guide and
Head of the Department

Project Examination held on	

Internal Examiner/ Guide

External Examiner

Transmission Line multiple fault detection and data collection of level of fault using Internet of Things and analysis of system.

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

In

Computer Science and Engineering
Specialization
Submitted by
Anagha V. Wandhe
Manali B. Chahande

Under the Guidance of Prof. Merajul H. Faroogi



Department of Computer Science and Engineering

J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-2021

This is to certify that the thesis entitled "Transmission Line Multiple Fault detection and data collection of level of fault using IoT" submitted by Anagha Wandhe, Manali Chahande to the Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carriedout by them under my supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Prof. Merajul H. Farooqi

Department of Computer Science and Engineering

Forwarded to:

Prof. Rohan Kokate

Project Coordinator

Prof. Supriya Sawwashere

Head of the Department

Department of Computer Science and Engineering

Principal

Dr. S. V. Sonekar

BONAFIDE CERTIFICATE

This is to certify that the project titled "Transmission Line Multiple Fault detection and data collection of level of fault using IoT" is a bonafide record of the work done by Anagha Wandhe, Manali Chahande in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, during the academic year 2020-2021

Prof. Merajul H. Farooqi Guide Prof. Supriya Sawwashere
Head of Department

Project Viva-voce held on _____

Internal Examiner

External Examiner

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards **Dr. Srikant V. Sonkar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. We also express our sincere gratitude towards **Dr. S.V. Sonekar**, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from **Prof. Supriya Sawwashere**, Head, Department of Computer Science and Engineering J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged withreverential thanks.

We would like to thank **Prof. Supriya Sawwashere**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. M .H.**Farooqi, Department of Computer Science and Engineering, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Computer Science and Engineering Department, JD College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Anagha V. Wandhe

Manali B. Chahande

FIELD PROJECT REPORT

on

"Seimens Virtual Industrial Tour"

Submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by:

Students of 2nd & 3rd

Year (EE)

Under the Guidance of

Prof. Pratiksha

Panchbhai



Education to Eternity

Department Of Electrical Engineering J D College of Engineering and Management, Nagpur-441501

(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU ,Lonere

Year 2020-21

CERTIFICATE

This is to certify that the filed visit report on, "Seimens ,Pune" in the subject Electrical Engineering in the faculty of Science and Technology submitted by the students of 2nd & 3rd year to **DBATU**, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision.

Prof. P.P.Panchbhai Internship Coordinator, EE

Forwarded to:

Dr. S.R.Vaishnav Head of Department Electrical Engineering

ectrical Engineering Date:24/04/2020

ACKNOWLEDGEMENT

I express our sincere gratitude, for giving us the opportunity to work in the industry. I owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Dr. S.R.Vaishnav**, Head, **Department of Electrical Engineering**, J D College of Engineering & Management, Nagpur, has been of great help in carrying out during the internship and is acknowledgedwith reverential thanks.

I would like to thank **Prof. Mandar S. Isasare**, Departmental Internship Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of internship.

Without his wise counsel and able guidance, it would have been impossible to complete the internship in this manner.

I would like to thank **Mr. S.A.Halmare**, **Seimens**, **Pune** for giving me the opportunities to work in the industry/company.

I express gratitude to other faculty members of **Department of Electrical Engineering**,

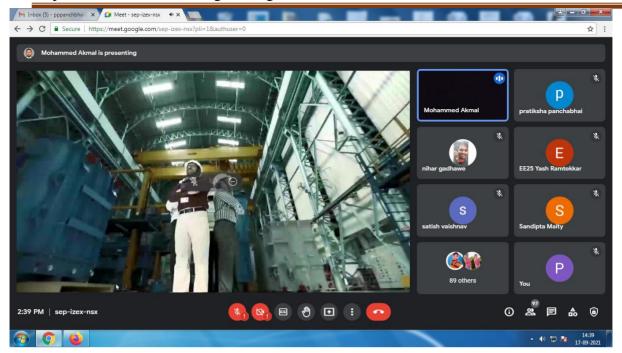
J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

VIRTUAL INDUSTRIAL TOUR OF SEIMENS PUNE UNIT

The Department of Electrical Engineering at J D College of Engineering and Management, Nagpur organized a virtual industrial tour to Seimens Pune Unit on 17/04/2021 for the students of 4th SEM Electrical Engineering . Total 67 students of 4th SEM EE ,73 students from 6th Sem as well as faculty members attended the meet. Automation units were explained in tour. Energy transition is the greatest challenge our generation faces. How do we reduce emissions while also increase energy supply? It is an uphill battle. And there is no silver bullet. But finding solutions has always been in our DNA. For more than 150 years our engineers have been spearheading the electrification of the world. Today we are a team of 96.000 sharing the same passion, vision and values. Our diversity makes us strong and helps us to find answers together with our partners.Located in 90 countries, Siemens Energy operates across the whole energy landscape. From conventional to renewable power, from grid technology to storage to electrifying complex industrial processes.

Siemens Energy AG is an energy company formed through the <u>spin-off</u> of the former Gas and Power division of <u>Siemens</u>, and it includes full ownership of <u>Siemens</u> Gamesa.

The energy division has been an essential part of the company since the foundation of the group by <u>Werner von Siemens</u> and <u>Johann Georg Halske</u>. Important organizational milestones were the founding of <u>Siemens-Schuckertwerke</u> in 1903, the formation of the Power Engineering Division in 1969 in the newly founded Siemens AG, and the bundling of activities in the <u>Siemens Energy Sector</u> in 2008.



Departmental Incharge

HOD

SOLAR FED PMSM DRIVE USING ARDUINO

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering
Submitted by
Saurabh Lonare
Vaibhav Suryawanshi
Karishma Ragit
Anil Funde

Under the Guidance of Prof. Mandar Isasare

Monika Waghade



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad,

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Solar Fed PMSM Drive Using Arduino UNO" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Mandar Isasare, Name of Department, Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 13/07/2021

Saurabh Lonare

Vaibhav Suryawanshi

Karishma Ragit

Anil Funde

Monika Waghade

CERTIFICATE

This is to certify that the project report entitled, "Solar Fed PMSM Drive Using Arduino UNO" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Saurabh Lonare, Vaibhav Suryawanshi, Karishma Ragit, Anil Funde, Monika Waghade to Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Mandar Isasare
Electrical Engineering Department JDCOEM

Forwarded to:

Prof. A. V. Joshi Project Coordinator

Dr. S. R. VaishanavHead of the Department
Electrical Engineering Department

Dr. S. V. Sonekar Offtg. Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road

Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on SOLAR FED PMSM DRIVE USING ARDUINO UNO is approved work done by

Saurabh Lonere Vaibhav Suryawanshi Karishma Ragit Anil Funde Monika Waghade

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad, during the academic year 2020-2021.

Prof. Mandar Isasare
Guide

Dr. S. R. Vaishanav Head of the Department

Internal Examiner/ Guide

External Examiner

PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Mr. Saurabh Purushattamrao Jodh

Mr. Suyog Jagdishrao Debe

Mr. Shubham Kishorrao Nandanwar

Mr. Shubham Rajendra Bramhane

Ms. Puja Suresh Nikhade

Ms. Ashwini Kashirao Dudhkaware

Under the Guidance of Prof. Ashutosh Joshi



Electrical Engineering Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE" in the subject Electrical Engineering Department in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof Ashutosh Joshi, Electrical Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Student

Mr. Saurabh Purushattamrao Jodh

Mr. Suyog Jagdishrao Debe

Mr. Shubham Kishorrao Nandanwar

Mr. Shubham Rajendra Bramhane

Ms. Puja Suresh Nikhade

Ms. Ashwini Kashirao Dudhkaware

CERTIFICATE

This is to certify that the project report entitled, "PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE" in the subject Electrical Engineering Department in the faculty of Science and Technology submitted by Saurabh Purushattamrao Jodh, Suyog Jagdishrao Debe, Shubham Kishorrao Nandanwar, Shubham Rajendra Bramhane, Puja Suresh Nikhade, Ashwini Kashirao Dudhkaware to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

John Market Mark

Prof. Ashutosh Joshi
Electrical Engineering Department

Forwarded to:

Prof. Ashutosh Joshi

Project Coordinator

Dr. S. R. Vaishnav

Head of the Department

Electrical Engineering

Dr. S.V. Sonekar

Off. Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE is approved work done by Mr. Saurabh Purushattamrao Jodh, Mr. Suyog Jagdishrao Debe, Mr. Shubham Kishorrao Nandanwar, Mr. Shubham Rajendra Bramhane, Ms. Puja Suresh Nikhade, Ms. Ashwini Kashirao Dudhkaware, in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2017-2021.

Prof. Ashutosh Joshi Guide Dr. S. R. Vaishnav Head of the Department

Project Examination held on

Internal Examiner/ Guide

External Examiner

FAULT DETECTION IN DISTRIBUTION LINE USING GPS TECNNIQUE IN REAL TIME SCENARIO

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology**

In

Electrical Engineering

Submitted by

Mr. Aniket Meshram

Mr.Bahulashwa Kamble

Mr. Yashwant Borkar

Mr. Sushil Gajbhiye

Mr. Vishnu Mankar

Under the Guidance of **Prof. Mandar Isasare**



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere, Raigad

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Fault detection in distribution line using GPS technique in real life scenario" in the subject of Electrical Engineering Department in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Mandar Isasare, Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpuh

Date:

Mr. Aniket Meshram

Mr. Bahulashwa Kamble

Mr. Yashwant Borkar

Mr. Sushil Gajbhiye

Mr. Vishnu Mankar

CERTIFICATE

This is to certify that the project report entitled, "Fault Detection In Distribution Line Using Gps Technique In Real Life Scenario" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Aniket Meshram, Bahulashwa Kamble, Yashwant Borkar, Sushil Gajbhiye, Vishnu Mankar to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Mandar Isasare

Electrical Engineering Department

Forwarded to:

Prof. A. V. Joshi Project Coordinator Dr. S. R. Vaishnav Head of Department Electrical Engineering Dr. S.V.Sonekar Principal Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on FAULT DETECTION IN DISTRIBUTION LINE USING GPS TECHNIQUE IN REAL LIFE SCENARO is approved work done by Mr. Aniket Meshram, Mr. Baulashwa Kamble, Mr. Yashwant Borkar, Mr. Sushil Gajbhiye, Mr. Vishnu Mankar in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Prof. Mandar Isasare

Guide

Dr. S. R. Vaishnav

Head of Department

Project Examination held on

Internal Examiner/Guide

(Poof. M.s. Isasace)

External Examiner

(DI.V.S. Dhuk

Design and Development of Agriculture fertilizer Spraying Drone and Multitasking System

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology In Electrical Engineering

Submitted by

Mr. Lokesh Aarikar

Mr. Lokesh Zade

Mr. Harish Behaniya

Mr. Sahil Ajmani

Mr. Kapil Gaikwad

Mr. Mnajeet Kumar

Under the Guidance of Dr. Vaishnavi Dhok



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur 441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Design and Development of Agriculture Fertilizer Spraying Drone and Multitasking System" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Vaishnavi Dhok Electrical Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificatecourse.

Place: Nagpur

Date: 30/8/2021

Name of The Students

Mr. Lokesh Aarikar

Mr. Harish Behaniya

Mr. Lokesh Zade

Mr. Kapil Gaikwad

Mr. Sahil Ajmani

Mr. Manjeet Kumar

CERTIFICATE

This is to certify that the project report entitled, "Design and Development of Agriculture Fertilizer Spraying Drone and Multitasking System" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Mr. Lokesh Aarikar, Mr. Harish Behaniya, Mr. Lokesh Zade, Mr. Kapil Gaikwad, Mr. Sahil Ajmani, Mr. Manjeet Kumar to Dr. Babasaheb Ambedkar Technological University Lonere, for the award of the degree of Electrical Engineering is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:

Prof. Ashutosh Joshi

Project Coordinator

Dr. Satish. R. Vaishnav

Head of the Department

Electrical Engineering

Dr. S. V. Sonekar

Off. Principal

JDCOEM Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441581

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Design and Fabrication of Remotely Operated Electric Welding Vehicle is approved work done by Mr. Lokesh Aarikar, Mr. Harish Behaniya, Mr. Lokesh Zade, Mr. Kapil Gaikwad, Mr. Sahil Ajmani, Mr. Manjeet Kumar. In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University Lonere, during the academic year 2020-2021.

Dr. Vaishnavi Dhok

Project Guide

Electrical Engineering

Dr. Satish. R. Vaishnav

Head of the Department

Electrical Engineering

Project Examination held on

29 JUNE 2021

Internal Examiner/ Guide

External Examiner



J D College Of Engineering & Management, Nagpur

Session 2020-21

Project Report Of Electrical Engineering On

"IOT BASED INDUSTRIAL MONITORING & FAULT DETECTION SYSTEM"

Project Guide-

Pratiksha Pachbhai Ma'am

Submitted By,

Stephan Salve Jaya Kasture Rakshanda Kilawat Sumit Hande Monali Ramteke Mamta Mazi

-:LITERATURE SURVEY:-

The core of any predictive maintenance system is a fault diagnosis system able to detect failures not only when they are happening, but also a pre-failure behavior. It is an where in most cases only SCADAs and alarms based on advantages

of predictive maintenance is its ability to provide useful information to the human supervisor showing what the real state of a plant or machine is and helping him in the planning of the factory operation. It is also capable of substituting the stopping the operation in case of a critical fault or scheduling maintenance operations.

The lack of historical data is the main problem that must be solved when designing the decision making component. It can be sometimes a problem to decide what the optimal classification method to use is, and it is always an added difficulty to fix the parameters of the system.

Usuallyconservative strategies are used.

-: ACKNOWLEDGEMENT:-

On the very outset of this abstract, we would like to extend our sincere and heartfelt obligation towards all the personages who have helped us in this endeavor. We are ineffably indebted to our supervisor Mrs.(Pratisha Pachbhai madam)

for conscientious guidance and encouragement to accomplish these many advancements in the project. We us about the obstacles which may arise in the due course of with great pleasure that we acknowledge our sincere facilities under the Electrical Department which are

-:DECLARATION:-

I Hereby declare that the project work entitle GROUP MEMBERS submitted to the JD COLLEGE OF ENGG is a record of original work done by group under the guidance of Pratisha Pachbhai madam.

19[™] JUNE 2021

-: ABSTRACT:-

- Internet of Things (IoT) is rapidly increasing technology.
- IOT is the network of physical objects or things embedded with electronic software, sensors, and network connectivity which enables these objects to collect and exchange data.
- IOT then deals with bringing control of physical devices over the internet.
- In this project, we are developing a system which will automatically monitor the industrial applications and generate Alerts/Alarms or make intelligent decisions using the concept of IoT.
- A number of sensors are deployed in our project to monitor industrial parameters like temperature, pressure, gas, etc. These parameters were carefully selected on the basis of the potential hazards they can cause to the normal working of the industry machine.
- The sensors used in our project are Temperature sensor DHT11, Gas sensor MQ9, Flame sensor LM393, Accelerometer ADxL335, Ultrasonic sensor HC-SR04, and PIR sensor.
- These sensors will collect their respective data and then send the same data to NodeMCU ESP8266 which also acts as a wifi module.
- Key Words: IoT, Sensors, Alerts/Alarms

"NOISELESS SPEED CONTROL OF DC MOTOR USING PULSE WIDTH MODULATION."

A Project Report submitted in partial fulfillment of the requirements For the award of the degree of

Bachelor of Engineering In

Electrical Engineering

Submitted by

Name of the Student

1. Arshiya Sheikh

2. Prajakta Patil 3. Rohini Pachare 4.Shilpa Meshram

5. Snehal Tembhurne 6. Shubham B. Ashtankar

Under the Guidance

Prof. Yogesh mundhada



Electrical Engineering

J D College of Engineering and Management, Nagpur-441501Affiliated to Dr. Babasaheb Ambedkar Techonological University, Lonere, Raigad.. Year2020-2021

DECLARATION

We here by declare that the work presented in this project report entitled, "Noiseless Speed Control Of DC Motor By Using Pulse Width Modulation" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Yogesh Mundhada, Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:Nagpur

Date:

Name of Student/Students

1. Arshiya Sheikh

2. Prajakta Patil

3. Rohini Pachare

4. Shilpa Meshram

5. Snehal Tembhurne

6. Shubham Astankar

CERTIFICATE

This is to certify that the project report entitled, "Noiseless Speed Control Of DC Motor By Using Pulse Width Modulation" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Shubham B. Ashtankar, Snehal Temburne, Arshiya Sheikh, Prajakta Patil, Rohini pachare, Shilpa Meshram to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the ward of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Yogesh Mundhada Electrical Engineering

Forwarded to:

Prof. A. V. Joshi

Project Coordinator

Dr.S.R.VAISHNAV

Head of the

Department Mechanical

Engineering

Principal

J.D. College of Engineering & Management

Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Noiseless Speed Control Of DC Motor By Using Pulse Width Modulation" is approved work done by

Name of the Students

- 1. Arshiya Sheikh
- 2. Prajakta Patil
- 3. Rohini Pachare
- 4. Shilpa Meshram
- 5. Snehal Tembhurne
- 6. Shubham Ashtankar

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Name of Branch at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Techonological University ,Lonere, Raigad. .during the academic year 2019-2020.

Prof. Yogesh Mundhada

Guide

Dr.S.R. Vaishnay Head of the Department

Project Examination held on

Internal Examiner/Guide

External Examiner

Page |iii

PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Mr. Saurabh Purushattamrao Jodh

Mr. Suyog Jagdishrao Debe

Mr. Shubham Kishorrao Nandanwar

Mr. Shubham Rajendra Bramhane

Ms. Püja Süresh Nikhade

Ms. Ashwini Kashirao Dudhkaware

Under the Guidance of **Prof. Ashutosh Joshi**



Electrical Engineering Department

J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE" in the subject Electrical Engineering Department in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof Ashutosh Joshi, Electrical Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Student

Mr. Saurabh Purushattamrao Jodh

Mr. Suyog Jagdishrao Debe

Mr. Shubham Kishorrao Nandanwar

Mr. Shubham Rajendra Bramhane

Ms. Puja Suresh Nikhade

Ms. Ashwini Kashirao Dudhkaware

CERTIFICATE

This is to certify that the project report entitled, "PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE" in the subject Electrical Engineering Department in the faculty of Science and Technology submitted by Saurabh Purushattamrao Jodh, Suyog Jagdishrao Debe, Shubham Kishorrao Nandanwar, Shubham Rajendra Bramhane, Puja Suresh Nikhade, Ashwini Kashirao Dudhkaware to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

A series

Prof. Ashutosh Joshi
Electrical Engineering Department

Forwarded to:

Prof. Ashutosh Joshi

Project Coordinator

Dr. S. R. Vaishnav

Head of the Department

Electrical Engineering

Dr. S.W Sonekar

Off. Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol-Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on PHOTOVOLTAIC BOOST CONVERTER FED BLDC DRIVE is approved work done by Mr. Saurabh Purushattamrao Jodh, Mr. Suyog Jagdishrao Debe, Mr. Shubham Kishorrao Nandanwar, Mr. Shubham Rajendra Bramhane, Ms. Puja Suresh Nikhade, Ms. Ashwini Kashirao Dudhkaware, in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2017-2021.

Prof. Ashutosh Joshi Guide Dr. S. R. Vaishnav Head of the Department

Project Examination held on

Internal Examiner/ Guide

External Examiner

Design and Fabrication of Remotely Operated Underwater Electric Welding Vehicle

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Mr. Vikas Raghorte, Mr. Ankush Kolhe, Mr. Tanmay Rale, Mr. Rushikesh Wagh, Miss. Nikita Gadpayle

Under the Guidance of Dr. Satish. R. Vaishnav



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur 441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Design and Fabrication of Remotely Operated Underwater Electric Welding Vehicle" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Satish. R. Vaishnav (HOD EE) Electrical Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of The Students

Mr. Vikas Raghorte

Mr. Ankush Kolhe

Mr. Tanmay Rale

Mr. Rushikesh Wagh

Miss. Nikita Gadpayle

This is to certify that the project report entitled, "Design and Fabrication of Remotely Operated Underwater Electric Welding Vehicle" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Mr. Vikas Raghorte, Mr. Ankush Kolhe, Mr. Tanmay Rale, Mr. Rushikesh Wagh, Miss. Nikita Gadpayle to Dr. Babasaheb Ambedkar Technological University Lonere, for the award of the degree of Electrical Engineering is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:

Prof. Ashutosh Joshi Project Coordinator

Dr. Satish. R. Vaishnav

Head of the Department

Electrical Engineering

Dr. S. V. Sonekar

Off. Principal

JDCOEM

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on Design and Fabrication of Remotely Operated Electric Welding Vehicle is approved work done by Mr. Vikas Raghorte, Mr. Ankush Kolhe, Mr. Tanmay Rale, Mr. Rushikesh Wagh, Miss. Nikita Gadpayle. In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University Lonere, during the academic year 2020-2021.

Dr. Satish. R. Vaishnav

Project Guide

Electrical Engineering

Dr. Satish. R. Vaishnav

Head of the Department

Electrical Engineering

Project Examination held on 29 JUNE 2021

Internal Examiner/ Guide

&External Examiner

DESIGN AND FABRICATION OF SOLAR- BASED WATER CLEANING BOAT

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

ELECTRICAL ENGINEERING

Submitted by

Apurva Dudhe

Shreya Ramteke

Shruti Narnaware

Aishwary Bagde

Shreyash Sontakke

Under the Guidance of

Prof. Sneha Jethani



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

2020-21

We hereby declare that the work presented in this project report entitled, "Design and Fabrication of Solar-Based Water Cleaning Boat" in the subject Electrical Engineering in the faculty of Science and Electrical Engineering Department, J D College of Engineering and Management, Nagpur. This work has certificate course.

Place: Nagpur

Date:

Name of Students:

Apurva Dudhe

Shreya Ramteke

Shruti Narnaware

Aishwary Bagde

· Shreyash Sontakke

This is to certify that the project report entitled, "Design and Fabrication of Solar- Based Water Cleaning Boat" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Apurva Dudhe, Shreya Ramteke, Shruti Narnaware, Aishwary Bagde, Shreyash Sontakke to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Speha Jethani)

Electrical Engineering

Forwarded to:

Mr. A. V. Joshi

Project Coordinator

Dr. S.R. Vaishnav

Head of the Department Electrical Engineering Dr. S.V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on Design and Fabrication of Solar Based Water Cleaning Boat is approved work done by Apurva Dudhe, Shreya Ramteke, Shruti Narnaware, Aishwary Bagde and Shreyash Sontakke in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Prof. Sneha Jethani

Guide

Dr. S.R. Vaishnav

Head of the Department

Project Examination held on ____

Internal Examiner/ Guide

External Examiner

COMPARATIVE ANALYSIS OF VARIOUS CONFIGURATION TECHNIQUES TO IMPROVE PERFORMANCE OF SOLAR PV ARRAY

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology**

In

Electrical Engineering

Submitted by

Himani Patle Samiksha Waghmare Ashish Bramhankar Aadesh Thool Aabhishek Shende Pawan Tangle

Under the Guidance of Prof. P.V. Ambade



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad

Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Comparative analysis of various configurations techniques to improve performance of solar PV array" in the subject of Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Mr. P.V. Ambade, Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Name of Students
Himani Patle
Samiksha Waghmare
Ashish Bramhankar
Aadesh Thool
Aabhishek Shende
Pawan Tangle

This is to certify that the project report entitled, "Comparative analysis of various configurations techniques to improve performance of solar PV array" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Himani Patle, Samiksha Waghmare, Ashish Bramhankar, Aadesh Thool, Aabhishek Shende, Pawan Tangle, to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Mr. P.V. Ambade)
Electrical Engineering

Forwarded to:

(Mr. A.V. Joshi)

Project Coordinator

(Dr. S.R. Vaishnav)
Head of the Department
Electrical Engineering

(Dr. S.V. Sonekar) Off. Principal

This is to certify that the Project Report on COMPARATIVE ANALYSIS OF VARIOUS CONFIGURATIONS TECHNIQUES TO IMPROVE PERFORMANCE OF SOLAR PV ARRAY is approved work done by

Name of the Students

Himani Patle Samiksha Waghmare Ashish Bramhankar Aadesh Thool Aabhishek Shende Pawan Tangle

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Mr. P.V. Ambade

Guide

Project Examination held on 13/07/2021

Internal Examiner/ Guide (Mr. P. V. Ambade)

Dr. S.R. Vaishnav

Head of Department

SOLAR PANEL FAULT DETECTION BY USING AURDINO

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by
Ankita Warkhade
Bhuwaneshwari Gabhane
Mrunali Bomanwar
Payal Jambhulkar

Under the Guidance of Miss.Pratiksha Panchbhai



J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr.BabasahebAmbedkar technological University Lonere, Raigad.
Year 2020-2021

We hereby declare that the work presented in this project representation, "90% AR FAMEL. FAULT DETECTION BY USING AURDING" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by an under the guidance of Miss. Pratiksha Panchbhai, Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or finatination for the award of any degree ordiploma or certificate course.

Place: Nagpur Date: 3-9-21

Ankita Warkhade Bhuwaneshwari Gabhane Mrunali Bomanwar Payal Jambhulkar

This is to certify the project entitled, SOLAR PANEL FAULT DETECTION BY USING AURTDINO in the subject Electrical Engineering in the faculty of science and Technology submitted by Ankita Warkhade, Bhuwaneshwari Gabhane, Mrunali Bomanwar, Payal jambhulkar to Dr. Babasaheb Ambedkar technological University, Lonere, Raigadfor the award of the degree of Bachelor of Technology is a Bonafide record of work carried out by them under my supervision. The contents of this project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Pratiksha Panchbhai

Electrical Department

Prof. Ashutosh Joshi Project coordinator

Dr. Satish Vaishnav Head of the Department Electrical Department.

Dr. S.V. Sonekar Principal

Principal

D. College of Engineering 3

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on SOLAR PANEL FAULT DETECTION BY USING AURDINO is approved work done by

Ankita Warkhade Bhuwaneshwari Gabhane Mrunali Bomanwar Payal Jambhulkar

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Miss.Pratiksha Panchbhai
Guide

Dr. Satish Vaishnav Head of the Department

Project Examination heldon 30 H july 209

InternalExaminer/ Guide

External Examiner

SOLAR POWER MONITORING SYSTEM USING IOT

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by

Nikesh Gajbhiye

Akshay Zarodiya

Pravin Badole

Bhushan Giri

Prachi Jambhulkar

Under the Guidance of Prof. S.A Harane



Education to Eternity

Department of Electrical Engineering

J D College of Engineering and Management, Nagpur- 441501

Affiliated to Dr. Babasaheb Ambedkar Technological

University, Lonere.

Year 2021-2022

We hereby declare that the work presented in this project report entitled, "IOT BASED SOLAR POWER MONITORING SYSTEM" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof._S.A Harane, Department Of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:Nagpur

Date:

Nikesh Gajbhiye Akshay Zarodiya Pravin Badole Prachi Jambhulkar Bhushan Giri

This is to certify that the project report entitled, "SOLAR POWER MONITORING SYSTEM USING IOT" in the subject ELECTRICAL ENGINEERING in the faculty of Science and Technology submitted by "Nikesh Gajbhiye, Akshay Zarodiya, Pravin Badole, Prachi Jambhulkar, Bhushan Giri" to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

MUDDIA

(Prof. S.A Harane)

Department of Electrical Engineering

Forwarded to

(Prof. Ashutosh Joshi)
Project Coordinator

(Dr. Satish Vaishnav)
Head Of Department
Department of Electrical

Engineering

(DR. S.V. SONEKAR)
Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on SOLAR POWER MONITORING SYSTEM USING IOT is approvedwork done by Nikesh Gajbhiye, Akshay Zarodiya, Pravin Badole, Prachi Jambhulkar, Bhushan Giri in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.

Prof.S.A Harane
Guide

Dr. S.R Vaishnav Head of the Department

Project Examination held on 8/07/2022

Internal Examiner/ Guide

External Examinar

"Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology"

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by
Piyush H. Kumbhare
Swapnil N. Chouragade
Priyal Y. Pounikar
Ashwini Parise
Badal Rahangdale
Ajay Kande

Under the Guidance of

Mr. A. V. Joshi

(Assistant Professor)



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur - 441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere,
Raigad

Year 2021-2022

"Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology"

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Piyush H. Kumbhare Swapnil N. Chouragade Priyal Y. Pounikar Ashwini Parise Badal Rahangdale Ajay Kande

Under the Guidance of

Mr. A. V. Joshi (Assistant Professor)



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.
Year 2021-2022

We hereby declare that the work presented in this project report entitled, "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" in the subject of Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. A. V. Joshi Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students
Piyush H. Kumbhare
Swapnil N. Chouragade
Priyal Y. Pounikar
Ashwini Parise
Badal Rahangdale
Ajay Kande

This is to certify that the project report entitled, "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande, to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Mr. A.V. Joshi)
Ass. Prof. Electrical Engineering Dept.

Forwarded to:

(Prof. A.V. Joshi)
Project Coordinator

(Dr. S.R. Vaishnav)
Head of the Department
Electrical Engineering

(Dr. S.V. Sonekar)
Principal

J.D. College of Engineering & management mandala, Katul Road Nagpur-441501

This is to certify that the Project Report on "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" is approved work done by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Prof. A. X. Joshi

Guide

Dr. S.R. Vaishnav

Head of Department (EE)

Project Examination held on 08/07/2022

Internal Examiner/ Guide

External Examiner

Ame

"Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology"

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of **Bachelor of Technology**

In

Electrical Engineering

Submitted by
Piyush H. Kumbhare
Swapnil N. Chouragade
Priyal Y. Pounikar
Ashwini Parise
Badal Rahangdale
Ajay Kande

Under the Guidance of Mr. A. V. Joshi

(Assistant Professor)



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur - 441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad

Year 2021-2022

"Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology"

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Piyush H. Kumbhare Swapnil N. Chouragade Priyal Y. Pounikar Ashwini Parise Badal Rahangdale Ajay Kande

Under the Guidance of

Mr. A. V. Joshi (Assistant Professor)



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad.

Year 2021-2022

We hereby declare that the work presented in this project report entitled, "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" in the subject of Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. A. V. Joshi Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 08/07/2022

Name of Students

Piyush H. Kumbhare

Swapnil N. Chouragade

Priyal Y. Pounikar

Ashwini Parise

Badal Rahangdale

Ajay Kande

This is to certify that the project report entitled, "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande, to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Mr. A.V. Joshi)

Ass. Prof. Electrical Engineering Dept.

Forwarded to:

(Prof. A.W. Joshi)
Project Coordinator

(Dr. S.R. Vaishnav)
Head of the Department
Electrical Engineering

(Dr. S.V. Sonekar)
Principal

Principal

J.D. College of Engineering & Management
Mandala, Katel Road,
Nagpur-441501

This is to certify that the Project Report on "Implementation of Solar Powered BLDC Motor Drive Using SEPIC Converter Topology" is approved work done by Piyush H. Kumbhare, Swapnil N. Chouragade, Priyal Y. Pounikar, Ashwini Parise, Badal Rahangdale, Ajay Kande in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during the academic year 2020-2021.

Prof. A. N. Joshi

Guide

Dr. S.R. Vaishnav

Head of Department (EE)

Project Examination held on 08/07/2022

Internal Examiner/ Guide

External Examiner

ZIGBEE BASED SMART PLUG TO CONTROL POWER CONSUMPTION IN HOME ENERGY MANAGEMENT SYSTEM VIA MATLAB SIMULATION

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

In

Electrical Engineering

Submitted by
Mansi Somkuwar
Sharvari Doke
Nihar Gadhawe
Prajwal Duryodhan
Swapnil Dangare

Under the Guidance of Prof. Pranay Ambade



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2021-22

We hereby declare that the work presented in this project report entitled, "ZigBee Based Smart Plug to Control Power Consumption in Home Energy Management System via MATLAB Simulation" in the subject Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Pranay Ambade, Department of Electrical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Mansi Somkuwar Sharvari Doke

Nihar Gadhawe

Prajwal Duryodhan

Swapnil Dangare

This is to certify that the project report entitled, "ZigBee Based Smart Plug to Control Power Consumption in Home Energy Management System via MATLAB Simulation" in the subject Electrical Engineering in the faculty of Science and Technology submitted by Mansi Somkuwar, Sharvari Doke, Nihar Gadhawe, Prajwal Duryodhan, Swapnil Dangare to Dr. Babasaheb Ambedkar Technology University, Lonere, for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Pranay Ambade)
Department of Electrical Engineering

Forwarded to:

(Prof. Ashleosh Joshi) Project Coordinator

(Dr. S.R. Vaishnav)
Head of the Department
Department of Electrical Engineering

HAGEAIR

Dr. S.V.Sonekar) Principal

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

This is to certify that the Project Report on ZIGBEE BASED SMART PLUG TO CONTROL POWER CONSUMPTION IN HOME ENERGY MANAGEMENT SYSTEM VIA MATLAB SIMULATION is approved work done by

Mansi Somkuwar Sharvari Doke Nihar Gadhawe Prajwal Duryodhan Swapnil Dangare

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technology University, Lonere. during the academic year 2021-2022.

Prof. Pranay Ambade Guide

Dr. S.R. Vaishnav Head of the Department

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

"ANALYSIS OF SOLAR PHOTOVOLTAIC ARRAY CONFIGURATION UNDER CHANGING ILLUMINATION CONDITION"

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electrical Engineering

Submitted by

Ravina Nagdeve

Bhagyashree Badge

Shubham Dongarwar

Shamal Dorshetwar

Archana Gahane

Prashik Fulzale

Under the Guidance of Dr. Vaishnavi Dhok



Department of Electrical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedakar Technological University, Lonere,
Raigad,

2021-2022

We hereby declare that the work presented in this project report entitled, "Analysis of solar photovoltaic Array Configuration Under changing illumination conditions" in the subject of Electrical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Vaishnavi Dhok, Name of Electrical Engineering, Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Ravina Nagdeve

Bhagyashree Badge

Shubham Dongarwar

Shamal Dorshetwar

Archana Gahane

Prashik Fulzale

This is to certify that the project report entitled, "Analysis of solar photovoltaic Array Configuration Under changing illumination conditions" in the subject of Electrical Engineering in the faculty of Science and Technology submitted by Ravina Nagdeve, Bhageyashree Badge, Shubham Dongarwar, Shamal Dorshetwar, Archana Gahane, Prashik Fulzale to Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Dr.Vaishnavi Dhok)
Electrical Engineering Department JDCOEM

Forwarded to:

Prof. A. V. Joshi)
Project Coordinator

(Dr. S. R. Vaishanav)
Head of the Department

Electrical Engineering Department

COLLE

(Dr. S. V. Sonekar)
Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road

Magpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Analysis of solar photovoltaic Array Configuration Under changing illumination conditions is approved work done by Ravina Nagdeve, Bhageyashree Badge, Shubham Dongarwar, Shamal Dorshetwar, Archana Gahane, Prashik Fulzale in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electrical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedakar Technological University, Lonere, Raigad, during the academic year 2021-2022.

Dr.Vaishnavi Dhok Guide

Dr. S. R. Vaishanav Head of the Department

Project Examination heldon 08/07/2022

Internal Examiner/ Guide

Examiner

External

A REPORT ON

"Weather Monitoring System Using IOT"

		By		
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BT190136ET	BT190125ET	dbatu to autonomus	BT200604ET	BT200614ET
BT190251ET	BT190065ET	BT190256ET	BT200605ET	BT200615ET
BT190118ET	BT190218ET	dbatu to autonomus	BT200606ET	BT200616ET
BT190137ET	BT190148ET	dbatu to autonomus	BT200607ET	BT200617ET
BT190047ET	BT190246ET	dbatu to autonomus	BT200608ET	BT200618ET
BT190174ET	BT190147ET	BT190141ET	BT200609ET	BT200619ET
BT190219ET	BT190242ET	dbatu to autonomus	BT200610ET	BT200620ET
BT190097ET	BT190278ET	BT190239ET	BT200611ET	BT200621ET
BT190066ET	BT200638ET		BT200612ET	BT200622ET
BT200623ET	BT200639ET	BT200628ET	BT200601ET	
BT200624ET	BT200640ET	BT200629ET	BT200602ET	
BT200625ET	BT200641ET	BT200630ET	BT200630ET	
BT200626ET	BT200642ET	BT200631ET	BT200631ET	
BT200627ET	BT200643ET	BT200632ET	BT200632ET	

Under the Guidance of Prof. Firoz .Akhtar

(Assistant Professor)



Education To Eternity

Department of Electronics and Telecommunication Engineering

J D College of Engineering & Management Nagpur

CERTIFICATE

This is to certify that the registration

BT190046ET BT190136ET	BT190062ET BT190125ET	dbatu to autonomus dbatu to	BT200603ET BT200604ET	BT200613ET
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have completed the project on "Weather Monitoring System Using IOT" during year 2020-2021.

Faculty In -Charge

Prof. Firoz .Akhtar

Date: 25/03/2021



JAIDEV EDUCATION SOCIETY'S

J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR Department of Electronics Engineering \ Electronics & Telecommunication Engineering

(An Autonomous Institute, with NAAC "A" Grade) Rectifying Ideas, Amplifying Knowledge"

Session 2020 - 2021

FIELD PROJECT REPORT

Attendance for "WEATHER MONITORING SYSTEM USING IOT", Nagpur" 2ND YEAR

Sr. No.	Name of the Student	Signature
1	AKANSHA RAJU POTBHARE	Abouthoo.
2	GANGASAGAR GANGADHARRAO YAMMEWAR	Gyannel
3	MAYURI CHANDRAMANI BARMATE	Ward
4	NIKITA SUBHASH GANVIR	1180
5	POOJA NARAYAN DUBUKWAD	Paga
6	ROHINI RAMAJI KUMBHALKAR	Champio
7	SAKSHI DILIP BANSOD	1 Compos
8	VAIDEHI RAJEDNRA MESHRAM	range
9	VAISHNAVI SIDDHARTH MESHRAM	Allin
10	AKASH MANOHAR SAHASTRABUDDHE	AA -
11	ASHISH GAJANANRAO YESANKAR	W.L.
12	GANESH ANANDRAO MUNGAL	(AMusi)
13	GAURAV KISHOR ZADE	PRIODE
14	DAMINI VIJAY MANAPURE	Her
15	SARANG DHANRAJ BAWANKULE	Lemmer
16	SAMEER NOKLAL PATLE	SPATILE.
17	PRANAY PRADEEP NETANRAO	Rhuker
18	RIUCHIKA MANOHAR CHATAP	Rehales.
19	RUTIKA MOTIRAM KUNJAM	Rose
20	GAYATRI PADMAKAR BHOSKAR	(Bht
21	SHRADDHA GANGADHAR URKUDE	- Slorkude
22	PRIYANKA DUDHNATH KOTPALLIWAR	1/1
23	VRUSHABH ANKUSHRAO CHANDEKAR	gydoru
24	SIDDHANT SHANKAR YELANE	Shen:
25	BHUSHAN SHAILENDRA BHANDARAKAR	& John ?
26	PRACHI SANJAY SATPUTE	Preset
27	ABHISHEK ABHAY SHANIWARE	Heutan
28	CHAITALI CHUDAMAN GIRIPUNJE	Compre
29	AKASH BECHAN YADAV	Alama
30	AKSHAY ASHOK MESHRAM	anen
31	AKSHAY SUNIL PATIL	1 Delli
32	AMIR SABIR SHEIKH	Anal
33	ANKIT SURESH SHENDE	Ahade
34	ANKUSH SHIVLAL BHURE	A3hur
35	ANUJA AVINASH PATIL	Aleath
36	ATUL ARUN RAMTEKE	Abrile
37	BHANUPRIYA DEVDAS MESHRAM	- Buoth
38	BHARAT PARMESHWARAN TEWAR	Bleure
39	DIKSHA SUNIL WASNIK	Show
40	DIPASHRI KHUSHAL WADGAONKAR	Flul
41	DISHANT SANDESH GAJBHIYE	Dionalder

		- 44.
42	HARISH GOVINDAJI MAKADE	Two o
43	KAJAL SANTOSH GHODICHOR	Loyal
44	KAJOL NARAYAN KAMBLE	Hower
45	KHUSHBU RAKESH PATEL	L. Pears
46	KOMAL MORESHWAR THOTE	formal
47	MOHD HUZAILFA A SALIM KHAN	M& Ham
48	PALLAVI RAJKUMAR KANOJE	Pause
49	PRACHIKA ANIL HUMNE	Hurre
50	PRAJWAL GOPALRAO MOHOKAR	of solyer
51	PRAJWALIT PRABHAKAR DEWAIKAR	Prainal
52	PRANAY PADMAKAR THAKRE	berens "
53	PREMANAND RAMKRUSHNA NANDANWAR	Pure
54	PRIYA PREMRAJ BHAD	Pairer:
55	PUJA VIMALCHAND INDULKAR	- January
56	ROHAN SIYARAM PATEL	Robert
57	SAGAR ARUN MAHAJAN	Salde:
58	SAKSHI VIKAS NATHE	realth.
59	SAMRUDHA SANJAY GORSHETTIWAR	Saleshi
60	SHEETAL CHANDRAPRAKASH URKUDE	Break!
61	SHILVAN CHANDRASHEKHAR KAMBLE	MUK
62	SHIVANI SURENDRA DHABAI	45 Sheeters
63	SHIVENDRA KAMLESHWAR PATEL	Jalel.
64	SHUBHAM RAMESH SAGULALE	didher.
65	SOUMYA OMPRAKASH NAIDU	Shoule
66	SOURABH RAJU CHINCHKHEDE	Garagn.
67	SURAKSHA SUKHADEV LANJEWAR	Sauve
68	TARSEE SATOSH YADAV	assen
69	VAISHALI TEJRAM DESHMUKH	posto.
70	VAISHNAVI RAVINDRA GAURKAR	Muse !
71	VISHAL PRABHAKAR THAWARE	Tofhende

Class Incharge

Academic Incharge

HOD (EN/ETC)

A REPORT ON "IOT ENABLED HEALTH MONITORING SYSTEM"

By

JBE17328	JBTECH18304	JBTECH18305	JBTECH19205	JBTECH19304
JBE17010	JBTECH18039	JBTECH18347	JBTECH19252	JBTECH19171
JBE17710	JBTECH18207	JBTECH18161	JBTECH19251	JBTECH19371
JBTECH18106	JBTECH18033	JBTECH18311	JBTECH19213	JBE17566
JBTECH18306	JBTECH18105	JBTECH18396	JBTECH19212	JBE17133
JBTECH18104	JBTECH18226	JBTECH18091	JBTECH19349	JBE17423
JBTECH18093	JBTECH18307	JBTECH18264	JBTECH19210	JBE17059
JBTECH18162	JBTECH18312	JBTECH18225	JBTECH19215	JBTECH19297
JBTECH18331	JBTECH18229	JBTECH19324	JBTECH19303	JBTECH19322
JBE17218	JBTECH18224	JBTECH19159	JBTECH19343	JBTECH19298

JBTECH19300	JBTECH19372
JBTECH19394	JBE16396
JBTECH19291	JBTECH18372
JBTECH19311	JBE17268
JBTECH19310	JBE15063
JBTECH19293	JBE17368
JBTECH19290	JBTECH19423
JBTECH19325	JBE17208
JBE16606	

JBE13217

Under the Guidance of

Prof. Gayatri Padole (Assistant Professor)



Education To Eternity

Department of Electronics and Telecommunication Engineering
J D College of Engineering & Management Nagpur

CERTIFICATE

This is to certify that the registration					
JBE17328	JBTECH18304	JBTECH18305	JBTECH19205	JBTECH19304	
JBE17010	JBTECH18039	JBTECH18347	JBTECH19252	JBTECH19171	
JBE17710	JBTECH18207	JBTECH18161	JBTECH19251	JBTECH19371	
JBTECH18106	JBTECH18033	JBTECH18311	JBTECH19213	JBE17566	
JBTECH18306	JBTECH18105	JBTECH18396	JBTECH19212	JBE17133	
JBTECH18104	JBTECH18226	JBTECH18091	JBTECH19349	JBE17423	
JBTECH18093	JBTECH18307	JBTECH18264	JBTECH19210	JBE17059	
JBTECH18162	JBTECH18312	JBTECH18225	JBTECH19215	JBTECH19297	
JBTECH18331	JBTECH18229	JBTECH19324	JBTECH19303	JBTECH19322	
JBE17218	JBTECH18224	JBTECH19159	JBTECH19343	JBTECH19298	

JBTECH19300	JBTECH19372
JBTECH19394	JBE16396
JBTECH19291	JBTECH18372
JBTECH19311	JBE17268
JBTECH19310	JBE15063
JBTECH19293	JBE17368
JBTECH19290	JBTECH19423
JBTECH19325	JBE17208
JBE16606	
JBE13217	

have completed the project on "IOT ENABLED HEALTH MONITORING SYSTEM" during year 2020-2021.

Faculty In -Charge

Prof. Gayatri Padole

Date: 26/03/2021



JAIDEV EDUCATION SOCIETY'S

J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR

Department of Electronics Engineering \ Electronics & Telecommunication Engineering

(An Autonomous Institute, with NAAC "A" Grade) Rectifying Ideas, Amplifying Knowledge" Session 2020 - 2021

FIELD PROJECT REPORT

Attendance for ""IOT ENABLED HEALTH MONITORING SYSTEM" 3RD YEAR

Sr. No.	Name of the Student	Signature
1	DAMINI BALKRUSHANA CHAUDHARI	Day
2	MOHIT MANOJ MADAVI	TANAS
3	NIKHIL RAJU MAHURE	No makuse.
4	HARISH OMPRAKASH GOUPALE	E/2/2
5	BHAGYASHRI SHAMPRASAD PATLE	Bhatle
6	DEVANSHISH VASANT SHRIPAD	Devanshisthandle
7	ADITYA VILASRAO DHAWALE	Attaine.
8	TWINKAL BABA BHAISARE	Rhaisan
9	AISHWARYA MANIK SHENDE	Arrish
10	SAHILI PRAMOD MESHRAM	SA -
11	SNEHA CHUDAMAN KUMBHARE	
12	PRANAY ANIL CHAWHAN	RO
13	ROSHAN BAIDNATH VARMA	Rlan
14	DIKSHA ANAND INDURKAR	moles
15	KUNAL DAYADHAN MUDDEMWAR	Kmu
16	AVANI ANUKUL MESHRAM	- Ny
17	HEMANT GANESH SHENDE	Henry
18	HANUMAN BABARAO JAMBHULKAR	H.B. Jambhuk kees
19	RITESH RAVINDRA KHANGAR	2- Langes
20	RUTUJA NANDLAL MESHRAM	R. Meshram.
21	NAYAN SURESH GOKHALE	Orayan
22	MAYUR TULSIRAM HATTIMARE	mt.H.
23	SHEFALI NANDKISHOR MESHRAM	Sefali
24	DNYANDEEP MAHADEV KURZEKAR	· Dayandeep K.
25	SOMESHWAR CHHAGAN MUDDAMWAR	A MI
26	NILESH RAMBHAU PATHRABE	11125
27	CHAITANYA MAHESH THISKE	C. m. Thiske
28	LOKESH SEESHARAO YELANE	I I ling
29	MEGHA RUPCHAND MESHRAM	MAN
30	PRATEEKSHA RAMESH KAWALE	1210
31	NAMIRA IKRAM KHAN	- We man
32	NIKHIL MADHUKAR RAMTEKE	and the
33	SHASHANK PURUSHOTTAM DONGARE	S. Dongare
34	POOJA SUDHAKAR ZADE	10 10 miles
35	DIKSHITA PRAKASHRAO BADWAIK	400/00
6		1 Los dunie
7	EKTA SURESH GAME	1800111
	PRANALI RAJKUMAR KATHOUTE	P. K. Kath
8	PRIYA CHANDRABHAN DHOTE	(FX) 48
9	SUVARNA SHYAMSUNDAR MOHILE	800
0	SAYALI MANGAL KAMBLÈ	swyali kumble
1	ANAND RAJENDRA GAJBHIYE	AR GUSTINE

AS SANJANA LALAJI NARDELWAR 44 ASMITA MORESHWAR BHIMTE 45 ROHIT MANOJ SHAHARE 46 ANIMESH PANDURANG PATIL 47 DAMINI MANISH MOGLEWAR 48 MANSI KEDAR TEMBHURNE 49 HARSHAL KIRAN SONEKAR 50 SHAHBAZ SHAFIQUE AHMED 51 HARSHAD KRUSHNARAO PAPADKAR 52 SHUBHANGI DAMODHAR DHOKE 53 SHARMIN FATEMA SHAHID ANJUM SIDDIQUI 54 VRUSHABH BHOJRAJ KUMBHARE 55 SHRAWAN RAMESH DHURVE 56 SWATI DEVIDAS BHAISARE 57 SHEERIN PARVEEN MOHD. HAMEED 58 VAISHNAVI SHANKAR LINGAYAT 59 PRANAY GANESHRAO MODI 60 ANKITA ANIL KAPSE 61 MADHURI RAMESH NATKAR 62 SHRUTIKA GENDALAL MANGATE 63 AMIT VINAYAKRAO HAJARE 64 DOLLY YADORAO BARAPATRE 65 VIDYA ISHWAR KINEKAR 66 GULSHAN RAJU GAIKWAD 67 MAHESH RUNNAWARE	42	SAKET PRABHAKAR JUNGHARE	1.9 8
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	68	NISHIGANDHA PRADEEP KADWE	111

Class Incharge

Academic Incharge

HOD (EN/ETC)

A REPORT ON

"Weather Monitoring System Using IOT"

		By		
BT190046ET	BT190062ET	dbatu to autonomus	BT200603ET	BT200613ET
BT190136ET	BT190125ET	dbatu to autonomus	BT200604ET	BT200614ET
BT190251ET	BT190065ET	BT190256ET	BT200605ET	BT200615ET
BT190118ET	BT190218ET	dbatu to autonomus	BT200606ET	BT200616ET
BT190137ET	BT190148ET	dbatu to autonomus	BT200607ET	BT200617ET
BT190047ET	BT190246ET	dbatu to autonomus	BT200608ET	BT200618ET
BT190174ET	BT190147ET	BT190141ET	BT200609ET	BT200619ET
BT190219ET	BT190242ET	dbatu to autonomus	BT200610ET	BT200620ET
BT190097ET	BT190278ET	BT190239ET	BT200611ET	BT200621ET
BT190066ET	BT200638ET		BT200612ET	BT200622ET
BT200623ET	BT200639ET	BT200628ET	BT200601ET	
BT200624ET	BT200640ET	BT200629ET	BT200602ET	
BT200625ET	BT200641ET	BT200630ET	BT200630ET	
BT200626ET	BT200642ET	BT200631ET	BT200631ET	
BT200627ET	BT200643ET	BT200632ET	BT200632ET	

Under the Guidance of Prof. Firoz .Akhtar

(Assistant Professor)



Education To Eternity

Department of Electronics and Telecommunication Engineering

J D College of Engineering & Management Nagpur

CERTIFICATE

This is to certify that the registration

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have completed the project on "Weather Monitoring System Using IOT" during year 2020-2021.

Faculty In -Charge

Prof. Firoz .Akhtar

Date: 25/03/2021



JAIDEV EDUCATION SOCIETY'S

J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR Department of Electronics Engineering \ Electronics & Telecommunication Engineering

(An Autonomous Institute, with NAAC "A" Grade) Rectifying Ideas, Amplifying Knowledge"

Session 2020 - 2021

FIELD PROJECT REPORT

Attendance for "WEATHER MONITORING SYSTEM USING IOT", Nagpur" 2ND YEAR

Sr. No.	Name of the Student	Signature
1	AKANSHA RAJU POTBHARE	Abouthor -
2	GANGASAGAR GANGADHARRAO YAMMEWAR	Gyannel
3	MAYURI CHANDRAMANI BARMATE	Ward
4	NIKITA SUBHASH GANVIR	1180
5	POOJA NARAYAN DUBUKWAD	Page
6	ROHINI RAMAJI KUMBHALKAR	Change
7	SAKSHI DILIP BANSOD	10 months
8	VAIDEHI RAJEDNRA MESHRAM	range
9	VAISHNAVI SIDDHARTH MESHRAM	alline
10	AKASH MANOHAR SAHASTRABUDDHE	AA .
11	ASHISH GAJANANRAO YESANKAR	Il I
12	GANESH ANANDRAO MUNGAL	(AMUSI)
13	GAURAV KISHOR ZADE	PRIODE
14	DAMINI VIJAY MANAPURE	Her
15	SARANG DHANRAJ BAWANKULE	demine
16	SAMEER NOKLAL PATLE	2 Partile
17	PRANAY PRADEEP NETANRAO	Routes
18	RIUCHIKA MANOHAR CHATAP	Rehales.
19	RUTIKA MOTIRAM KUNJAM	Russia
20	GAYATRI PADMAKAR BHOSKAR	(Bhr)
21	SHRADDHA GANGADHAR URKUDE	- Slokude
22	PRIYANKA DUDHNATH KOTPALLIWAR	1/1
23	VRUSHABH ANKUSHRAO CHANDEKAR	gydone
24	SIDDHANT SHANKAR YELANE	Steen :
25	BHUSHAN SHAILENDRA BHANDARAKAR	town?
26	PRACHI SANJAY SATPUTE	Preset
27	ABHISHEK ABHAY SHANIWARE	Hertan
28	CHAITALI CHUDAMAN GIRIPUNJE	Compre
29	AKASH BECHAN YADAV	Alama
30	AKSHAY ASHOK MESHRAM	anen
31	AKSHAY SUNIL PATIL	1 Delli
32	AMIR SABIR SHEIKH	Anal
33	ANKIT SURESH SHENDE	Ahade
34	ANKUSH SHIVLAL BHURE	A3hur
35	ANUJA AVINASH PATIL	Aleath
36	ATUL ARUN RAMTEKE	Abule
37	BHANUPRIYA DEVDAS MESHRAM	1 Duply
38	BHARAT PARMESHWARAN TEWAR	Bleure
39	DIKSHA SUNIL WASNIK	2 mess
40	DIPASHRI KHUSHAL WADGAONKAR	Flul
41	DISHANT SANDESH GAJBHIYE	Dionalder

		- 44.
42	HARISH GOVINDAJI MAKADE	Fall
43	KAJAL SANTOSH GHODICHOR	Loyal
44	KAJOL NARAYAN KAMBLE	How
45	KHUSHBU RAKESH PATEL	L Pears
46	KOMAL MORESHWAR THOTE	Kowai
47	MOHD HUZAILFA A SALIM KHAN	Ma Ham
48	PALLAVI RAJKUMAR KANOJE	Pause
49	PRACHIKA ANIL HUMNE	Hurre
50	PRAJWAL GOPALRAO MOHOKAR	of solyer
51	PRAJWALIT PRABHAKAR DEWAIKAR	Prainal
52	PRANAY PADMAKAR THAKRE	birans "
53	PREMANAND RAMKRUSHNA NANDANWAR	Pure
54	PRIYA PREMRAJ BHAD	Paiter:
55	PUJA VIMALCHAND INDULKAR	- January
56	ROHAN SIYARAM PATEL	Robert
57	SAGAR ARUN MAHAJAN	Salde:
58	SAKSHI VIKAS NATHE	realth.
59	SAMRUDHA SANJAY GORSHETTIWAR	Saleshi
60	SHEETAL CHANDRAPRAKASH URKUDE	Break!
61	SHILVAN CHANDRASHEKHAR KAMBLE	MUK
62	SHIVANI SURENDRA DHABAI	95 Houters
63	SHIVENDRA KAMLESHWAR PATEL	Valel.
64	SHUBHAM RAMESH SAGULALE	didher.
65	SOUMYA OMPRAKASH NAIDU	Shoule
66	SOURABH RAJU CHINCHKHEDE	Caralin.
67	SURAKSHA SUKHADEV LANJEWAR	Sauve
68	TARSEE SATOSH YADAV	absen
69	VAISHALI TEJRAM DESHMUKH	posto.
70	VAISHNAVI RAVINDRA GAURKAR	Tugar
71	VISHAL PRABHAKAR THAWARE	Tofhende

Class Incharge

Academic Incharge

HOD (EN/ETC)

A REPORT ON "IOT ENABLED HEALTH MONITORING SYSTEM"

By

JBE17328	JBTECH18304	JBTECH18305	JBTECH19205	JBTECH19304
JBE17010	JBTECH18039	JBTECH18347	JBTECH19252	JBTECH19171
JBE17710	JBTECH18207	JBTECH18161	JBTECH19251	JBTECH19371
JBTECH18106	JBTECH18033	JBTECH18311	JBTECH19213	JBE17566
JBTECH18306	JBTECH18105	JBTECH18396	JBTECH19212	JBE17133
JBTECH18104	JBTECH18226	JBTECH18091	JBTECH19349	JBE17423
JBTECH18093	JBTECH18307	JBTECH18264	JBTECH19210	JBE17059
JBTECH18162	JBTECH18312	JBTECH18225	JBTECH19215	JBTECH19297
JBTECH18331	JBTECH18229	JBTECH19324	JBTECH19303	JBTECH19322
JBE17218	JBTECH18224	JBTECH19159	JBTECH19343	JBTECH19298

JBTECH19300	JBTECH19372
JBTECH19394	JBE16396
JBTECH19291	JBTECH18372
JBTECH19311	JBE17268
JBTECH19310	JBE15063
JBTECH19293	JBE17368
JBTECH19290	JBTECH19423
JBTECH19325	JBE17208
JBE16606	

JBE13217

Under the Guidance of

Prof. Gayatri Padole (Assistant Professor)



Education To Eternity

Department of Electronics and Telecommunication Engineering
J D College of Engineering & Management Nagpur

CERTIFICATE

This is to cer	tify that the re	gistration		
JBE17328	JBTECH18304	JBTECH18305	JBTECH19205	JBTECH19304
JBE17010	JBTECH18039	JBTECH18347	JBTECH19252	JBTECH19171
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JBTECH18306	JBTECH18105	JBTECH18396	JBTECH19212	JBE17133
JBTECH18104	JBTECH18226	JBTECH18091	JBTECH19349	JBE17423
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JBTECH18331	JBTECH18229	JBTECH19324	JBTECH19303	JBTECH19322
JBE17218	JBTECH18224	JBTECH19159	JBTECH19343	JBTECH19298

JBTECH19300	JBTECH19372
JBTECH19394	JBE16396
JBTECH19291	JBTECH18372
JBTECH19311	JBE17268
JBTECH19310	JBE15063
JBTECH19293	JBE17368
JBTECH19290	JBTECH19423
JBTECH19325	JBE17208
JBE16606	
JBE13217	

have completed the project on "IOT ENABLED HEALTH MONITORING SYSTEM" during year 2020-2021.

Faculty In -Charge

Prof. Gayatri Padole

Date: 26/03/2021



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FIELD PROJECT REPORT

Attendance for ""IOT ENABLED HEALTH MONITORING SYSTEM" 3RD YEAR

Sr. No.	Name of the Student	Signature
1	DAMINI BALKRUSHANA CHAUDHARI	Day
2	MOHIT MANOJ MADAVI	TANAS
3	NIKHIL RAJU MAHURE	No makuse.
4	HARISH OMPRAKASH GOUPALE	8/2/2
5	BHAGYASHRI SHAMPRASAD PATLE	Bhatle
6	DEVANSHISH VASANT SHRIPAD	Devanshisthandle
7	ADITYA VILASRAO DHAWALE	Attaine.
8	TWINKAL BABA BHAISARE	Rhaisan
9	AISHWARYA MANIK SHENDE	Arrish
10	SAHILI PRAMOD MESHRAM	SA -
11	SNEHA CHUDAMAN KUMBHARE	
12	PRANAY ANIL CHAWHAN	RO
13	ROSHAN BAIDNATH VARMA	Rlan
14	DIKSHA ANAND INDURKAR	moles
15	KUNAL DAYADHAN MUDDEMWAR	Kmu
16	AVANI ANUKUL MESHRAM	- Ny
17	HEMANT GANESH SHENDE	Henry
18	HANUMAN BABARAO JAMBHULKAR	H.B. Jambhuk kees
19	RITESH RAVINDRA KHANGAR	2- Langes
20	RUTUJA NANDLAL MESHRAM	R. Meshram.
21	NAYAN SURESH GOKHALE	Orayan
22	MAYUR TULSIRAM HATTIMARE	mt.H.
23	SHEFALI NANDKISHOR MESHRAM	Sefali
24	DNYANDEEP MAHADEV KURZEKAR	· Dayandeep K.
25	SOMESHWAR CHHAGAN MUDDAMWAR	A MI
26	NILESH RAMBHAU PATHRABE	11125
27	CHAITANYA MAHESH THISKE	C. m. Thiske
28	LOKESH SEESHARAO YELANE	I I ling
29	MEGHA RUPCHAND MESHRAM	MAN
30	PRATEEKSHA RAMESH KAWALE	1210
31	NAMIRA IKRAM KHAN	- We man
32	NIKHIL MADHUKAR RAMTEKE	Like.
33	SHASHANK PURUSHOTTAM DONGARE	S. Dongare
34	POOJA SUDHAKAR ZADE	10 10 miles
35	DIKSHITA PRAKASHRAO BADWAIK	400/00
6		1 Los dunie
7	EKTA SURESH GAME	1800111
	PRANALI RAJKUMAR KATHOUTE	P. K. Kath
8	PRIYA CHANDRABHAN DHOTE	(FX) 48
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Class Incharge

Academic Incharge

HOD (EN/ETC)

TRANSFORMER MONITERING SYSTEM USING IOT

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

In

Electronics and Telecommunication Engineering
Submitted by

Miss. Payal Nannewar Miss. Diksha Mangate

TVIISS. Ditalia TVIAIG

Miss. Rupali Gajapure Miss. Swinal Tirpude

Mr. Abrar Shaikh

Under the Guidance of

Prof. Avinash Ikhar



Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020 - 2021

TRANSFORMER MONITORING SYSTEM USING IOT

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Engineering

In

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Submitted by

Miss. Payal Nannewar Miss. Diksha Mangate

Miss. Rupali Gajapure Miss. Swinal Tirpude

Mr. Abrar Shaikh
Under the Guidance of
Prof. Avinash Ikhar



Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020 - 2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Transformer Monitoring System Using IoT" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Avinash Ikhar Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 17th August 2021

Miss. Payal Nannewar

Miss. Rupali Gajapure

Miss. Swinal Tirpude

Miss. Dikha Mangate AULSIA

Mr. Abrar Shaikh

CERTIFICATE

This is to certify that the project report entitled, "Transformer Monitoring System Using IoT" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology submitted by Miss. Payal Nannewar, Miss. Diksha Mangate, Miss. Rupali Gajapure, Miss. Swinal Tirpude, Mr. Abrar Shaikh to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bounfide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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Forwarded to:

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N.N.Gyanchandani

Head of the Department
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Dr. S.V. Sonekar, Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road

Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on TRANSFORMER MONITORING SYSTEM USING IOT is approved work done by

Miss. Payal Nannewar

Miss. Diksha Mangate

Miss. Rupali Gajapure

Miss. Swinal Tirpude

Mr. Abrar Shaikh

In partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electronics and Telecommunication Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020 - 2021

Prof. Avinash Ikhar

Guide

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Project Examination held on

28th June 2021

Internal Examiner/ Guide

The trade of the property of the second prope

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards **Dr.S.V.Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from N.N.Gyanchandani Head, Department of EN/ETC J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Avinash Ikhar**, Department of EN/ETC, J D College of Engineering & Management, Nagpur.

Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members Of EN/ETC Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Miss. Payal Nannewar

Miss. Diksha Mangate

Miss. Rupali Gajapure

Miss. Swinal Tirpude

Mr. Abrar Shaikh

ABSTRACT

Distribution companies have a strong competition among them to provide reliable power at a low cost. As per reports, maintenance as well as replacement of transformers is found to be an expensive exercise for all companies. Keeping this factor in mind, IoT based distribution transformer monitoring system is developed in this work to monitor health conditions of distribution transformers on regular intervals. Health index is determined on the basis of change in voltage, temperature variations and load ability, which are measured using sensors. Arduino has been selected as the processor for the sensed data while Thing Speak has been selected as the IoT platform. This low cost system can be installed in transformer at any location to get monitored remotely, which not only determines health condition but also is helpful in predicting its life span as well

"IOT Based Design Approach For Accident Alert And Tracking System With First Aid Facility".

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

ELECTRONICS ENGINEERING

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Submitted by
Prachu Patil
Kalyani Tumsare
Ritika Zalke
Bhavana Shiwankar
Shivani Singh

Under the Guidance of Prof. Shailesh Sakhare



ELECTRONICS ENGINEERING

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020 - 2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "IOT Based Design Approach For Accident Alert And Tracking System With First Aid Facility" in the subject Electronics Engineering, in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shailesh Sakhare, Electronic and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Prachu Patil Dot

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Bhavana Shiwankar Bhavary

Shivani Singh & Cropo

CERTIFICATE

This is to certify that the project report entitled, "IOT Based Design Approach For Accident Alert And Tracking System With First Aid Facility" in the subject Electronics Engineering in the faculty of Science and Technology submitted by Prachu Patil, Kalyani Tumsare, Ritika Zalke, Bhavana Shiwankar, Shivani Singh to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Vebus.

Prof. Shailesh Skhare

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Telecommunication Engineering

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J.D. College of Engineering & Hanagement Khandala, Katol Road Nagpur-441501

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CERTIFICATE OF APPROVAL

This is to certify that the Project Report "IOT Based Design Approach for Accident Alert and Tracking System with First Aid Facility" is approved work done by Prachu Patil, Ritika Zalke, Kalyani Tumsare, Bhavana Shiwankar, Shivani Singh. In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Shailesh Sakhare
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Head of the Department
HOD, Dept. of EN/ETC
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Project Examination held on	
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Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for allowing us to work on the project during our final year of B.E.

We owe our sincerest gratitude towards Dr. S. V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. N. N. Gyanchandani Head, Department of Electronic And Telecommunication Engineering J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Shailesh Sakhare**, Department Electronics / Electronic And Telecommunication, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics / Electronic and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout this work.

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Prachu Patil	EN (04)
Kalyani Tumsare	EN (06)
Ritika Zalke	EN (09)
Bhavana Shiwankar	EN (11)
Shivani Singh	ETC B (32)

ABSTRACT

Traffic hazards are a huge problem facing the world. One of the most major causes of traffic hazards is increasing the dense and vehicle populations. Increasing traffic hazards is one of the crucial challenges in the greater numbers of deaths that occur in the world due to these road accidents. So there are requirements of imparting the good transportations facilities so that can be decreasing the ratio of accidents and save the life of the people. One of the solutions that are proposed for designing vehicle accident detection is using the GPS, GSM, accelerometer, Arduino Uno technology, and vibration sensors. This system has three phases of accident prevention and accident detections. The first phase is the savior the detection phase is carried out by using the vibrations sensors that will detect and alter the people by sending SMS using GSM module that is containing the user's data is stored in android applications this data is taking GPS module. The second phase is, moderate accidents occur then with the help of GPS module locations will be detected after that the address of the nearby hospital gets the message of accidents that occur in nearby areas then they provide facilities to the accidents patients. The third phase is normal accidents that after the location detecting patient receive a message from hospital that I.e. Please take some precautions.

To reduce the loss of life that occurred due to road accident rates, an intelligent setup has been designed that uses the internet of things (IoT). They lose their lives because of medical services and family members not getting information at the proper time. The setup device will project immediate details like location, accident type, personals details of the user's field. This paper presents a brief overview of the technology which will be going to detect the location of a person whose accident has occurred, and, according to the scenario of the accident, the medical facilities will be provided to the user. In this paper, an efficient wireless system is designed for vehicle accident detection and reporting by using an accelerometer, GPS, and vibration sensor. In this device, an accelerometer sensor is used to detect a crash, GPS is used to detect location, and a vibration sensor is a device that measures the amount and frequency of vibration in the given system. If the accident occurs,

SMART STICK FOR THE BLIND & VISUALLY IMPAIRED PEOPLE

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology
In
Electronics and Telecommunication Engineering

Submitted by

Ms. Punam Patel

Ms. Rajani Kolhe

Ms. Priyanka Prasad

Ms. Pratibha Thakre

Ms. Kajal Dhole

Ms. Apeksha Rodge

Under the Guidance of **Prof. firoz Akhtar**



Department of Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-21

DECLARATION

We hereby declare that The work presented in this project report entitled, "Smart Stick For The Blind And Visually Impaired People" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Firoz Akhtar in Electronics and Telecommunication Department J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Name of students

Ms. Punam Patel

Ms. Rajani Kolhe

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Ms. Pratibha Thakre

Ms. Kajal Dhole

Ms. Apeksha Rodge

Place: Nagpur

Date:

CERTIFICATE

This is to certify that the project report entitled, "Smart stick for the blind and visually impaired people" in the subject Electronics and telecommunication in the faculty of Science and Technology submitted by Ms.Punam Patel, Ms.Rajani Kolhe, Ms.Priyanka Prasad, Ms.Pratibha Thakre, Ms.Kajal Dhole, Ms.Apeksha Rodge to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Firoz Akhtar

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This is to certify that the Project Report on SMART STICK FOR THE BLIND AND VISUALLY IMPAIRED PEOPLE is approved work done by

Ms. Punam Patel Ms. Rajani Kolhe Ms. Priyanka Prasad Ms. Pratibha Thakre Ms. Kajal Dhole Ms. Apeksha Rodge

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and telecommunication Engineering at JD College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Firoz Akhtar Project Guide Prof. Neetu Gyanchandani
Head of the Department
HOD, Dept. of Engineering
JD College of Engineering

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Project Examination held on_____

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Internal Examiner/ Guide

External Examiner

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech. We owe our sincerest gratitude towards **Dr. S. V. Sonekar** Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of Electronics and telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof**, **Firoz Akhtar** Department of Electronics and telecommunication Engineering , J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students:

Ms. Punam Patel

Ms. Rajani Kolhe

Ms. Priyanka Prasad

Ms. Pratibha Thakre

Ms. Kajal Dhole

Ms. Apeksha Rodge

ABSTRACT

Blind stick is an innovative stick designed for visually disabled people for improved navigation. We here propose an advanced blind stick that allows visually challenged people to navigate with ease using advanced technology. The blind stick is integrated with ultrasonic sensor along with light and water sensing. Our proposed project first uses ultrasonic sensors to detect obstacles ahead using ultrasonic waves. On sensing obstacles the sensor passes this data to the microcontroller. The microcontroller then processes this data and calculates if the obstacle is close enough. If the obstacle is not that close the circuit does nothing. If the obstacle is close the microcontroller sends a signal to start a vibration.

It also detects water and alerts the blind. It is a gadget that manages the client by detecting obstacles in the scope of the stick. It will distinguish all obstacles in the way with the assistance of different sensors introduced in it. The microcontroller will recover information and pass it on as vibrations which will tell the client about obstacles in transit. It is an effective gadget and will end up being a major aid for blind individuals.

Keywords: Smart Stick, Ultrasonic Sensors, Intelligent Stick, Microcontroller, GPS-GSM

Module

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SMART AIR POLLUTION DETECTION SYSTEM BASED ON INTERNET OF THINGS

Thesis Submitted to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur In Partial Fulfillment of the Requirements for the Award of the Degree Of

Bachelor of Engineering in Electronics and Tele-Communication Engineering

Submitted By

Mr. RITESH KUMBHARE
Ms. PRARTHNA GHADLE
Mr. MAHENDRA ZODE
Mr. AKSHAY VEER

Under the Guidance of Prof. SAURABH S NIMKAR



2020-21
Department of Electronics
Electronics and Tele-Communication Engineering
J D COLLEGE OF ENGINEERING & MANAGEMENT,
NAGPUR-441501

CERTIFICATE

This is to certify that the thesis entitled SMART AIR POLLUTION DETECTION SYSTEM BASED ON Internet of Things submitted by Ritesh Kumbhare, Prarthna Ghadle, Mahendra R Zode, Akshay Veer to the RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my / our supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

Prof. Saurabh S Nimkar

Department of Electronics & Telecommunication Engineering

Forwarded to:

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Head of the Department

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Prof. Suresh Rijal

B.E. Project Coordinator

Dr. S. L. Haridas

Dean Academic

Dr. S. V. Sonekar
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Declaration

We, hereby declare that the dissertation titled "SMART AIR POLLUTION DETECTION SYSTEM USING Internet of Things" submitted herein has been carried out by us in the Department of Electronic & Telecommunication Engineering of J D College of Engineering and Management, Nagpur. The work is original and has not been submitted earlier as a whole or in part for the award of any degree at this or any other Institution / University.

We also hereby assign to J D College of Engineering and Management, Nagpur all rights under copyright that may exist in and to the above work and any revised or expanded derivatives works based on the work as mentioned. Other work copied from references, manuals etc. are disclaimed.

Date: 15/03/2021

Place: Nagpur

AKSHAY VEER

ACKNOWLEDGEMENT

We express my sincere gratitude, for giving me the opportunity to work on the thesis during my final year of B.E. Thesis work is an important aspect in the field of engineering.

We owe my sincerest gratitude towards Dr. S. R. Choudhari, Principal J D College of Engineering & Management, Nagpur, for valuable advice and healthy criticism throughout my thesis which helped me immensely to complete my work successfully.

We would like to thank Er. Prof. Suresh Rijal, Coordinator, J D College of Engineering & Management, Nagpur.

The constant guidance and encouragement received from Prof. Nieetu Gyanchandani, Head, Department of Electronics & Telecommunication, Nagpur, has been of great help in carrying out the present work and is acknowledged with reverential thanks.

We would like to express a deep sense of gratitude and thanks profusely to Er.

Prof. Saurabh S Nimkar Assistant Professor, Department of Electronics and

Telecommunication, J D College of Engineering & Management, Nagpur, who was
the project guide thesis Supervisor. Without his wise counsel and able guidance, it
would have been impossible to complete the thesis in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during my presentation of the work. We express gratitude to other faculty members of ETC Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Ritesh Kumbhare(B-04)

Mahendra Zode(B-02)

Prarthna Ghadle(B-07)

Akshay Veer (B-14)

ABSTRACT

The main objective of this project is to monitor the air eminence in industrial and urban areas. The proposed outline includes a set of gas sensors (CO2) that are positioned on masses and structure of a IOT (Internet of things) and a dominant server to support both short-range realtime incident management and a continuing deliberate planning. In this Arduino platform is used to communicate the data simply and quickly. WSN (Wireless sensor network) acts as the trans receiver. This provide a real-time low rate monitoring system over the use of low rate, low information rate, and little control wireless communication technology. The projected monitoring system can be transferred to or shared by different applications. Through IOT we can able to visualize the values from the globe. Keywords – Wireless Sensor Network(WSN), Air Quality Monitoring Systems (AQMS), Gas Sensors (CO2).

Keywords: Arduino Uno board, Carbon dioxide sensor, Wi-Fi module, Buzzer.

AUTOMATIC DETECTION AND SORTING OF COLOUR CUBE USING MACHINE VISION & ROBOTIC ARM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

in in the second of the second

ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Submitted by

Mr. Rohitkumar Meshram

Mr. Ravi Raut

Mr. Amar Bawane

Ms. Ujvala Kale

Ms. Nikhita Bhowate

Mr. Jagjivan Bilone

Under the Guidance of Prof. Shyam D. Bawankar



Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "AUTOMATIC DETECTION AND SORTING OF COLOUR CUBE USING MACHINE VISION & ROBOTIC ARM" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shyam D. Bawankar, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Rohitkumar Meshram

Ravi Raut

Amar Bawane

Ujvala Kale

Nikhita Bhowate

Jagjivan Bilone

CERTIFICATE

This is to certify that the project report entitled, AUTOMATIC DETECTION AND SORTING OF COLOUR CUBE USING MACHINE VISION & ROBOTIC ARM" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Rohitkumar Meshram, Ravi Raut, Amar Bawane Ujvala Kale, Nikhita Bhowate & Jagjivan Bilone to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Shyam D. Bawankar
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Project Coordinator

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This is to certify that the project report entitled, AUTOMATIC DETECTION AND SORTING OF COLOUR CUBE USING MACHINE VISION & ROBOTIC ARM" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Rohitkumar Meshram, Ravi Raut, Amar Bawane Ujvala Kale, Nikhita Bhowate & Jagjivan Bilone to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Shyam D. Bawankar

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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on AUTOMATIC DETECTION AND SORTING OF COLOUR CUBE USING MACHINE VISION & ROBOTIC ARM is approved work Done by Mr. Rohitkumar Meshram, Mr. Ravi Raut, Mr. Amar Bawane, Ms. Ujvala Kale, Ms. Nikhita Bhowate, Mr. Jagjivan Bilone, In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics & Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-21.

Prof. Shyam D. Bawankar Guide Prof. Neetu Gyanchandani

Head of the Department
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& Management, Nagpur

Project Examination held on	

Internal Examiner/Guide

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. We owe our sincerest gratitude towards **Dr. S. R.**Choudhari, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S.V. Sonekar, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from <u>Prof. Neetu Gyanchandani</u>, Head, Department of <u>Electronics and Telecommunication</u> J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank <u>Prof. Amol Dhankar</u>, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Prof. Shyam D.Bawankar, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of <u>Electronics and Telecommunication</u> Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work

Name of the students

Mr. Rohitkumar Meshram

Mr. Ravi Raut

Mr. Amar Bawane

Miss. Ujvala Kale

Miss. Nikhita Bhowate

Mr. Jagjivan Bilone

ABSTRACT

Sorting of items is done manually requiring human work. Identifying a particular object and placing it in the required order is taxing work especially in the industrial field wherein one needs to sort a large number of objects in a small interval of time and also weight of the objects is much larger than what an average human can bear. Automation plays a noteworthy role in such cases. Taking mentioned factors under consideration alongside providing a cost-efficient solution, we have presented our system in this paper. We are using Raspberry Pi, which is an open-source board based on Linux.

In today's technology, raspberry pi has been a key in a major number of applications in automation. Our objective will be to examine its utility and effective use as a mechanical system in Sorting Objects. Besides we are making use of a web camera that scans the image of the particular object to be sorted. The scanned image is then further processed using Open-CV to detect the shape and color of the object.

Open-CV (Open Source Computer Vision) is a library of programming functions mainly aimed at real-time computer vision. With the help of the processed information in Open-CV, the motor driver is instructed to control the servo motors which will help drive the object to the required sorted section. In our project, objects of 3 different colors and shapes, i.e. Pentagon, Square, and Triangle with Red, Green, and Blue colors

HUMANOID ROBOTIC ARM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Mr. Sahil Chiwhane

Mr. Nilesh Hajare

Mr. Vedant Boratkar

Mr. Anand Bawane

Ms. Priya Motghare

Under the Guidance of

Prof. Amol Dhankar



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Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

HUMANOID ROBOTIC ARM

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

Tn

Electronics and Telecommunication

Submitted by
Mr. Sahil Chiwhane
Mr. Vedant Boratkar
Mr. Nilesh Hajare
Mr. Anand Bawane
Ms. Priya Motghare

Under the Guidance of Prof. Amol Dhankar



Electronics and Telecommunication Engineering
J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Humanoid Robotic Arm" in the Electronics and telecommunication subject in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Amol Dhankar, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Mr. Sahil Chiwhane

Mr. Nilesh Hajare

Mr. Vedant Boratkar

Mr. Anand Bawane

Ms. Priya Motghare

CERTIFICATE

This is to certify that the project report entitled, "Humanoid Robotic Arm" in the Electronics and Telecommunication subject in the faculty of Science and Technology submitted by Name of the Students to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Amol Dhankar

Electronics and Telecommunication

Forwarded to:

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Department of EN/ETC Engineering

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J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

PHOUR + INTHE

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on HUMANOID ROBOTIC ARM is approved work done by

- 1) Mr. Sahil Chiwhane
- 2) Mr. Nilesh Hajare
- 3) Mr. Vedant Boratkar
- 4) Mr. Anand Bawane
- 5) Ms. Priya Motghare

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof Amol Dhankar
Guide

Project Examination held on

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External Examiner

ACKNOWLEDEMET

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards Dr. S.V. Sonekar, Principal J D College of Engineering& Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from Dr. Neetu Gyanchandani, Head, Department of Electronics and Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Amol Dhankar, Department of Electronics And Telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Mr. Sahil Chiwhane

Mr. Nilesh Hajare

Mr. Vedant Boratkar

Mr. Anand Bawane

Mr. Priya Motghare

ABSTRACT

In today's world there is an increasing need to create artificial arms for different inhuman situations where human interaction is difficult or impossible. This may involve transportation of hazardous objects from one place to another and extinguishing the fire. Here we propose to build a robotic arm controlled by natural human arm movements whose input is acquired through the use of Leap motion sensors.

The development of this arm is based on Arduino UNO platform along with leap motion controller for input processing, which will all be interfaced with each other using wireless module. Arduino UNO board is programmed to control the servo motors and Arduino's input is given to the motion sensors. For proper control mechanism and flexibility of the arm. Six different servo motors are used. Finally, this prototype of the arm may be expected to overcome the problem such as placing or picking hazardous objects or non-hazardous objects that are far away from the user and performing daily household activities with precision and accuracy.

ANTI-THEFT VEHICLE SECURITY SYSTEM USING FACE RECOGNITION

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and telecommunication

Submitted by

Name of the Student/s

Ms. Samiksha Paidlewar Ms. Poonam Gajbhiye Ms. Snehal Bhowate Ms. Kanchan Bashine Mr. Nikhil Dharpure

Under the Guidance of Prof. Pranali Langde



Electronic And Telecommunication Engineering Department
J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological
University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "ANTI-THEFT VEHICLE SECURITY SYSTEM USING FACE RECOGNITION" in the subject Electronics And Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof.Pranali langde_, Electronic And Telecommunication Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur Date: 4/12/21

Name of Students:

Ms. Samiksha Paidlewar

Ms. Poonam Gajbhiye

Ms. Snehal Bhowate

Ms. Kanchan Bashine

Mr. Nikhil Dharpure

CERTIFICATE

This is to certify that the project report entitled, "ANTI-THEFT VEHICLE SECURITY SYSTEM USING FACE RECOGNITION" in the subject Electronics And Telecommunication in the faculty of Science and Technology submitted by Samiksha Paidlewar, Poonam Gajbhiye, Snehal Bhowate, Kanchan Bashine, Nikhil Dharpure to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Pranali Langde

Dept. of EN/ETC Engineering
Project Guide

Forwarded to:

Prof. Amol Dhankar

Project Coordinator

Dept. of EN/ETC Engineering

of Caro

Dr. Neetu Gyanchandani

Head of the Department

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Dr. Srikant. V. Sonekar

Principal

Principal

J.D. College of Engineering & Management

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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on ANTI-THEFT VEHICLE SECURITY SYSTEM USING FACE RECOGNITION is approved work done by

Name of the Students

Ms. Samiksha Paidlewar

Ms. Poonam Gajbhiye

Ms. Snehal Bhowate

Ms. Kanchan Bashine

Mr. Nikhil Dharpure

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics And Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021

wild Problem Fermulation

Prof. Pranali Langde

Guide

Dr. Neetu Gyanchandani

Head of the Department

HOD, Dept. of EN/ETC JD College of Engineering & Management, Nagpur

Project Examination held on

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH.

We express our sincere gratitude towards Dr. S.V. Sonekar, Offtg. Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Dr. Neetu Gyanchandani, Head, Department of Electronics And Telecommunication at J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Pranali Langde, Department of electronics and telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research

Committee for their valuable suggestions and healthy criticism during our

presentation of the work. We express gratitude to other faculty members of

Department, J D College of Engineering & Management, Nagpur,

for their intellectual support throughout the course of this work.

Name of the students:

Ms. Samiksha Paidlewar

Ms. Poonam Gajbhiye

Ms. Snehal Bhowate

Ms. Kanchan Bashine

Mr. Nikhil Dharpure

ABSTRACT

In this modern age there is rapid increase in number of vehicles and so is the number of ear theft attempts, locally and internationally. With the invention of strong stealing techniques, owners are in fear of having their vehicles being stolen from common parking lot or from outside their home. Thus the protection of vehicles from theft becomes important due to insecure environment. Real time vehicle security system based on computer vision provides a solution to this problem. The proposed vehicle security system performs image processing based real time user authentication using face detection and recognition techniques. As the person enters the parked car to the driver's seat of the vehicle activates the hidden camera fixed in appropriate position inside the vehicle. As soon as the image is acquired from the activated camera, face of the person is detected. The extracted face is recognized using the LBPH. The face of the person which is Detected as unknown is sent to the mobile of the owner via mail and the ignition system remains unlock.

INTELLIGENT AUTOMATION FOR APPLIANCES WITH TIMER AND SCHEDULING

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Ms. Sanjana Nardelwar

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale

Under the Guidance of Prof. Mohammad Hassan Ansari



Department of Electronics & Telecommunication Engineering
J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2021-2022

DECLARATION

We hereby declare that the work presented in this project report entitled, "Intelligent Automation for Appliances with Time & Scheduling" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Mohammad Hassan, Department of Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place:

Date:

Name of Students

Ms. Sanjana Nardelwar Ameleksan

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale Leyon

CERTIFICATE

This is to certify that the project report entitled, "Intelligent Automation for Appliances with Time & Scheduling" in the subject Electronics & Telecommunication branch in the faculty of Science and Technology submitted by Ms. Sanjana Nardelwar, Mr. Saket Junghare, Mr. Aditya Dhawale & Ms. Nayan Ghokale to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Mohammad Hassan

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Forwarded to:

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Prof. Gayatri Bhoyar

Head of the Department

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Dr. S.V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "INTELLIGENT AUTOMATION FOR APPLIANCES WITH TIMER AND SCHEDULING" is approved work done by

Ms. Sanjana Nardelwar

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics & Telecommunication Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2021-2022.

Prof. Mohammad Hassan

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Prof. Gayatri Bhoyar Head of the Department

30 june 2022

Project Examination held on

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH. We owe our sincerest gratitude towards **Dr. S.V. Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards **Dr. S. L. Haridas**, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from **Prof. Gayatri Bhoyar**, Head, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Mohammad Hassan**, Department of Electronics & Telecommunication Engineering J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Ms. Sanjana Nardelwar

Mr. Saket Junghare

Mr. Aditya Dhawale

Ms. Nayan Gokhale

ABSTRACT

This project depicts the overall architecture of a low-cost, wireless home automation system. It focuses on the creation of an IoT-based home automation system that can control multiple components over the internet or be automatically programmed to work based on environmental circumstances. In this project, we will create a firmware for smart control that can be successfully automated while minimising human contact in order to maintain the integrity of all electrical gadgets in the home. To automate the process, we used Node MCU, a popular open-source IOT platform. Different transmission modes will be used by different components of the system to send the user's control of the devices to the actual appliance via Node MCU.

The main control system implements wireless technology to provide remote access from smart phone. We are using a cloud server-based communication that would add to the practicality of the project by enabling unrestricted access of the appliances to the user irrespective of the distance factor. We provided a data transmission network to create a stronger automation. The system intended to control electrical appliances and devices in house with relatively low cost design, user-friendly interface and ease of installation. The status of the appliance would be available, along with the control on an android platform. This system is designed to assist and provide support in order to fulfill the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.

FIRE EXTINGUISHING AND MONITORING USING MULTI-SENSOR WITH AUTO TURN ON/OFF WATER MOTOR USING BLYNK SERVER

A Project Report Submitted In Partial Fulfillment of the Requirements for the Award of the Degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

Ms. Sharvari Kale

Ms. Prachi Koche

Ms. Kalyani Kolhe

Ms. Puja Dongre

Ms. Tejaswini Vaidya

Ms. Anjali Gowardhan

Under the Guidance of

Prof. Mohammad Hassan



Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Fire Extinguishing and Monitoring using Multi-Sensor with Auto Turn On/Off Water Motor Using Blynk Server." in the Electronic and Telecommunication subject in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Mohammad Hassan of Electronic & Telecommunication, JD College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Ms. Sharvari Kale

Ms. Prachci Koche

Ms. Kalyani Kolhe

Ms. Puja Dongre

Ms. Anjali Gowardhan

Ms. Tejaswini Vaidya

CERTIFICATE

This is to certify that the project report entitled, "FIRE EXTINGUISHING AND MONITORING USING MULTI-SENSOR WITH AUTO TURN ON/OFF WATER MOTOR USING BLYNK SERVER" in the Electronics and Telecommunication in the faculty of Science and Technology submitted by Ms. Sharvari Kale, Ms. Prachi Koche, Ms. Kalyani Kolhe, Ms. Puja Dongre, Ms. Tejaswini Vaidya, Ms. Anjali Gowardhan to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded To:

Prof. Amol Dhankar

Project Coordinator
Department of Electronics
& Telecommunication

Prof. Mohammad Hassan

scar

Department of Electronics & Telecommunication

1

Prof. N. N. Gyanchandani

Head of the Department Department of Electronics & Telecommunication

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Dr. S. V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the project report on "FIRE EXTINGUISHING AND MONITORING USING MULTI-SENSOR WITH AUTO TURN ON/OFF WATER MOTOR USING BLYNK SERVER" is approved work done by

Name of Students

Ms. Sharvari Kale

Ms. Prachi Koche

Ms. Kalyani Kolhe

Ms. Puja Dongre

Ms. Tejaswini Vaidya

Ms. Anjali Gowardhan

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University Lonere during the academic year 2020-2021.

Prof. Mohammad Hassan

ssor

Name Of Guide

Prof. N. N. Gyanchandani

Head of The Department

JD College of Engineering

8 Management, Nagpur

Project Examination held on_

Internal Examiner/ Guide

External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We owe our sincerest gratitude to **Dr. S. R. Chaudhary**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S.V. Sonekar, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. N. N. Gyanchandani, Head, Department of Electronic and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Mohammad Hassan, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management Nagpur, for their intellectual support throughout the course of this work.

Ms. Sharvari Kale

Ms. Prachi Koche

Ms. Kalyani Kolhe

Ms. Puja Dongre

Ms. Tejaswini Vaidya

Ms. Anjali Gowardhan

ABSTRACT

Fire alarm systems are very common nowadays and commonly installed in Banks, shops, offices, homes, etc. They detect the fire and trigger a loud alarm to aware everybody. But what if nobody is there to hear that alarm, like in nighttime or when nobody is at home.

So to inform the authority about any fire incident we are building an IoT-based Fire Alarm system that not only triggers an alarm but also sends notifications on the IoT application with an Email alert concerned persons and Turn ON the water motor pump for fire extinguishing.

This method can also be used to inform the fire department automatically in case of fire. Here we will use Flame Sensor to detect the flame produced by fire, Smoke Sensor for detecting smoke, and temperature sensor for detecting warm and ESP8266 Node MCU to trigger the alarm and send notification on IoT Application by using blynk cloud and used relays to Turn ON/OFF water motor.

Keywords: Node MCU, Temperature Sensor, Flame Sensor, Smoke Sensor, IoT, Relay

PICK AND PLACE ROBOT

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering
In
ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Submitted by
SUBHAMOY ROY
SHUBHAM CHAVHAN
AJAY DHEKWAR
RAVIPRAKASH GAUTAM
SHUBHAM DHOTE

Under the Guidance of Prof. SHAFAQUE KHAN



DEPARTMENT OF ELECTRONICS AND
TELECOMMUNICATION ENGINEERING J D College of
Engineering and Management, Nagpur-441501

Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

Year 2020 - 2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "PICK AND ROBOT" **PLACE** in the subject **ELECTRONICS** TELECOMMUNICATION in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr./Prof._SHAFAQUE KHAN **DEPARTMENT ELECTRONICS TELECOMUNICATION** OF AND ENGINEERING, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date

Name of Student/Students

SUBHAMOY ROY SHUBHAM CHAWAN AJAY DHEKWAR RAVIPRAKASH GAUTAM SHUBHAM DHOTE

CERTIFICATE

This is to certify that the project report entitled, "Pick And Place Robot" in the subject Electronics & Telecommunication Engineering in the faculty of Science and Technology submitted by shubhamoy Roy, Shubham Chawam, RaviPrakash Gautam, Ajay Dhekwar, Shubham Dhote to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur for the award of the degree of Bachelor of Engineering is a bonafiede record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Shafaque Khan Lecturer of Electronics & Telecommunication

Prof. Amol Dhankar Project Coordinator

Prof. N.N.Gyanchandani

HOD

Dept. Of Electronics & Telecommunication

HOD, Dept. of EN/ETC
JD College of Engineering
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Dr. S. V. Sonekar Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road

Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Pick and Place Robot is approved work done by

- 1) Subhamoy Roy
- 2) Shubham Chavhan
- 3) Ajay Dhekwar
- 4) Raviprakash Gautam
- 5) Shubham Dhote

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electronics & Telecommunication Engineering at J D College of Engineering & Management, Nagpur affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur during the academic year 2020 - 2021.

Prof. Shafaque Khan Guide

Prof. N.N. Gyanchandani
Head of the Department

HOD, Dept. of EN/ETC
JD College of Engineering
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Project Examination held on 22 June 2021

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards Dr. S. V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Prof**. **Ms. Gyanchandani**, Head, Department of **Electronics & Telecommunication Engineering** J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Shafaque Khan, Department of Electronics & Telecommunication Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics & Telecommunication Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

SUBHAMOY ROY SHUBHAM CHAVHAN RAVIPRAKASH GAUTAM AJAY DHEKWAR SHUBHAM DHOTE

ABSTRACT

In recent times, development in field of communication and robotics has progressed with leaps and bounds. In addition, the blend of both disciplines has contributed heavily in making human life easier and better. So in this work while making use of both the aforementioned technologies, a procedure for design and implementation of a mobile operated mechanical ROBOT is proposed, that is, the proposed arm will be operated via a cellular device that connects with the receiver mounted on the robotic arm. Moreover, over the duration of a call, if any key is pressed from the cellular device than an indicator indistinct to the key pressed is noticed at the receiver side. This tone represents superimposition of two distinct frequencies and referred to as DTMF(dual tone multi-frequency). Further, the mechanical Robot is handled via the DTMF tone. Also, the acquired tone at the receiver is taken into a arduino (ATmega328) using the DTMF decipher module i.e. MT8870. Further, the decipher module unwinds the DTMF signal into its corresponding two bit representation and then the matched number is transmitted to the arduino. The arduino is programmed to take an action based on the decoded value. Further, the arduino forwards control signals to the motor driver unit to move the arm in forward/backward or multi-directional course. Lastly, the mechanical arm is capable of picking and placing objects while being controlled wirelessly over GSM (Global System for Mobile Communications).

DEPLOYABLE SPY ROBOTS

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Specialization

Submitted by

Ms. Surbhi Khambalkar

Mr. Vicky Kohad

Mr. Saurabh Netke

Mr. Tejas Misal

Mr. Praful Somkuwar

Ms. Prekshita Bhandakkar

Under the Guidance of Prof. Neetu Gyanchandani.



Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

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DEPLOYABLE SPY ROBOTS

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

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Specialization

Submitted by

Ms. Surbhi Khambalkar

Mr. Vicky Kohad

Mr. Saurabh Netke

Mr. Tejas Misal

Mr. Praful Somkuwar

Ms. Prekshita Bhandakkar

Under the Guidance of

Prof. Neetu Gyanchandani



Electronics and Telecommunication Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Deployable Spy Robots" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Neetu Gyanchandani, Electronics and Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 17 Aug 2021

1. Surbhi Khambalkar Skhambalkar 2. Victor Val

2. Vicky Kohad 3. Saurabh Netke

4. Tejas Misal

5. Praful Somkuwar

6. Prekshita Bhandakkar

CERTIFICATE

This is to certify that the project report entitled, "Deployable Spy Robots" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Surbhi Khambalkar, Vicky Kohad, Saurabh Netke, Tejas Misal, Praful Somkuwar, Prekshita Bhandakkar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Neetu Gyanchandani Dept. of EN/ETC Engineering Project Guide

Forwarded to:

Prof. Amol Dhankar

Project Coordinator

Dept. Of EN/ETC Engineering

Prof. Neetu Gyanchandani

Head of the Department Dept. Of EN/ETC Engineering

HOD, Dept. of ENTETC JD College of Engineering

& Management, Nagpur

Dr. S. V. Sonekar Offtg. Principal

Principal J.D. College of Engineering & Management Khandala, Katol Road

Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Deployable Spy Robots is approved work done by

Name of the Students

Ms. Surbhi Khambalkar

Mr. Vicky Kohad

Mr. Saurabh Netke

Mr. Tejas Misal

Mr. Praful Somkuwar

Ms. Prekshita Bhandakkar

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Name of Branch at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-21.

Prof. Neetu Gyanchandani Guide Prof. Neetu Gyanchandani
Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on 28th June 2021

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. We owe our sincerest gratitude towards **Dr. S. V. Sonekar** Offtg. Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of Electronics and Telecommunication Engineering J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering& Management, Nagpur, for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Neetu Gyanchandani**, Department of Electronics and Telecommunication Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students:

Ms. Surbhi Khambalkar

Mr. Vicky Kohad

Mr. Saurabh Netke

Mr. Tejas Misal

Mr. Praful Somkuwar

Ms. Prekshita Bhandakkar

ABSTRACT

Mobile robots are the center of attention of a great deal of current research. The detection and tracking of robots have increasing importance in multi-robot systems. In addition, individual robots will need to interact and collaborate with other robots while performing different tasks in a common environment. Swarm robots are the type of robots that coordinate in a large group or the network formed by the multi-robots in a dispersed and distributed manner which can process the data, have sensing capabilities, and communicate within the network formed to achieve the desired outcome. The task to be achieved are complex but as compared to it, the robots are simple, flexible, robust, self-organized. These are based on the use of local rules, it follows master-slave protocols where it is a model of asymmetric communication or the control where one device or process (master) controls one or more other devices or processes (slaves) and serves as their communication hub. In these robots, multiple robots work collectively to solve problems like bees, fishes, insects, and birds do by forming advantageous structures and their behavior which is observed.

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IOT ENABLED HEALTH MONITORING SYSTEM

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology
In

Electronics and Telecommunication Engineering
Submitted by

Swinal U. Bodele
Anjali R. Dehariya
Nikita V. Chichghare
Nikita D. Soni
Dhanashri Gajbhiye
Shrushti Tagde

Under the Guidance of **Prof. Tushar Muratkar**



Department Of Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur- 441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad.

DECLARATION

We hereby declare that the work presented in this project report entitled, "IOT ENABLED HEALTH MONITORING SYSTEM" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Tushar Muratkar, Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Ms. Swinal Bodele

Ms. Anjali Dehariya

Ms. Nikita Chichghare

Ms. Nikita Soni

Ms. Dhanashri Gajbhiye

Ms. Srushti Tagade

Place: Nagpur

Date 04 [12/21

CERTIFICATE

This is to certify that the project report entitled, "IOT ENABLED HEALTH MONITORING SYSTEM" in the Electronics and Telecommunication in the faculty of Science and Technology submitted by Ms.Swinal Bodele, Ms. Anjali Dehariya, Ms.Nikita Chichghare, , Ms. Nikita Soni, Ms. Dhanashri Gajbhiye, Ms. Srushti Tagade, to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of a degree or diploma.

Prof. Tushar Muratkar

, shlutted.

Dept. of EN/ETC Engineering

Project Guide

Forwarded to:

Prof. Amol Dhankar

Project Coordinator

Dept. of EN/ETC Engineering

Prof. Neetu Gyanchandani

Head of Department

Dept. of EN/ETC Engineering

HOD, Dept. of EN/ETC

JD College of Engineering

& Management, Nagpur

Dr. S.V. Sonekar

Offtg. Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road

Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on IOT ENABLED HEALTH MONITORING SYSTEM is approved work done by

Ms. Swinal Bodele
Ms. Anjali Dehariya
Ms. Nikita Chichghare
Ms. Nikita Soni
Ms. Dhanashri Gajbhiye
Ms. Srushti Tagade

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad during the academic year 2020-2021.

Tushbutkal.

Prof. Tushar Muratkar

Project Guide

Prof. Neetu Gyanchandani

Head of the Department

HOD, Dept. of EN/ETC JD College of Engineering & Management, Nagpur

Project Examination held on_____

Internal Examiner/Guide

External Examine

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards Dr. S.V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head Department of Electronics and Telecommunication Engineering, J D College of Engineering & Management, Nagpur has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur, for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Tushar Muratkar Department of Electronics and Telecommunication Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the Students:

Ms. Swinal Bodele

Ms. Anjali Dehariya

Ms. Nikita Chichghare

Ms. Nikita Soni

Ms. Dhanashri Gajbhiye

Ms. Srushti Tagade

ABSTRACT

In digital world as of now, lots of development and improvements gives hope to everyone by rapidly growing technology to see much advanced and better future. So Internet of things (IOT) is an online mode system and one of best technology to resolve our problems with the help of Gloud technology (Thingspeak) to make our life easier, secure and gain more efficiency. Across the world spreading Corona virus (Covid 19) is caused by severe acute metastasis syndrome Corona virus two (SAMSCoV- 2). For increasing respiratory disorders to critically ill causes, it needs early detection, observation and treatment.

The most common symptoms of Covid -19 increase the body temperature, high and low irregular heartbeat and cough etc. In this project, we studied IOT based health monitoring system using Arduino by using different parameters such as temperature sensor, heartbeat sensor etc. These entire sensors are continuously monitoring and updating the data of patients. Thus, the data is directly accessed to patients, doctors and third person. To indicate the irregularities in either can indicate other underlying illness such as cholesterol, high and low blood pressure, flu etc, so monitoring of an individual's heart rate and body temperature is usually very essential now. Looking towards today's scenario Covid -19, doctors are also infected. So, to overcome this problem and without touching to patients treated them and saves time as well as saves lives. In these times of pandemic healthcare monitoring is more important than even before.

IOT BASED SMART HOME AUTOMATION USING RASPBERRY PI

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by
Ms. Ujwala Dhoble
Ms. Swati Khawashe
Ms. Komal Gulghane
Ms. Hemali Gautam

Under the Guidance of Prof. Amol Dhankar



Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT Based Smart Home Automation Using Raspberry pi" in the subject Electronics in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Amol Dhankar, Assistant Professor, ETC Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of Students

Ujwala Dhoble Bhoble

Swati Khawashe Phanousk

Komal Gulghane Culpher

Hemali Gautam (Hyulery

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Smart Home Automation Using Raspberry pi" in the subject Electronics in the faculty of Science and Technology submitted by Ujwala Dhoble, Komal Gulghane, Swati Khawashe, Hemali Gautam. to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma

Prof. Neetu Gyanchandani

Project Guide

Dept. of EN/ETC Engineering HOD, Dept. of EN/ETC

JD College of Engineering

& Management, Nagpur

Forwarded to:

Prof. Amol Dhankar

Project Coordinator

Dept. of EN/ETC Engineering

Prof. Amol Dhankar

Head of the Department

Dept. of EN/ETC Engineering

Dr. S.V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Food Nagpur-44150

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on IoT Based Smart Home Automation Using Raspberry pi is approved work done by Name of Students Ujwala Dhoble, Swati Khawashe, Komal Gulghane, Hemali Gautam in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Amol Dhanl

Prof. Amol Dhankar
Guide

Prof. N. N. Gyanchandan

Head of the Department
HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. We owe our sincerest gratitude towards **Dr. S.V.**Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from **Prof. N. N. Gyanchandani,** Head, Department of Electronics and telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Amol Dhankar, Assistant Professor, Department of Electronics, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of ETC Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Ujwala Dhoble

Swati Khawashe

Komal Gulghane

Hemali Gautam

ABSTRACT

The project is mainly concentrated on IOT based home automation using raspberry PI wireless home automation system using IOT helps us to control basic home appliances automatically through internet from anywhere around the world by using computers or mobiles. Now coming to this project the main objective is presenting a proposed system for smart home automation technique with Raspberry Pi. To design this system, we are using a Raspberry Pi module 3B+ and for IoT purpose we used Particle Cloud. Availability on high pace cellular networks like 3G,4G or Long-Term Evolution united with cheaper or handy clever phones, cell industry has considered a vast increase between terms on presenting a number of purposes yet capabilities at the fingertips on the citizens. It discusses respecting IoT or such may remain chronic because realizing clever domestic automation using Raspberry Pi. Smart telephone is connecting along Raspberry Pi the usage of the IP address over Raspberry Pi via Wi-Fi. Particle Cloud is a very popular IoT platform which can help you to start with everything that you want to do in your IoT device. Particle is a reliable, scalable, and secure IoT device platform. There are many IoT platforms like Blynk, Thing Speak etc. that you can use to connect Raspberry Pi to IoT clouds, but particle cloud platform has some awesome features which makes it different from others. Like you can run your Arduino code in your Raspberry Pi using the particle cloud IDE and can program your Pi from anywhere in the world, now that's something cool!! Also, you can easily integrate IFTTT, Google Cloud, or Microsoft Azure.

IoT Based Industry Protection System for Labor Safety

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

Ín

Electronics Engineering

Submitted by

Vijay Wase

Virendra More

Swapnil Dukre

Mayur Kawalkar

Dhiraj Wankhede

Arpit Masram

Under the Guidance of

Prof. Firoz Akhtar



Education to Eternity

Electronics Engineering Department

J D College of Engineering and Management, Nagpur-441501
Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT Based Industry Protection System for Labor Safety" in the subject Electronics Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Firoj Akhtar, Electronics Engineering Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 12/06/2021

Name of Students

Vijay Wase

Virendra More

Swapnil Dukre

Mayur Kawalkar

Dhiraj Wankhede

Arpit Masram

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Industry Protection System for Labor Safety" in the subject Electronics Engineering in the faculty of Science and Technology submitted by Vijay Wase, Virendra More, Swapnil Dukre, Mayur Kawalkar, Dhiraj Wankhede, Arpit Masram

to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur for the award of the degree of Bachelor of Electronics Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Firoz Akhtar Project Guide

Forwarded to:

Prof. Amol Dhankar Project Coordinator

Prof. N.N. Gyanchandani H.O.D.

> Dr. S.V. Sonekar Principal

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "IoT Based Industry Protection System for Labor Safety" is approved work done by

Vijay Wase

Virendra More

Swapnil Dukre

Mayur Kawalkar

Dhiraj Wankhede

Arpit Masram

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electronic Engineering at J D College of Engineering & Management, Nagpur affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur during the academic year 2020-2021.

Prof. Firoz Akhtar Project Guide Prof N. N. Gyanchandani Head of the Department

Project Examination held on

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. Electronics Engineering.

We owe our sincerest gratitude towards Dr. S. V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from Prof. N. N. Gyanchandani, Head of Electronics Engineering Department, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Firoz Akhtar, Electronics Engineering Department, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

- Vijay Wase
- Virendra More
- Swapnil Dukre
- Mayur Kawalkar
- Dhiraj Wankhede
- Arpit Masram

ABSTRACT

The IOT industry protection system using Nodemcu controller is a system designed to protect industries from losses due to accidents using Internet of things. Gas leakages may lead to fires leading to huge industrial losses, also instant fire detection is needed in case of furnace blasts or other conditions. Also low lighting in industries may create improper work conditions increasing the probability of accidents. The system makes use of Nodemcu Controller to achieve this functionality. The system makes use of temperature sensing along with light and gas sensing to detect fire, gas leakage as well as low lighting to avoid any industrial accidents and prevent losses.

SMART AGRICULTURE SYSTEM WITH FIRE MANAGEMENT USING RASPBERRY PI

A Project Report submitted in partial fulfilment of the requirements

for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Ms. Aparna Bhalavi

Ms. Gautami Shahare

Ms. Pranjali Bhalerao

Mr. Shubham Shahare

Under the Guidance of

Prof. Gayatri Bhoyar



Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Smart Agriculture System with fire management using Raspberry Pi" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Gayatri Bhoyar, Assistant Professor, ETC Department, JD College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 11/10/2021

Ms. Aparna Bhalavi

Ms. Gautami Shahare Gautami

Ms. Pranjali Bhaleraop dalow

Mr. Shubham Shahare Jaharo

CERTIFICATE

This is to certify that the project report entitled, "Smart Agriculture System with fire management using Raspberry Pi" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Ms. Aparna Bhalavi, Ms. Gautami Shahare, Ms. Pranjali Bhalerao, Mr. Shubham Shahare to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

FERING &

Prof. Gayatri Bhoyar Project Guide

Department of Electronics and Telecommunication

Forwarded to:

Prof. N.N. Gyanchandani

Head of the Department

Department of Electronics and Telecommunication

JDCOEM, Nagpur

Prof. AmolDhankar la la hayon

Project Coordinator

Department of Electronics and Telecommunication

Dr. S.V. Sonekar

Principal Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Smart Agriculture System with Fire Management using Raspberry Pi is approved work done by Ms. Aparna Bhalavi, Ms. Gautami Shahare, Ms. Pranjali Bhalerao, Mr. Shubham Shahare in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at JD College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Gayatri Bhoyar		Prof. N. N. Gyanchandan
Guide		Head of the Department
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ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B. Tech. We owe our sincere gratitude towards **Dr. S. V. Sonekar**, Offtg. Principal, JD College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. We also express our sincere gratitude towards **Dr. S. L. Haridas**, Dean Academics, JD College of

Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. N. N. Gyanchandani, Head, Department of Electronics and telecommunication, JD College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, JD College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Gayatri Bhoyar, Assistant Professor, Department of Electronics and Telecommunication, JD College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the ETC Department, JD College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students Ms. Aparna Bhalavi Ms. Gautami Shahare

Ms. Pranjali Bhalerao

Mr. Shubham Shahare

ABSTRACT

Agriculture sector has been the backbone of the Indian market. That's why it is ranked second worldwide. Agriculture is such an area that will not stop until the life of human beings. It'll run for a lifetime. There is also a need to implement new methods or develop existing methods to improve the quality of agriculture. Technology is rising day by day and is entering in every field. IOT is the technology that can lead to enhancing agricultural practices and rising productivity. In agriculture, farmers are making more efforts, from planting to cutting crop. But they don't get the expected production due to some issues such as rodent's attack, failure to properly provide water to crops, animal attack, and occasionally firing in the farm. This paper proposes an IOT-based method to solve these problems, which will provide the solution to those problems. The system is used to monitor the animals using PIR sensor, provide adequate irrigation, providing temperature and humidity data using DHT11 sensor, and provide fire avoidance using MQ2 sensor.

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Keywords: DHT11 Sensor, PIR Sensor, MQ2 Sensor, Soil Moisture Sensor

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DISSERTATION REPORT

on

Iot Based Dynamic Road Traffic and Street Light Control Management for Smart Cities

A Project Report submitted in partial fulfilment of the requirements for the award of the degree of

Bachelor of Technology

In

ELECTRONICS AND TELECOMMUNICATION

Submitted by

Ashwini Kumbhare (1941381372014)

Monika Raut (1941381372017)

Sonali Bhoyar (40413820171137210081)

Vrushali Jaywar (1941381372013)

Under the Guidance of Dr. Neeta N. Thune
Asst. Professor



Education to Eternity

Electronics & Telecommunication Engineering Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Iot Based Dynamic Road Traffic and Street Light Control Management for Smart Cities" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Neeta N. Thune Electronics & Telecommunication Engineering Department J. D. College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Ashwini Kumbhare (1941381372014)

Monika Raut (1941381372017)

Sonali Bhoyar (40413820171137210081)

Vrushali Jaywar (1941381372013)

B.Tech (FINAL YEAR)

Department Of Electronics and Telecommunication Engineering

Place: Nagpur

Date:

CERTIFICATE

This is to certify that the project report entitled, "Iot Based Dynamic Road Traffic and Street Light Control Management for Smart Cities" in the subject

Electronics and Telecommunication Engineering in the faculty of Science and Technology submitted by

Ashwini Kumbhare (1941381372014)

Monika Raut (1941381372017)

Sonali Bhoyar (40413820171137210081)

Vrushali Jaywar (1941381372013)

to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Amol B. Dhankar Project co-ordinator Dr. Neeta N. Thune Project Guide

Dr. S.V. Sonekar

Prof. Neetu Gyanchandani Head of the Department

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Principal
Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Iot Based Dynamic Road Traffic and Street Light Control Management for Smart Cities" is approved work done by

Ashwini Kumbhare (1941381372014)

Monika Raut (1941381372017)

Sonali Bhoyar (40413820171137210081)

Vrushali Jaywar (1941381372013)

in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Electronics and telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Amol B. Dhankar Project co-ordinator

Prof. Neetu Gyanchandani Head of the Department

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Dr. Neeta N. Thune
Project Guide

Dr.S. V Sonekar Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. We owe our sincerest gratitude towards Dr. S.V. Sonekar Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities. We also express our sincere gratitude towards Dr. Saniav Haridas Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and of Electronics Head, Department encouragement received from, Telecommunication Engineering J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks. We would like to thank Prof. Amol B. Dhankar Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project We would like to express a deep sense of gratitude and thanks profusely to our Guide Dr. Neeta N. Thune, Department of Electronics and Telecommunication Engineering J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Engineering Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Ashwini Kumbhare (1941381372014)

Monika Raut (1941381372017)

Sonali Bhoyar (40413820171137210081)

Vrushali Jaywar (1941381372013)

ABSTRACT

It is our priority responsibility and liability to save energy efficiently in a modern time in which energy is the world's major concern. The development of technology plays a vital role in daily life and is now preferred by automation than the traditional manual system. The main purpose of this thesis is to create an intelligent control system that can decide on light intensity (ON/OFF/DIM). Day and evening mode can be identified here by setting a special intensity value on the LDR sensor and IR sensor control over street light. This thesis has the interesting part to install a solar cell for the energy supply but in case the solar cell is not capable, the situation will be maintained immediately by a secondary DC backup current. Another remarkable part of this thesis is to automatically maintain the traffic signal by installing a monitoring camera without the help of the traffic police and monitor the complete system through the Internet. All of the components in this thesis make a reliable intelligence system simple and cost-effective, but efficient.

This thesis is intended to design and implement advanced development of embedded street light saving systems. We currently have a manual system where road lights are switched on the night before sunset and switched off the next day after enough outside light. But when there is absolute darkness, the actual time for these lights to be switched on. This is to some extent a waste of power. This thesis provides a solution for waste electricity. In addition, the manual operation of the lighting system eliminates completely. The system proposed offers a way to save energy. This is achieved with an IR transmitter and an IR receiver pair sensing and approaching a vehicle. When the movement is sensed, the sensor passes the data to the microcontroller, which also switches the Light on. Likewise, once the vehicle or obstacle is gone, the light will be switched OFF because any object can be accessed from anywhere and at any time by Internet simultaneously with the status (ON/OFF) of street light. This thesis is carried out with an intelligent embedded system that controls the street lights on the basis of vehicle detection or other obstacles. Whenever the obstacle is found on the road within a given time, the light is ON/OFF automatically and access to the same information via the internet. You can access street light information in real-time (ON/OFF status) from any time online.

Keywords: IoT, Arduino Uno, IR motion sensor, LDR, LED, Servo motor, Solar panel,

IOT BASED SMART MOTOR CYCLE HELMET

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

Tn

Electronics and Telecommunication Engineering

Submitted by

Mr. Bhavesh Shahare

Ms. Shivani Chawde

Mr. Rakesh Gudafwar

Ms. Purvi Bobade

Ms. Harshada Pal

Under the Guidance of Prof. Shyam D. Bawankar



Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

IOT BASED SMART MOTOR CYCLE HELMET

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Mr. Bhavesh Shahare

Ms. Shivani Chawde

Mr. Rakesh Gudafwar

Ms. Purvi Bobade

Ms. Harshada Pal

Under the Guidance of Prof. Shyam D. Bawankar



Electronics and Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT Based Smart Motor Cycle Helmet" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shyam D. Bawankar, Assistant Professor, ETC Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 5/8/2021

Mr. Bhavesh Shahare Found

Ms. Shivani Chawde Ata

Mr. Rakesh Gudafwar

Ms. Purvi Bobade

Ms. Harshada Pal

CERTIFICATE

This is to certify that the project report entitled, "IoT Based Smart Motor Cycle Helmet" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Mr. Bhavesh Shahare, Ms. Shivani Chawde, Mr. Rakesh Gudafwar, Ms. Purvi Bobade, Ms. Harshada Pal to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Shyam D. Bawankar

Project Guide

Department of Electronics and Telecommunication

Forwarded to:

Prof. N.N. Gyanchandani
HOD, Dept. of EN/ETC
Head of the Department JD College of Engineering
Management, Nagpur
Department of Electronics and Telecommunication

JDCOEM, Nagpur

Prof. Amol Dhankar

Project Coordinator

Department of Electronics and Telecommunication

Dr. S.V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on IoT Based Smart Motor Cycle Helmet is approved work done by Mr. Bhavesh Shahare, Ms. Shivani Chawde, Mr. Rakesh Gudafwar, Ms. Harshada Pal, Ms. Purvi Bobade in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

	0	
Prof	Shyam	Bawankar
TIOI.	Suyam	Dawaukai
	Fr. M.	

Guide

Prof. N. N. Gyanchandan

Head of the Department

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on	3 1	l.	

Internal Examiner/ Guide

External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech. We owe our sincerest gratitude towards **Dr. S. V. Sonekar** offtg. Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. N. N. Gyanchandani, Head, Department of Electronics and telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Shyam D. Bawankar, Assistant Professor, Department of Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the ETC Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

Mr. Bhavesh Shahare

Ms. Shivani Chawde

Mr. Rakesh Gudafwar

Ms. Purvi Bobade

Ms. Harshada Pal

ABSTRACT

The main purpose of this paper is to force to wear a helmet on a two-wheeled motorcycle. Most of the death cases occur due to two-wheeler accidents. In most cases, riders suffer due to head injuries and they lost their life. To solve these issues, we are developing a smart helmet that will be useful for riders while riding two-wheelers. Generally, accidents occur due to the high consumption of alcohol. The reason for this smart helmet is, to give safety to the rider while riding. We are going to implement by using alcohol detection, accident identification, location tracking, a handsfree device, solar-powered, fall detection. The helmet will connect to the ignition as the rider will force to wear the helmet, if the rider will not wear the helmet, then the ignition will not start. For emergencies, we are using the GSM module to send messages to the registration number.

Keywords: Arduino Uno, Alcohol Sensor, RF module, Ultrasonic Sensor, IR sensors

11

Night Patrolling Device

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology
In
Electronics and Telecommunication Engineering
Submitted by

- 1) Mr. Bhushan Kohade
- 2) Mr. Nishant Gadhawe
- 3) Mr. Rahul Urkude
- 4) Mr. Sameer Dongre
- 5) Mr. Parish Swami
- 6) Mr. Rahul Tayade

Under the Guidance of

Prof. Mohammad Hassan



Education to Eternity

Electronics and Telecommunication Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Night Patrolling Device" in the subject Electronics and Telecommunications in the faculty of Science and Technology is the original contribution carried out by us under the guidance of **Prof.**Mohammad Hassan, Electronics and Telecommunication JD College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Name of students:

- 1) Mr. Bhushan Kohade
- 2) Mr. Nishant Gadhawe
- 3) Mr. Rahul Urkude 💫
- 4) Mr. Sameer Dongre
- 5) Mr. Parish Swami

CERTIFICATE

This is to certify that the project report entitled, "Night Patrolling Device" in the subject Electronics and Telecommunication in the faculty of Science and Technology submitted by Bhushan Kohade, Nishant Gadhawe, Sameer Dongre, Rahul Urkude, Parish Swami, Rahul Tayade to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bona fide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Mohammad Hassan

Project Guide

Department of Electronics and Telecommunication

Forwarded to:

Dr. Neetu Gyanchandani

HOD, Dept. of EN/ETC Head of the Department JD College of Engineering

Department of Electronics and Telecommunication

Prof. Amol Dhankar

Project Coordinator

Department of Electronics and Telecommunication

Dr.S.V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Night Patrolling Device approved work done by Mr. Bhushan Kohade, Mr. Nishant Gadhawe, Mr. Rahul Urkude, Mr. Sameer Dongre, Mr. Parish Swami, Mr. Rahul Tayade. In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication at JD College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Mohammad Hassan

ssey.

Project Guide

Dr. N. N. Gyanchandani

Head of the Department

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Project Examination held on	

Internal Examiner/ Guide

External Examiner

ACKNOWLEDGEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.TECH. We owe our sincerest gratitude towards **Dr. S. V. Sonekar**, Offtg, principal JD College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas Dean Academics, JD College of Engineering & Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of ETC JD College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, JD College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Mohammad Hassan, Department of Electronics and Telecommunication Engineering, JD College of Engineering & Management, Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of ETC Department, JD College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students:

- 1) Mr. Bhushan Kohade
- 2) Mr. Nishant Gadhawe
- 3) Mr. Rahul Urkude
- 4) Mr. Sameer Dongre
- 5) Mr. Parish Swami
- 6) Mr. Rahul Tayde

ABSTRACT

At present the observation during night clad to be exceptionally testing task. There are some spots where people cannot be engaged with watching. A fundamental prerequisite of this circumstance could be a robot which consequently identifies trespassers within the territory like workplaces, home, building so forth and report handy board security control unit. In the current work, A late evening guarding robot is formed with upgraded capacity to recognize and alarm if there's any human movement within the territory to present exact observing framework. The Night Patrolling Robotic vehicle moves during a random path while watching. The framework utilizes IR based way following framework for watching allocated zone. The development of a robot is additionally controlled consequently through deterrent recognizing sensors to remain far from the crash. It screens every zone to acknowledge any Interruption utilizing camera which is mounted on the highest of the robot to catch the images, record and sends them to the client. It can likewise impart the continued video signs to the client. The principle goal of this undertaking is to acknowledge the dubious exercises within the regions where human presence cannot be seen.

Fields is one of the extraordinary progressions in mechanical autonomy.

Patrolling is nothing but to keep monitoring over an area by regularly moving or travelling a route of the corresponding area. The robot captures the images with the help of camera. These images are then sent to the user in a real time, user will analyze it and if there is any problem observed then alarm is triggered manually. Robot patrolling is mostly used in Military area, Hospitals, shopping mall, Restricted Zones, Industrial area, Agricultural area etc. The robot uses ESP32 based camera sensor which cuts down the price of using a raspberry pi.

GUI BASED INDUSTRIAL MONITORING AND CONTROL SYSTEM

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication Engineering

Submitted by

Mr. Gaurav Barmase

Mr. Sahil Bawankule

Ms. Shital Thawkar

Mr. Gaurav Khopade

Mr. Nikhil Gajbhiye

Under the Guidance of Prof. Shailesh Sakhare



Electronics and Telecommunication Engineering Department
J D College of Engineering and Management, Nagpur-441501

GUI BASED INDUSTRIAL MONITORING AND CONTROL SYSTEM

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Submitted by

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Under the Guidance of Prof. Shailesh Sakhare



Department of Electronics and Telecommunication Engineering
J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere
Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "GUI BASED INDUSTRIAL MONITORING AND CONTROL SYSTEM" in the subject Electronics and Telecommunication Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shailesh Sakhare, Electronics and Telecommunication Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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Mr. Gaurav Barmase

Ms. Shital Thawkar

Mr. Gaurav Khopade

Mr. Nikhil Gajbhiye

Mr. Sahil Bawankule Sahel

Place: Nagpur

Same Comment

Date: 23/07/2021

CERTIFICATE

This is to certify that the project report entitled, "GUI BASED INDUATRIAL MONITORING AND CONTROL SYSTEM" in the Electronics and Telecommunication in the faculty of Science and Technology submitted by Mr. Gaurav Barmase, Mr. Sahil Bawankule, Ms. Shital Thawkar, Mr. Gaurav Khopade, Mr. Nikhil Gajbhiye to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Shailesh Sakhare

Dept. of EN/ETC Engineering
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Forwarded to:

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J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on GUI BAESD INDUSTRIAL MONITORING AND CONTROL SYSTEM is approved work done by

Mr.Gaurav Barmase
Mr.Sahil Bawankule
Ms.Shital Thawkar
Mr.Gaurav Khopade
Mr. Nikhil Gajbhiye

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Electronics and Telecommunication Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021

Prof. Shailesh Sakhare
Project Guide

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Prof. Neetu Gyanchandani Head of the Department

Project Examination held on_____

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E. We owe our sincerest gratitude towards **Dr. S. V. Sonekar** Offtg. Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of Electronics and Telecommunication Engineering J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering& Management, Nagpur, for providing proper guidelines and continuous efforts taken towards the completion of project.

and is acknowledged with reverential thanks.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Shailesh Sakhare**, Department of Electronics and Telecommunication Engineering, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students:

Mr. Gaurav Barmase

Mr. Sahil Bawankule

Ms. Shital Thawkar

Mr. Gaurav Khopade

Mr. Nikhil Gajbhiye

ABSTRACT

The aim of this project is to develop the Graphical User Interface (GUI) based systems to monitor and control the industrial process. This protocol easily operate anyone and efficient by using simple GUI. This implemented system installed on the machine to collect valuable information.

Over the years the Graphical User Interface (GUI) based systems are becoming accepted by the users to interact with electronics environment through graphical icons and visual indicators. In the industries GUI based systems are really essential to monitor and control the surroundings with a central supervisor. In that GUI based system is described which can sense and monitor multiple number of sensors and also can be used to run number of machines and also has the ability to monitor a Temperature and Pressure. This implemented control system can be used in industries.

INDUSTRY 4.0 STANDARD IMPLEMENTATION FOR PRODUCT BASED INDUSTRIES.

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics & Telecommunication

Submitted by
Hitesh Kaikade
Vikram Ambatkar
Nitesh Nagdevate
Chandrashekhar Zade
Tushar Maske
Akshay Kambale

Under the Guidance of **Prof. Pranali Langde**



In the Electronics & Telecommunication

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Industry 4.0 standard implementation for product based industries" in the subject Electronics & Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Pranali Langade, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpus

I was being some

Date: 10 - 09 - 21.

Hitesh Kaikade

Vikram Ambatkar

Nitesh Nagdevate

Chandrashekhar Zade

Tushar Maske

Akshay Kambale

CERTIFICATE

This is to certify that the project report entitled, "Industry 4.0 standard implementation for product based industries" in the subject Electronics & Telecommunication in the faculty of Science and Technology submitted by Hitesh Kaikade, Vikram Ambatkar, Nitesh Nagdevate, Chandrashekhar Zade, Tushar Maske, Akshay Kambale to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Pranali langde)
Name of the Department

Forwarded to:

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Project Coordinator

(Prof. Neetu Gyanchandani)

Head of the Department Electronics & Telecommunication

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(Dr. S.V. Sonekar)

Principal **Principal**

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on Industry 4.0 standard implementation for product based industries is approved work done by

Hitesh Kaikade
Vikram Ambatkar
Nitesh Nagdevate
Chandrashekhar Zade
Tushar Maske
Akshay Kambale

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electronics & Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Pranali Langde Guide Prof. Neetu Gyanchandani
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Project Examination held on	

Internal Examiner/ Guide

External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.Tech.

We also express our sincere gratitude towards Dr. S.V. Sonekar, Principal J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of Electronics & Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Pranali Langade, Department of Electronics & Telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the Electronics & Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Hitesh Kaikade Vikram Ambatkar

Nitesh Nagdevate

Chandrashekhar Zade

Tushar Maske

Akshay Kambale

ABSTRACT

The companies that rely on manual, paper based data collection now find themselves falling behind their digitally enhanced competitors. Industrial & companies that rely on paper based operator rounds are not immune. In the year 1990, internet technology gave businesses a faster, easier, and less expensive way to communicate and share information. With the use of computers and cloud technology, factories are becoming increasingly efficient and "smart".

The Industry 4.0 vision is the 4th revolution of the industry using the Internet of Things (IoT) & Cyber physical systems. Standards are playing an important role in realizing the industry 4.0 vision. Industry 4.0 is the latest phase for the manufacturing sector which has come about because of the Internet of Things (IoT) and the accessibility of data, in industry 4.0 everything is getting smarter and data generated at all levels of the production process that causes a rise in data volume. Nowadays there is no mechanism to log onto the live data generated by machinery in the industries. Some manual data stored in the local server will not be accessible from any other places outside the local LAN connection. This is IoT at work - made possible by the digitization of data in real-time and centralized access to that data in the Cloud.

Here, an endeavor has been done to develop a system that will sense the live data generated by various types of machinery in the industry such as temperature, humidity, and various gases and send the live data to the cloud using the suitable protocol. The data should be accessible from any place and at any time. This Improves Greater data transparency receive and responds to inspection data in real-time, Enhanced compliance, More operational efficiency, Reduced costs and greater profitability, Greater productivity and safety for workers, Easy to deploy and scale.

IOT AND BLUETOOTH BASED HOME AUTOMATION SYSTEM THAT WORKS WITH & WITHOUT INTERNET WITH SCHEDULING AND TIMER FEATURE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics & Telecommunication

Submitted by

1. Karishma Rangari

2. Yogita Nimje

3. Shweta Bharti

4. Gyaneshwari Deshmukh

5. Megha Deotale

6. Pratiksha More

Under the Guidance of **Prof. Shafaque Khan**



Electronics & Telecommunication

J D College of Engineering and Management, Nagpur-441501 Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

IOT AND BLUETOOTH BASED HOME AUTOMATION SYSTEM THAT WORKS WITH & WITHOUT INTERNET WITH SCHEDULING AND TIMER FEATURE

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Electronics and Telecommunication

Submitted by

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2. Shweta Bharti

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4. Gyaneshwari Deshmukh

5. Megha Deotale

6. Pratiksha More

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Electronics & Telecommunication

J D College of Engineering and Management, Nagpur-441501
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Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "IoT and Bluetooth Based Home Automation Systems That Works With& Without Internet With Scheduling and Timer Feature" in the subject Electronics & Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shafaque Khan of Electronics & Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

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- 1. Karishma Rangari
- 2. Yogita Nimje
- 3. Pratiksha More
- 4. Shweta Bharti
- 5. Gyaneshwari Deshmukh
- 6. Megha Deotale

CERTIFICATE

This is to certify that the project report entitled, "IoT and Bluetooth Based Home Automation Systems That Works With & Without Internet With Scheduling And Timer Feature" in the subject Electronics & Telecommunication in the faculty of Science and Technology submitted by Karishma Rangari, Yogita Nimje, Pratiksha More, Shweta Bharti, Gyaneshwari Deshmukh, Megha Deotale to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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CERTIFICATE OF APPROVAL

This is to certify that the Project Report on IoT and Bluetooth Based Home
Automation Systems That Works With & Without Internet With Scheduling and
Timer Feature is approved work done by

- 1. Karishma Rangari
- 2. Yogita Nimje
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- 4. Shweta Bharti
- 5. Gyaneshwari Deshmukh
 - 6. Megha Deotale

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Electronics & Telecommunication at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Shafaque Khan Guide Prof. N.N. Gyanchandani
Head of the Department
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Project Examination held on _____

Internal Examiner/ Guide

External Examiner

ACKNOWLEDGMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards **Dr. S.V Sonekar**, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

The constant guidance and encouragement received from N. Gyanchandani, Head, Department of Electronics & Telecommunication J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of the project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Shafaque Khan**, Department of Electronics & Telecommunication, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the ETC Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Name of the students

- 1. Karishma Rangari
- 2.Shweta Bharti
- 3. Yogita Nimje
- 4.Pratiksha More
- 5.Gyaneshwari Deshmukh
- 6.Megha Deotale

ABSTRACT

In recent times as well as incoming generation automation has a wide scope and become an important issue in many home appliances, companies and publications. Home automation systems are very common, nowadays and commonly installed in Banks, shops, offices, homes, etc. Smart home automation is easy way to work automatically and it's an advance technology. This article describes the implementation of a Wi-Fi module and Bluetooth technology with an android application-based home-automated system using an ESP8266 microcontroller. The system design comprised a NodeMCUESP8266 microcontroller board, Bluetooth module (HC-06), 5V relay, (Blynk App) IoT applications and Bluetooth application (MIT App Inventor). In this proposed paper we show that how we can control all home appliances over IOT applications and Bluetooth application also. Sometimes there is no internet connection is available then IOT appliances does not work because IoT appliances only work on internet connection and it is the major issue with IOT appliances, so to solve this problem we implement Bluetooth Application, so in our project, it first checks whether the internet connection is on or off if internet connection is on then it works on IOT Application or if it is off then it's works on android application which is based on Bluetooth. In this project we add scheduling and timer feature. Using the scheduling feature we can automate any task like on or off the device by on specific time and using timer feature we can set the timer and it helps to make easy.

Keywords: Home automation, Wi-Fi module, Bluetooth technology, IoT application, Bluetooth application, Wireless communication.

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AUTOMATED VEHICLE PARKING SYSTEM

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In Electronics & Telecommunication

Submitted by

- 1. Khushboo Chaurasia
- 3. Nikita Ramteke
- 5. Payal Zade

- 2. Dilesh Shahare
- 4. Sharad Dewangan
- 6. Priya Kanekar

Under the Guidance of

Prof. Tushar Muratkar



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Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "Automated Vehicle Parking System" in the subject "Internet of Things" in the faculty of Science and Technology is the original contribution carried out by us guidance of Prof.Tushar Muratkar in Electronics Telecommunication, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 17/08/2021

Khushboo Chaurasia Quantagid

Priya Kanekar

Sharad Dewangan

Nikita Ramteke

Payal Zade

CERTIFICATE

This is to certify that the project report entitled, "Automated vehicle parking system" in the subject Electronics and telecommunication in the faculty of Science and Technology submitted by Khushboo Chaurasia, Dilesh Shahare, Nikita Ramteke, Sharad Dewangan, Payal Zade, Priya Kanekar to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Tushar Muratkar)

Electronics and telecommunication

Forwarded to:

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Project Coordinator

(Prof. Neetu Gyanchandani)

Head of the Department

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This is to certify that the Project Report on AUTOMATED VEHICLE
PARKING SYSTEM is approved work done by

Khushboo Chaurasia Dilesh Shahare Nikita Ramteke Sharad Dewangan Payal Zade Priya Kanekar

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Tushluttal. '
Prof. Tushar Muratkar
Guide

Prof. Neetu Gyanchandani
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Project Examination held on

Internal Examiner/ Guide

External Examiner

ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

We owe our sincerest gratitude towards Dr. S. V. Sonekar, Principal J D College of Engineering & Management, Nagpur, for providing the platform and necessary facilities.

We also express our sincere gratitude towards Dr. S. L. Haridas, Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation.

The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of Electronics and telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering& Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Tushar Muratkar, Department of Electronics and telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Khushboo Chaurasia Dilesh Shahare Nikita Ramteke Sharad Dewangan Payal Zade Priya Kanekar

ABSTRACT

Nowadays parking has become an expensive resource in the almost any major cities in the world, and its limited availability is the concurrent cause of urban traffic congestion and air pollution. The common method of finding a parking space is manual where the driver usually finds a space on the street through luck and experience. This process takes time and effort and may lead to the worst case of failing to find any parking space if the driver is driving in a city with high vehicle density. In this paper, an attempt has been done to automate the car as well as the car parking system with a Smart Parking System (SPS) which is based on the integration of an Android app and QR Code reader. The introduction of a novel algorithm that increases the efficiency of the current smart-parking system and develops an android app to collect information about the occupancy state of parking spaces, and to inform the drivers to the nearest vacant parking spot. The entering into or leaving the parking slot is controlled by an Android-based application. The algorithm helps improve the probability of successful parking and minimizes the user waiting time.

Keywords: Android app, Car Parking, QR-Code, Smart Parking, IoT, Smart City

TWO WHEEL SELF BALNCING ROBOT

Thesis submitted to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

In partial fulfilment of requirement for the award of degree of

Bachelor of Engineering

in

Electronics & Telecommunication Engineering

Submitted by

KRUNALI BANSOD

VANDANA NAITAM

RITESH GAWAI

RAJESH RATHOD

Under the guidance of

PROF. P.J. BHAGAT



Department of Electronics & Telecommunication Engineering

J D College of Engineering and Management, Nagpur

CERTIFICATE

This is to certify that the thesis entitled TWO WHEEL SELF BALANCING ROBOT submitted by Rajesh Rathod to the RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my / our supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Instituteor University for the award of any degree or diploma.

Prof. P. J. Bhagat
Department of Electronics &
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Forwarded to:

Prof. Neetu Gyanchandani

Head of the Department

Department of Electronics Engineering

28ere

Prof. Suresh Rizal

B.E. Project Coordinator

Dr. S.V. Sonekar
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Management, Nagpur

DECLARATION

I, hereby declare that the dissertation titled "TWO WHEEL SELF BALNCING ROBOT" submitted herein has been carried out by us in the Department of Electronic& Telecommunication Engineering of J D College of Engineering and Management, Nagpur. The work is original and has not been submitted earlier as a whole or in part for the award of any degree / diploma at this or any other Institution / University.

We also hereby assign to J D College of Engineering and Management, Nagpur all rights under copyright that may exist in and to the above work and any revised or expanded derivatives works based on the work as mentioned. Other work copied from references, manuals etc. are disclaimed.

Group Members Name RAJESH RATHOD

Date: 15/03/21

Place: Nagpus

BONAFIDE CERTIFICATE

This is to certify that the project titled TWO WHEEL SELF BALNCING ROBOT is a bonafide record of the work done by Rajesh Rathod in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Specialization at J D College of Engineering & Management, Nagpur affiliated to RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR, during the academic year 20182019.

Prof. P.J.Bhagat
Guide

Prof.N.N. Gyanchandani
Head Of Department
Electronics & Telecommunication

Internal Examiner

External Examiner

ABSTRACT

The robot will balance on two wheels and be able to have loads of varying weight and size placed on the top platform. It will be capable of handling disturbances including or running into stationary objects and it can accommodate flooring changes while maintaining balance. Gyroscope feed information back to arduino which feeds to two motors that drive the wheels so they stay under the centre of mass of the robot. In this thesis a two wheeled self-balancing robot has been The system in itself requires active control in order to be stable. The Using open source Arduino Uno and reliable angular and positional data the system can be made stable by implementing a controller with the Motor driver L298N Being a state space feedback arduino the model has to be a good representation of reality since the output signal depends on the model. In this thesis, the results showed that the model is not yet reliable. The reasons for this are discussed and recommendations for future development are listed.

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during my final year of Bachelor of Engineering Thesis work is an important aspect

in the field of engineering.

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& Management, Nagpur.

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Bhagat Assistant Professor, Department of Electronics And Telecommunication, J D

College of Engineering & Management, Nagpur, who was the thesis Supervisor.

Without the wise counsel and able guidance, it would have been impossible to

complete the thesis in this manner.

I would like to thank the members of the Departmental Research Committee for their

valuable suggestions and healthy criticism during my presentation of the work.

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ii

FOOT STEP POWER GENERATION USING ARDUINO

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Engineering in Electronics &

Telecommunication

Submitted by

Manisha Pandey

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We hereby declare that the work presented in this project report entitled, "FOOT STEP POWER GENERATION USING ARDUINO" in the subject Electronics and Telecommunication in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Tushar Muratkar, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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ACKNOWLEDEMENT

We express our sincere gratitude, for giving us the opportunity to work on the project during our final year of B.E.

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We would like to thank **Prof.Amol Dhankar**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Tushar Muratkar**, Department of **Electronics and Telecommunication**, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

Foot step power generation by using Arduino nano man has needed and used energy at an increasing rate for the sustenance and wellbeing since time immemorial. Due to this Man lot of energy resources have been exhausted and wasted. Now we are Proposal for the utilization of waste energy of foot power with human locomotion is very much relevant and important for highly populated countries like India where the railway station, temples, office, toll tax etc., are overcrowded all round the clock. In this project the force energy is produced by human footsteps and the force energy is converted into mechanical energy by rack and pinion mechanism, electricity is produced by dc motor generator. This power source has many applications as in home, agriculture application and street lighting and as energy source for sensors in remote locations. This paper is mainly all about generating electricity when people walk on the Floor. The forces you exert which is

wasted when a person walks by. This idea is to convert the weight energy to electrical energy The Power generating floor intends to translate the kinetic energy to the electrical power. The Energy Crisis is the main issue of world these days. The motto of this research work is to face this crisis some how. Though it won't meet the requirement of electricity but as a matter of fact if we are able to design a power generating floor that can produce 100W on just 20 steps, then for 120 steps we can produce 1000 Watt and if we install such type of 100 floors with this system then is an achievement to make it significant power it can produce 1MegaWatt. Which itself.

"IOT Based Environmental Monitoring System Using Blynk Server"

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology In Electronics Engineering

Submitted by
Pawan Jadhao
Ankit Chandewar
Payal Mendhe
Tushar Fule
Yogesh Kapgate

Under the Guidance of **Prof. Dharamveer Choudhary**



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We also express our sincere gratitude towards Dr. S. L. Haridas, Vice Principal and Dean Academics, J D College of Engineering and Management, Nagpur, for continuous support and motivation. The constant guidance and encouragement received from Prof. Neetu Gyanchandani, Head, Department of -Electronics/ Electronics and Telecommunication, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank Prof. Amol Dhankar, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project. We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Dharamveer Choudhary, Department of Electronics / Electronics and Telecommunication, J D College of Engineering & Management, Nagpur. Without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner. We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Electronics/ Electronics and Telecommunication Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the . course of this work.

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Payal Mendhe

Tushar Fule

Yogesh Kapgate

ABSTRACT

In this paper, we have proposed an Internet of Things (IoT) based a real-time environmental monitoring system. Internet of Things (IoT) plays an important role in today's world through a vast and persistent system of sensor networks concerned to the environment and its parameters. In 21st century there is an extreme growth is industrial infrastructure I frameworks creating environmental affairs like atmospheric changes, malfunctioning and pollution. Due to extreme growing vehicle and environment affecting factors there are sudden changes in climate and other element of environment. This sudden climate changes affects physically on human body. Since it is necessary to monitor this environmental elements to being safe and fit physically [2]. We have developed this concept to monitor this environmental elements or factors of interest like temperature, Humidity, Dust Concentration, external Air pressure on ground level.

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DEVELOPMENT OF A MODERN SMART HEADGEAR FOR PREVENTING RASH DRIVING, ACCIDENT, AND SPEED DETECTION IN BLUETOOTH ENABLED WITH NOTIFICATION AND ALERT SYSTEM

A Project Report was submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology in Information Technology Engineering

Submitted by

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Under the Guidance of

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Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled. "Development of A Modern Smart Headgear for Preventing Rash Driving, Accident and Speed Detection in Bluetooth Enabled with Notification and Alert System" in the subject Information Technology Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. /Prof. Aniket V. Bhoyar. Dept. of Computer Science & Information Technology Engineering, J D College of Engineering and Management. Nagpur. This work has not been submitted to any other University or Institution for the award of any degree diploma of certificate course.

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Aditi Garade Priyanka Bains Shreya Chamalwar Pratiksha Lanjewar Pranoti Sahare

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ABBREVIATIONS

Global Positioning System GPS GSM

Global System for Mobile

communication

Llectrically Lrasable Programmable EEPROM

Read-Only Memory

ADXL Accelerometer

SYMBOLS

(Note: The symbols are not used in this project)

ABSTRACT

A smart helmet is a type of protective hendgear used by the rider which makes bike driving safer than before. The main purpose of this smart helmet is to provide safety for the riders. This implements by using advanced features like accident identification, rash driving detection, location tracking, use as a hands-free device, fall detection. This makes not only smart helmets but also features of the smart bike. It is implemented using GSM technology,

The working of this smart helmet is very simple, bump sensors are placed in different places of the helmet where the probability of hitting is more which is connected to Arduino. So, when the rider crashes and the helmet hit the ground, these sensors sense and give it to the Arduino, then the controller sends using a GSM module that is interfaced to it. When the data exceeds the minimum stress limit then the GSM module sends messages automatically to family members.

It's compulsory to wear a helmet, without a helmet ignition switch cannot be ON. So, when the accident occurs, it will send a message by GSM to register numbers with their current location by GPS module. It can use to receive calls while driving. The distinctive utility of the project is fall detection, if the bike rider falls from the bike, it will send a message automatically. Along with this, it has helped to reduce rash driving. If a person is driving rashly, then the message will be sent to the nearest RTO and their family members.

Diabetic Blindness Detection System using Convolution Neural Network

Thesis submitted to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur In partial fulfillment of requirement for the award of degree of

Bachelor of Engineering in Information Technology

Submitted by

Akash Gajbhiye Parvez Iqbal Dipali Hande Mayuri Gajbhiye

Under the guidance of

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We hereby declare that the work presented in this project report entitled, "Diabetic Blindness Detection System using Convolution Neural Network" in the subject Information Technology in the faculty of Science and Engineering is the original contribution carried out by us under the guidance of Prof. Sonali Zunke, Department of Science and Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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We would like to express a deep sense of gratitude and thanks profusely to our Guide Prof. Sonali Zunke, Department of Computer Science and Engineering, J D College of Engineering & Management, Nagpur. Without her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of Information Technology Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Akash Gajbhiye Dipali Hande Parvez Iqbal Mayuri Gajbhiye

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ABSTRACT

Diabetic retinopathy is a leading cause of blindness among working-age adults. Early detection of this condition is critical for good prognosis. In this project, we demonstrate the use of convolutional neural networks (CNNs) on color fundus images for the recognition task of diabetic retinopathy staging. Our network models achieved test metric performance comparable to baseline literature results, with validation sensitivity of 95%. We additionally explored multinomial classification models, and demonstrate that errors primarily occur in the misclassification of mild disease as normal due to the CNNs inability to detect subtle disease features. We discovered that pre-processing with contrast limited adaptive histogram equalization and ensuring dataset fidelity by expert verification of class labels improves recognition of subtle features. Transfer learning on pretrained GoogLeNet and AlexNet models from ImageNet improved peak test set accuracies to 74.5%, 68.8%, and 57.2% on 2-ary, 3-ary, and 4-ary classification models, respectively.

"Robotic machine to solve matrix equation with the help of natural language processing and image processing"

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology Information Technology

Submitted by
Dipak Mendhe
Sandesh Ukey

Under the Guidance of **Prof.Sonali Zunke**



Department of Information Technology

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare

Year 20-2021

DECLARATION

We hereby declare that the work presented in this project reportentitled, "Robotic Machine to solve matrix equation with the help of natural language processing and image processing" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof.Sonali Zunke, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date:

Mr. Dipak Mendhe Mr. Sandesh Ukey

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This is to certify that the project report entitled, "Robotic machine to solve matrix equation with the help of natural language processing and image processing" in the subject Information Technology in the faculty of Science and Technology submitted by Dipak Mendhe, Sandesh Ukey, to Dr. Babasaheb Ambedkar Technological University, Lonare.

For the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonare during the academic year 2020-2021.

Prof Sonali Zunke

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We would like to thank **Prof. Rohan Kokate**, Project Coordinator, J D College of Engineering & Management, and Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project. We would like to express a deep sense of gratitude and thanks profusely to our Guide **Prof. Sonali Zunke**, Department of CSE-IT, J D College of Engineering and Management Nagpur. Without his wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of CSE-IT Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

Mr. Dipak Mendhe Mr. Sandesh Ukey

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ABBREVIATIONS

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AI	Artificial Intelligence
AR	Auto latest Model
ARMA	Autoregressive Moving Average Model
ARMAX	ARMA with external input
ARM1	ARDUINO model 1
LCM2	LCD model 2

ABSTRACT

As the world is moving faster, humans are not taking a step back to make the world more better place, may it be by enhanced technology or extreme creativity. We know that a human life now is full of technology and every little thing is just a click away that is the favour of automation for everything. If we explore Automation more, the major concepts which will still the spotlight are Artificial Intelligent (AI), Machine Learning (ML) and the list will continue. The other concept which steals the limelight and make every automation possible is the programming language we use to make the features we are now using possible. The language which is exponentially gaining fame is Python. If all the above mentioned technology is combined together, we get most of the automation possible today. At every corner of the world, this technology is being used to make things lively and possible. Not only companies but every industry (food, entertainment, education, manufacturers and many more) are relying on this technology. The calculation which plays a significant role in almost every bit is also being automated to make the things very simpler and quicker. Even though, we have calculator but it still cannot solve the problems which are needed to be solve in some platforms. In this paper, we shall be discussing about a similar concept.

Keywords: Artificial Intelligence (AI), Machine Learning (ML), Image processing, Raspberry Pi, Python.

DEVELOPMENT of AI BASED RESCUE CONTROL ROBOT with ADVANCE RESCUING SYSTEM FOR ASSISTANCE

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor Of Technology

In

Information Technology

Submitted by

Madhulika Wannewar

Varsha Pandhare

Kshitij Choubey

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Under the Guidance of

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Year 2020-2021

DECLARATION

We hereby declare that the work presented in this project report entitled, "DEVELOPMENT of AI BASED RESCUE CONTROL ROBOT with ADVANCE RESCUING SYSTEM FOR ASSISTANCE" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rohan Kokate, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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ABSTRACT

Disasters and danger come without giving us warning so we must always be prepared for every situation. So for handling such situations robots can play an important role as in these situations there can be a huge risk of life too. It is wirelessly and remotely controlled through devices to make robots move from source to destination point. In many cases, the ground becomes uneven due to disaster effects, so robots can move through such places easily. As in many rescuing operations, humans are widely used to overcome such situations and so for assisting them, robots can be used for gathering data from accidental places. Once the data on the casualty-prone area is collected then fire-fighters can understand the data and analyze the situation where they have to perform a rescue operation. This way fire-fighter can work more efficiently and confidently complete their task by countering the risk analyzed by the collected data.

Converting Handwritten words into Machine-editable text using Artificial Neural Network

Thesis submitted to Dr. Babasaheb Ambedkar Technological University, Lonere In partial fulfillment of requirement for the award of degree of

> Bachelor of Technology in Information Technology

> > Submitted by

Nikhil Waghmare Khushagra Nakhate Aman Ganvir Abhishek Wahane

Under the guidance of Prof. Jolly Nikhade



Department of Information Technology

J-D College of Engineering and Management, Nagpur

2020-2021

DECLARATION

We, hereby declare that the dissertation titled "Converting Handwritten words into Machine-editable text using Artificial Neural Network" submitted herein has been carried out by us in the Department of Information Technology of J D College of Engineering and Management, Nagpur. The work is original and has not been submitted earlier as a whole or in part for the award of any degree / diploma at this or any other Institution / University.

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for the award of the degree of **Bachelor of Technology** is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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The constant guidance and encouragement received from Prof. Supriya Sawwashere, Head, Department of CSE/IT, J D College of Engineering & Management, Nagpur, has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to thank **Prof. Rohan Kokate**, Project Coordinator, J D College of Engineering & Management, Nagpur for providing proper guidelines and continuous efforts taken towards the completion of project.

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We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of CSE/IT Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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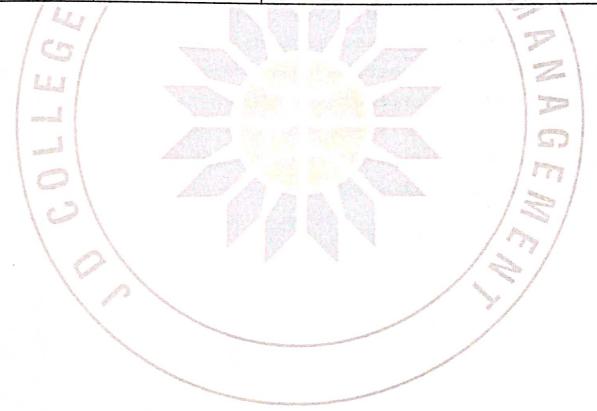
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LIST OF ACRONYMS

Sr. No Acronym Full Form			
1	CNN	Convolutional Neural Network	
2	HWR \	Handwriting recognition	
3	RNN	Recurrent Neural Network	
4 /	НММ	Hidden Markov Models	
5 /	MLP	Multi-Layer Perceptron	



Abstract

In recent decades, rapid increment in computational power accompanied by enormous amount of data being generated has enabled extensive use of neural networks for solving machine learning problems especially in pattern recognition tasks. This paper aims to briefly review three of the most prominent approaches namely, Convolutional Neural Network, Recurrent Neural Network and Hidden Markov Models and discuss their most notable applications for the problem of Offline Handwriting Recognition. We first give an outline of a typical Handwriting Recognition System, briefly talking about each of the steps involved and then give and overview of these three technologies while discussing a few important literatures of each. The problem of Handwriting recognition (HWR) is being actively researched from more than last 40 years, and while significant progress has been made, there is still a wide gap between performance of recognition systems and human capabilities, which is why it still remains an open problem. Recognition of unconstrained handwriting is a very difficult pattern recognition task due to seemingly infinite variations of writing styles of different authors. Even the writing of the same author may vary under different conditions, writing material and emotional state of the author. Also, cursive handwriting makes it more difficult to segment words into individual character making naïve approaches like pre segmenting words into characters and classifying each segment impractical.

Design and Development of an Intilligent Robo for Agricultiure and Automation in Field crop Production based on Machine Learning

A Project Report Submitted in partial fulfillment of the requirement of the award of the degree of

Bachelor Of Technology

In

Information Technology

Submitted by

Pankaj Koche

Pratiksha Singh

Dimpal Badge

Dyanika Tonde

Sanjana Allurwar

Prajwal Chauvhan

Under the Guidance of

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Department of IT/CSE

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Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-21

DECLARATION

We hereby declare that the work presented in this project report entitled, "Design and Development of an Intelligent Robo for Agriculture and Automation in Field Crop Production based on Machine learning (IRAAM)" in the subject Computer Science and Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Dr. Shrikant V. Sonekar, Department of IT-CSE, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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L298 Motor Driver

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work and is acknowledged with reverential thanks.

We would like to thank Prof. Rohan Kokate, Project Coordinator, J D College of Engineering &

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Without his wise counsel and able guidance, it would have been impossible to complete the project in this

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We would like to thank the members of the Departmental Research Committee for their valuable

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intellectual support throughout the course of this work.

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LIST OF ACRONYMS

r. No	Acronym	Full Form
1.	ARGOBOT	Agricultural Robot
2.	DSI Display Serial Interface	
3.	CSI	Camera Serial Interface
4.	IDE	Integrated Development Environment
5.	DAG	Directed Acyclic Graph
6.	CNN	Convolutional Neural Networks
7.	LSTM	Long Short-Term Memory
8.	NGS	Next Generation Sequencing
9.	ROI	Region of Interest
10.	IoT	Internet of Things
11.	ANN	Artificial Neural Network
12.	SVM	Support Vector Machine
13.	LCD	Liquid Crystal Display
14.	TCP/IP	Transmission control protocol / Internet Protocol
15.	Wi-Fi	Wireless Fidelity
16.	PEROM	Programmable and Erasable Read Only Memory
17.	NPL	Natural processing languages
18.	AIML	Artificial Intelligence Markup Language
19.	GSM	Grams per Square meter
20.	PWM	Pulse Width Modulation
21.	GUI	Graphic User Interface
22.	CRAT	Classification and Regression Tree

ABSTRACT

ur project is to introduce a fundamental approach to inaugurate the use of machine learning system in framing process. comparative study between machine learning algorithms had been carried out in order to determine which algorithm the most accurate in predicting the best crop for a particular land. Farmers explore the capabilities for applications of botic process automation with image processing, pattern recognition and machine learning algorithms. By these chiques the farmers can be acknowledged with the disease the plant is suffering from and also the medications rovided to cure the disease is provided using certain data comparison techniques. The rainfall trend analysis is predicted used on the analysis of time series and descriptive statistics. The average annual rainfall data analysis has proposed. To ope up with water scarcity in agriculture, water saving is a major priority, by upgrading the irrigation techniques and actices.

Design and Development of smart spectacle For Deaf People Using IOT

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor Of Technology

In

Information Technology

Submitted by

Name of the Student/s

Pranjal Landge

Hitesh Sakhare

Nishan Ramteke

Piyush Khobragade

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Under the Guidance of

Prof. Umesh Samarth



Department of CSE/IT

J D College of Engineering and Management, Nagpur-441501

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DECLARATION

We hereby declare that the work presented in this project report entitled, "Design and development of smart spectacle for deaf people using IOT" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Umesh Samarth, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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For the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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facilities.

The constant guidance and encouragement received from Prof. Supriya Sawwashere,

Head, Department of CSE/IT, J D College of Engineering & Management, Nagpur, has

been of great help in carrying out the project work and is acknowledged with reverential

thanks.

We would like to thank Prof. Rohan Kokate, Project Coordinator, J D College of

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We would like to express a deep sense of gratitude and thanks profusely to our

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We would like to thank the members of the Departmental Research Committee for their

valuable suggestions and healthy criticism during our presentation of the work. We

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ABBREVIATIONS

AI	Artificial Intelligence
AR	Augmented Reality
ML	Machine Learning
NLP	Natural Language Processing
HMD	Head Mounted Display
OCR	Optical Character Recognition

SYMBOLS

GHz	Gigahertz	
KB	Kilo bite	
GB	Giga bite	

ABSTRACT

The main goal of this thesis project to provide a more sophisticated way to replace the lost senses when people with special needs. The project aims to build smart glasses that contain specialized object detection applications based on the voice assistant system. The work is divided in two major logical parts: theoretical and practical. Each part represents different viewpoint on the process of Internet of Things in theory and production. The theory part of this thesis described all the technologies which were used in the process of final product creation, their basics and working principles. These included descriptions of technologies used in the project such as Raspberry Pi device and programming languages alongside other supporting tools. It also contains a description of the work projects related to several institutions with different ideas based on the same basis but with different results, most of these products rely on the system of the voice assistant to access several applications such as calendar or contact feature, telephone and maps. The practical part consisted of a chronological description of the smart glasses development. The whole development cycle from the initial idea of the operating systems to the final state of the IoT product was described. The implementation part was focused on the creation of TensorFlow object detection applications. The applications were designed in order to provide a solution for visually impaired and deaf people with an open-source machine learning library for research and production. The main responsibilities of applications such as the discovery of a blind application object are transferred to the person who has lost this meaning through the camera image as an alternative eye, also the application translated by the languages of the deaf and mute. The final result of this research was a smart glasses product with different integration features and implemented software. The product was delivered in the requested timeframe with all the requirements satisfied.

Keywords: Information Technology, Augmented Reality, Python, Mobile Application, Raspberry Pi, Logistics, Pi Camera, IoT

IoT Based Smart Energy Meter and Billing System

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology In

Information Technology

Submitted by
Shubham Thulkar
Praful Ikhankar
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Under the Guidance of **Prof.Rohan Kokate**



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We hereby declare that the work presented in this project report entitled, "IoT Based Smart Energy Meter and Billing System" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof.Rohan Kokate, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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complete the project in this manner.

We would like to thank the members of the Departmental Research Committee for

their valuable suggestions and healthy criticism during our presentation of the work.

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ABBREVIATIONS

ΛΙ	Artificial Intelligence
AR	Autoregressive Model
ARMA	Autoregressive Moving Average Model
ARMAX	ARMA with internal input
AMM1	Activated meter Model 1
AWM2	Activated Online WEB Model 2
RD	READING DIMAND
ΛC	Ambedded C Algorithm

ABSTRACT

We can see a person standing in front of our house from electricity board, whose duty is to read the energy meter and handover the bills to the owner of that house every month. This is nothing but meter reading and according to that reading we have to pay the bills. The main drawback of this system is that person has to go area by area and he has to read the meter of every house and handover the bills. Many times errors like extra bill amount, or notification from electric board even though the bills are paid are common errors. To overcome this drawback we have come up with an idea which will eliminate the third party between the consumer and service provider, even the errors will be overcome. Apart from this we also propose to make the system more dynamic and reduce the electricity wastage. If the person is not in room the electric appliances will automatically go OFF. We propose to develop an android application, which will show the real time bill.

Keywords: Android app, Electric Meter, Smart Meter, IoT, Smart City

UNMANNED AERIAL VEHICLE (UAV) FOR MONITORING AND CROP DISEASE DETECTION IN PRECISION AGRICULTURE

A thesis submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

ln

Information Technology Engineering

Submitted by

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DECLARATION

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Sneha Paherwar Shrishti Paherwar Sakshi Mishra Saurav Anasane Aman Patil

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(Note: The tables are not used in this project.)

ABBREVIATIONS

UAV Unmanned Aerial Vehicle
CNN Convolutional Neural

Network

WSN Wireless Sensor Network

SYMBOLS

(Note: The symbols are not used in this project)

ABSTRACT

An Unmanned Aerial Vehicle [UAV] works on monitoring the plant healthiness. The main purpose of the drone is to analyze the healthiness of plant and to detect the different diseases by applying neural network tool, image pre-processing method based on color changes, texture pattern, gradient, shape changes. This will be beneficial for farmer, which will ultimately meet the robust demand of today's generation. Apart from this there is an additional features of leaf classification. Some of the factors that can affect the whole field plants are some growth of unwanted plants, the growth of this plant can't be recognized initially but after classifying the leaves in the field majority of the leaves will be of same pattern but the different kind of leaves will be considered as unwanted plants by providing a dataset to the neural network.

ELECTRIC TRANSFORMATION DP MAINTENANCE USING ANDROID APPLICATION

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

INFORMATION TECHNOLOGY

Submitted by

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DECLARATION

We hereby declare that the work presented in this project report entitled, "Electric Transformation DP Maintenance Using Android Application" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Milind Tote, Department of CSE-IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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ABBREVIATIONS

AI Artificial Intelligence

DP Distribution Panel

RTU Remote Terminal Unit

IOT Internet Of Things

SYMBOLS

K Specific substrate utilization rate constant

kd Microbial decay coefficient

K_s Substrate concentration when growth rate is half of maximum

Q Rate of wastewater flow to the aeration tank

q Specific substrate utilization rate

Qe Effluent flowrate

qm Maximum specific substrate utilization rate

ABSTRACT

A distribution transformer provides the final voltage transformation in an electric power distribution system network. Because of, large of transformer and various components over a wide area in a power system, the data acquisition, condition monitoring are the important issues. The remote monitoring of transformer health over internet system is a system that could be used for the real-time data monitoring of transformer through internet of things (IOT). Also it proposed to send the central database via Wi-Fi module for further process.

The real time monitoring system consist of embedded system. Wi-Fi and sensors are installed at transformer site which reads and measure the physical quantity from the distribution transformer and further it converts into the analog signal. As the parameters used it processed and records the data in system. In case of emergency situation at distribution transformer the obtained parameters sense the signal and it sends alert to the Android app regarding information about the parameter signals at distribution transformer according to the data occurred by the microcontroller. Arduino board designs use a variety of microprocessors and controllers the are equipped with a set of digital and analog input/output pins that may be interfaced to various expansion boards and other circuits.

Design and Development of IoT Based Wheelchair Navigation System for Physically Challenged People

A thesis submitted to Dr. Babasaheb Ambedkar Technological University, Lonere In partial fulfillment of the requirement for the award of the degree of

Bachelor of Technology in Information Technology

Submitted by

Vaibhavi Kengale Kalyani Bansod Shubham Bawane Chaitali Sure Mrunali Dalal



Under the guidance of

Prof. Aniket Bhoyar

Department of Information Technology

J D College of Engineering and Management, Nagpur 2020-2021

CERTIFICATE

This is to certify that the project report entitled, "DESIGN AND DEVELOPMENT OF IOT BASED WHEELCHAIR NAVIGATION SYSTEM FOR PHYSICALLY

CHALLENGED PEOPLE" in the subject Information Technology in the faculty of Science and Technology submitted by Vaibhavi Kengale, Kalyani Bansod, Shubham Bawane, Chaitali Sure, Mrunali Dalal to Dr. Babasaheb Ambedkar Technical University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

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DECLARATION

We hereby declare that the work presented in this project report entitled, "DESIGN AND DEVELOPMENT OF IOT BASED WHEELCHAIR NAVIGATION SYSTEM FOR PHYSICALLY CHALLENGED PEOPLE" in the subject Information Technology in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Aniket Bhoyar, Department of CSE-IT, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

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We would like to thank the members of the Departmental Research Committee for their valuable suggestions and healthy criticism during our presentation of the work. We express gratitude to other faculty members of the CSE-IT Department, J D College of Engineering & Management, Nagpur, for their intellectual support throughout the course of this work.

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ABSTRACT

There are many people with disabilities in this day and age who find it is impossible to learn or perform day-to-day tasks. Some of these kinds of people rely on others for their assistance. Whichever way, they can become autonomous and conduct a few routine exercises with the assistance of helpful gadgets. Wheelchairs are the most widely used support devices. Wheelchairs are mainly wheelchairs that can help people move around who cannot walk due to illness, handicap, or damage. There are also elderly individuals, however, who cannot move the wheelchair with weak appendages and joints. Therefore, smart wheelchairs and anyone in the public eye will gain a tone for them. Smart wheelchairs are electrically operated wheelchairs with many additional components such as a PC and sensors to help the consumer and watchmaker cope safely and effectively with wheelchairs. Continuing advancement in the fields of artificial intelligence, sensor growth, and mechanical autonomy helps to create new wheelchairs. This project is designed to improve the maneuvering tasks of an intelligently self-contained wheelchair. In addition to the treatment based on computer techniques, the wheelchair requires no human intervention during navigation and percep

PROJECT REPORT

ON

"The Influence of Workfrom Home on IT Employees Productivity"

Submitted by

SHIKHA SAKHARE

Under the Guidance of

Dr. ANJALI CHANDÁK

Submitted in partial fulfilment for the award of the degree

Of

Master of Business Administration

Department of Management Studies

JD College of Engineering and Management



Education to Eternity

Rashtrasant Tukadoji Maharaj Nagpur University

Nagpur

SESSION: 2020 - 2021

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Last, but not the least, my heartfelt gratitude to my parents, relatives, my friends and all those luminaries and unseen hands without whose support the completion of this dissertation would not have been materialized.

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FINAL PROJECT REPORT

On

"A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS FMCG PRODUCTS OF HINDUSTAN UNILEVER LTD."

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Under the Guidance of

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Submitted in partial fulfillment for the award of the degree

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Life conflict among Faculty members during Covid pandemic in

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FINAL PROJECT REPORT

On

"A STUDY ON SATISFACTION LEVEL OF EMPOYEES AT MICROSOFT"

Submitted by Nomaan Ahmed

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"PROBLEM AND PROSPECT OF STOCK BROKING IN NAGPUR-A STUDY"

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Report submitted in partial fulfillment of the requirements

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CERTIFICATE

This is to certify that the Filed Project report entitled, "Lakshmi Agni Components & Forgings Pvt. Ltd." in the subject Mechanical Engineering in the faculty of Science and Technology submitted by following students to An Autonomous Institute Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Field Project Co-ordinator

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Field Project Report on Vishvakarma Fabrication Works, Nagpur

Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

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Mechanical Engineering

Submitted by

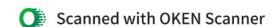
Third Year Students
Roll No1,2,3,4,5,6,7,8,9,10,11,12,13,14,
15,16,17,18,19,20,21,22,23,24,2
5,26,27,28,29,30,31,32,33,34,35,
36,37,38,39,40,41,42,43,44,45,
46,47,48,49,50,51,52,53



Mechanical Department

J D College of Engineering and Management, Nagpur-441501 Dr. Babasaheb Ambedkar Technological University, Lonere

Year 2020-21



We hereby declare that the work presented in this field project report entitled, "Vishvakarma Fabrication Works, Nagpur" in the subject Mechanical in the faculty of Science and Technology is the original contribution carried out by us. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 28/12/2020

R. N.	_ student	Signature	R. N.	Name of student	G:
01	Mayur Chintaman Kumbhare	Danshu		Himanshu Vaijanath Shivpuje	Signature
02	Prince Rameshwar Singh	Drince	29	Viraj Suryawanshi	Mimshe
03	Rama Prasad S Daheriya	Romes	30	Saurabh Dharmraj Khopade	Vikar
04	Lokesh Prakash Meshram	1/100/2	31	Raj Umaji Sonkusare	D
05	Pankaj Vilas Godbole	(0) at 1	32	Pramod Harishchandra Ingle	
06	Nayan Sunil Pathrabe	D. T.	<u>33</u>	Rajesh Rai	Indule
07	Ashish Sudhakar Shende	OI A		Prasad Rajesh Nillawar	Pais
08	Omkar Ajay Vyavahare	Bhend		Shoeb Sheikh Sheikh	M lawers
09	Ankit Gurudev Barodkar	Aniles			Sheilt
10	Shraddha Kishor Wasnik	1	36	Rashtrapal C Humane	Humary
11	Harsh Sulas Meshram	(chil		Ashish Yadav Chavan	(phury
12	Akanksha Keshav Bachale	Pheshy		Anshul Ravishakar Sahare	Anshur
13	Jay Chandrabhan Gajbhiye	Buhn	> 39	Mayur Vijay Tale	fale
14	Sonukumar Kundlik Mandape	A	- 40	Gaurao Dalit Badge	Genzers
15	Aman Rajesh Sahu	Chandur	1.1	Dinesh Suresh Ghate	Derharts
16	Nikita Sanjay Mahajan	Anhu	42	Grishal V Gaydhane	ayalm
17	Deepanshu Pramod Gotiya	Nahmin		Suraj Rajkumar Meshram	Sweet
18	Rahul Dayaram Dighore	Dotiger	44	Suryadev Kamala Yadav	Zupus-
19	Mayur Banduji Shelke	Righers	45	Rohit Ratnakar Mahore	Ruhard
		allele	46	Ritik Vijay Gedam	Patrice
20	Shubham Satish Rayewar	Shirbhul	~47	Kshitij Dhanraj Nikhare	Bricher
21	Ameya Sanjay Thakre	Thulbre	48	Akshay G Munnarwar	Azlonay.
22	Vyankatesh P Kalbande	Laborde	49	Vaibhav Devidas Shevale	Vacuale
23	Nehal Indraraj Kachhotia	Abhat		Naman Suresh Nag	1
24	Vaibhav Ramesh Adwe	100		Roshan Mahagan Hatwar	Madu VI
25	Shubham Baijnath Chawhan	deve		Susobhan Maity <	parison
26	Sanket Pramod Bandawar	Shewhere			Mont
27	Jatin Naonath Padhen	Noting		Sakshi Balkrushna Ingole	Ingola

CERTIFICATE

This is to certify that the Filed Project report entitled, "Vishvakarma Fabrication Works, Nagpur" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by following students to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Field Project Co-ordinator

Forwarded to:

Head of the Mechanical Department

Head of Department

Mechanical Engineering

ollege of Engineering & Hanagement



INFLUENCE OF STEERING MECHANISM ON THE PERFORMANCE OF E-KART

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Yash U. Dhakate

Shrikant R. Meshram

Sonuttar B. Ramteke

Samir P. Mendhe

Piyush D. Kulmethe

Suraj A. Ghotkar

Pritam D. Kale

Under the Guidance of Prof. Rahul Deshmukh



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Influence of Steering Mechanism on the Performance of E-Kart" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rahul Deshmukh, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma, or certificate course.

Place: Nagpur

Date: 23/11/2021

Name of Students Yash U. Dhakate

Shrikant R. Meshram

Sonuttar B. Ramteke

Samir P. Mendhe

Piyush D. Kulmethe

Suraj A. Ghotkar

Pritam D. Kale

CERTIFICATE

This is to certify that the project report entitled, "Influence of Steering Mechanism on the Performance of E-Kart" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Yash U. Dhakate, Shrikant R. Meshram, Sonuttar B. Ramteke, Samir P. Mendhe, Piyush D. Kulmethe, Suraj A. Ghotkar, Pritam D. Kale to Dr. Babasaheb Ambedkar Technological University, Lonere, for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in whole or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Rahul Deshmukh) Mechanical Engineering

Forwarded to:

(Prof. Rahul Deshmukh)
Project Coordinator

(Dr. Bhushan Mahajan)
Head of the Department
Mechanical Engineering

(Dr S. W. Sonekar) Principal

Principal

J.D. College of Engineering & Management

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on INFLUENCE OF STEERING
MECHANISM ON THE PERFORMANCE OF E-KART is approved work done
by

Yash U. Dhakate

Shrikant R. Meshram

Sonuttar B. Ramteke

Samir P. Mendhe

Piyush D. Kulmethe

Suraj A. Ghotkar

Pritam D. Kale

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, during the academic year 2020-2021.

Prof. Rahul Deshmukh

Guide

Dr. Bhushan Mahajan Head of the Department

Project Examination held on 29/06/2021

Internal Examiner/ Guide

External Examiner

"Experimental Investigation of Influence of Magnetic Field on VCRs Cycle"

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

Under the Guidance of Prof. Rahul Deshmukh



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rahul Deshmukh, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 07/08/21

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

CERTIFICATE

This is to certify that the project report entitled, "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:

(Prof. Rahul Deshmukh)

Project Coordinator

(Prof. Rahul Deshmukh)

Mechanical Engineering Department

(Dr. B. R. Mahajan)

Head of the Department

Mechanical Engineering Department

(Dr. S. V. Sonekar)

Principal,

JDCOEM, Nagpur

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" is approved work done by

Mr. Himanshu N. Bhisikar
Mr. Chirayu B. Misal
Mr. Shubham A. Digrase
Mr. Pranay V. Bhosale
Mr. Pavan G. Sorte
Mr. Yogesh Y. Gore

In partial fulfillment of the requirements for the award of the degree of **Bachelor of**Technology in **Mechanical Engineering** at J D College of Engineering & Management,
Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University**, **Lonere** during the academic year 2020-2021.

Prof. Rahul Deshmukh

Guide

Dr. Bhushan Mahajan

Head of the Department

07/08/2

Project Examination held on _____

Internal Examiner/ Guide

External Examiner

INVESTIGATION OF JOINING OF DUCTILE CAST IRON BY USING SMAW

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering
Submitted by

Gulshan M. Shahare

Usha M. Bharadkar

Rushikesh Y. Bhanarkar

Atul R. Ramteke

Durgesh R. Dhande

Nitin N. Nawkhare

Under the Guidance of Prof. Aamir R. Sayed



Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University of Maharastra.

Year 2020-21

INVESTIGATION OF JOINING OF DUCTILE CAST IRON BY USING SMAW

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Gulshan M. Shahare

Usha M. Bharadkar

Rushikesh Y. Bhanarkar

Atul R. Ramteke

Durgesh R. Dhande

Nitin N. Nawkhare

Under the Guidance of Prof. Aamir R. Sayed



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University of Maharastra.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "INVESTIGATION OF JOINING OF DUCTILE CAST IRON BY USING SMAW" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Aamir R. Sayed Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 27-01-2022

Name of Student/Students
Gulshan M. Shahare
Usha M. Bharadkar
Rushikesh Y. Bhanarkar
Atul R. Ramteke
Durgesh R. Dhande
Nitin N. Nawkhare

CERTIFICATE

This is to certify that the project report entitled, "INVESTIGATION OF JOINING OF DUCTILE CAST IRON BY USING SMAW" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Gulshan M. Shahare, Usha M. Bharadkar, Rushikesh Y. Bhararkar, Atul R. Ramteke, Durgesh R. Dhande, Nitin N. Nawkhare to Dr. Babasaheb Ambedkar Technological University of Maharastra for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Aamir R. Sayed
Department of Mechanical Engineering

Forwarded to:

Prof. Rahul Deshmukh Project Coordinator

Dr. Bhushan Mahajan Head of the Department

Department of Mechanical Engineering

OF MOCE THE COLUMN TO THE COLUMN TO THE COLUMN TO THE COLUMN THE C

Principal Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501



CERTIFICATE OF APPROVAL

This is to certify that the Project Report on "INVESTIGATION OF JOINING OF DUCTILE CAST IRON BY USING SMAW" is approved work done by

Name of the Students

Gulshan M. Shahare
Usha M. Bharadkar
Rushikesh Y. Bhanarkar
Atul R. Ramteke
Durgesh R. Dhande
Nitin N. Nawkhare

in partial fulfillment of the requirements for the award of the degree of **Bachelor of**Technology in Mechanical Engineering at J D College of Engineering & Management,
Nagpur affiliated to **Dr. Babasaheb Ambedkar Technological University of Maharastra**during the academic year 2020-2021.

Prof. Aamir R. Sayed

Guide

Dr. Bhushan Mahajan Head of the Department

Project Examination held on 29-06-202

Internal Examiner/ Guide

External Examiner

'ENERGY AUDIT OF JD COLLEGE OF ENGINEERING'

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering In

"MECHANICAL ENGINEERING"

Submitted By: -

VIPUL MESHRAM

ISHRAR SHEIKH

HARSHAL MASTE

AKASH KOKANE

NIKITA RAMTEKE

Under the Guidance of: -

DR. B. MAHAJAN (Head Of Department)



DEPARTMENT OF MECHANICAL ENGINEERING

JD COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR - 441501 (Affiliated to Dr. Babasaheb Ambedkar Technological University, Nagpur)

Year 2020 - 2021

We hereby declare that the work presented in this project report entitled, "Energy Audit of J.D. College of Engineering" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of DR. B. Mahajan, Mechanical Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 16 | 11 | 21

Name of Students: -

Vipul Meshram

Nikita Ramteke

Ishrar Sheikh

Harshal Maste

Akash Kokane

CERTIFICATE

This is to certify that the project report entitled, "Energy Audit of J.D. College of Engineering" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Vipul Meshram, Ishrar Ahmed Sheikh, Harshal Maste, Akash Kokane, Nikita Ramteke to Dr. Babasaheb Ambedkar Technological University, Nagpur for the award of the degree of Bachelor of Engineering is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Dr. Bhushan Mahajan (Mechanical Engineering)

Forwarded to:

Prof. Rahul Deshmukh (Project Coordinator)

Dr. Blashan Mahajan Head of the Department (Mechanical Engineering)

> Dr. S. V. Sonekar Principal

> > Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on "ENERGY AUDIT OF JD COLLEGE OF ENGINEERING" is approved work done by

VIPUL MESHRAM

ISHRAR SHEIKH

HARSHAL MASTE

AKASH KOKANE

NIKITA RAMTEKE

in partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in MECHANICAL ENGINEERING at J D College of Engineering & Management, Nagpur affiliated to DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, Nagpur during the academic year 2020 - 2021.

DR. B. MAHAJAN (Guide)

(Head Of Department)

Project Examination held on 28/06/21

Internal Examiner/ Guide

External Examiner

DESIGN & FABRICATION OF TANDEM DRIVE HUMAN POWER FLYWHEEL MOTOR FOR APPLICATION OF WATER PURIFICATION

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Sushant B. Nandeshwar

Ashirwad D. Goutam

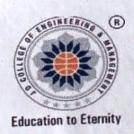
Tejash G. Bharne

Manthan P. Hadke

Harbal P. Urakude

Apeksha V. Utane

Under the Guidance of Prof. Hemant K. Baitule



Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "Design and Fabrication of Tandem Drive Human Power Flywheel Motor For Application of Water Purification" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Hemant K. Baitule, Department of Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 23/09/2021

Name of Students
Sushant Nandeshwar
Ashirwad Goutam
Tejash Bharne
Manthan Hadke
Harbal Urakude
Apeksha Utane

CERTIFICATE

This is to certify that the project report entitled, "Design And Fabrication of Tandem Drive Human Power Flywheel Motor For Application of Water Purification" in the subject Department of Mechanical Engineering in the faculty of Science and Technology submitted by Sushant Nandeshwar, Ashirwad Goutam, Tejash Bharne, Manthan Hadke, Harbal Urakude, Apeksha Utane to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Hemant K. Baitule
Department of Mechanical Engineering

Assistant Professor
J. D. College of Engg.,
& Mrs. n. Nagpur

Forwarded to:

Prof. Rahul G. Deshmukh

Project Coordinator

Dr. Bhushan R. Mahajan

Head of the Department

Pepartment of Mechanical Engineering

noineering & Management

Araban

Dr. S. V. Sonekar

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501



This is to certify that the Project Report on "Design and Fabrication of Tandem Drive Human Power Flywheel Motor For Application of Water Purification" approved work done by Sushant Nandeshwar, Ashirwad Goutam, Tejash Bharne, Manthan Hadke, Harbal Urakude, Apeksha Utane in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Hemant K. Baitule Guide Dr. Bhushan R. Mahajan Head of the Department

Project Examination held on 28 - 06 - 2021

Prof. Hemant K. Baitule
Internal Examiner/ Guide

Prof.Amir R. Sayyad External Examiner

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A thesis submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

PRADIP S. MANDAL
NAZIM SHEIKH
PRACHI A. BUCHUNDE

ABHISHEK S. KAGDELWAR

PRANJAL A. RAUT

Under the Guidance of Prof. SHYAMAL CHAKRABARTY



MECHANICAL

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

DEVELOPMENT OF SOLAR STILL FOR DISTILLATION OF DOMESTIC WASTE WATER

A thesis submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

PRADIP S. MANDAL
NAZIM SHEIKH
PRACHI A. BUCHUNDE
ABHISHEK S. KAGDELWAR
PRANJAL A. RAUT

Under the Guidance of Prof. SHYAMAL CHAKRABARTY



MECHANICAL

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Development of solar still for distillation of domestic waste water" in the subject Mechanical in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Shyamal Chakrabarty, Mechanical Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 21/01/21

Name of Students
Pradip S. Mandal
Nazim Sheikh
Prachi A. Buchunde
Abhishek S.
Kagdelwar
Pranjal A. Raut

CERTIFICATE

This is to certify that the project report entitled, "Development of solar still for distillation of domestic waste water" in the subject Mechanical in the faculty of Science and Technology submitted by Pradip S. Mandal, Nazim Sheikh, Prachi A. Buchunde, Abhishek S. Kagdelwar, Pranjal A. Raut to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bona fide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Shyamal Chakrabarty
Department of Mechanical Engineering

Forwarded to:

Prof. Rahul Deshmukh
Project Coordinator

Dr. Bhushan Mahajan Head of the Department Mechanical Department

> Dr. Srikant. V. Sonekar Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on **DEVELOPMENT OF SOLAR STILL**FOR DISTILLATION OF DOMESTIC WASTE WATER is approved work done
by

PRADIP S. MANDAL

NAZIM SHEIKH

PRACHI A. BUCHUNDE

ABHISHEK S. KAGDELWAR

PRANJAL A. RAUT

In partial fulfillment of the requirements for the award of the degree of **Bachelor of**Technology in Mechanical at J D College of Engineering & Management, Nagpur affiliated to **Dr Babasaheb Ambedkar Technological University**, Lonere during the academic year 2020-2021

Prof. Shyamal Chakrabarty
Guide

Dr. Bhushan Mahajan Head of Department

Project Examination held on 21/01/21

Internal Examiner/ Guide

Prof. Dharmesh Agrawal
External Examiner

PRODUCTION OF BIODIESEL FROM USED COOKING AND JATROPHA OIL AND COMPARISON REVIEW BETWEEN PROPERTIES

for the award of the degree of

Bachelor of Technology

In

Specialization

Mechanical Engineering

Submitted by

1. Ms. Aayushi Vyas

4. Mr. Sahil Sulakhe

2. Ms. Tanmayee Mudpalliwar

5. Mr. Rahul Bisen

3. Ms. Ritika Sangode

6. Mr. Ninad Nandgave

Under the Guidance of Prof. Dinesh Yelure



Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "PRODUCTION OF BIODIESEL FROM USED COOKING AND JATROPHA OIL AND COMPARISON REVIEW BETWEEN PROPERTIES" in the subject Mechanical in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Dinesh Yelure, Mechanical, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpwr

Date: 22/12/21

Name of Students

- 1. Aayushi Vyas
- 2. Tanmayee Mudpalliwar
- 3. Ritika Sangode
- 4. Sahil Sulakhe
- 5. Rahul Bisen
- 6. Ninad Nandgave

CERTIFICATE

This is to certify that the project report entitled, "PRODUCTION OF BIODIESEL FROM USED COOKIN AND JATROPHA OIL AND COMPARISON REVIEW BETWEEN PROPERTIES" in the subject Mechanical in the faculty of Science and Technology submitted by Aayushi Vyas, Tanmayee Mudpalliwar, Ritika Sangode, Sahil Sulakhe, Rahul Bisen, Ninad Nandgave to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a Bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Direch 72/12/21

Prof. Dinesh Yelure

Department of Mechanical Engineering

Forwarded to:

Prof.Rahul Deshmukh

Project Coordinator

Prof. B. R. Mahajan

Head of the Department

Department of Mechanical Engineering

Dr. S. PSMCIPAL

J.D. College on Engineering & Management
Khandala, Katol Road
Nagpur-441501

This is to certify that the Project Report on "PRODUCTION OF BIODIESEL FROM USED COOKIN AND JATROPHA OIL AND COMPARISON REVIEW BETWEEN PROPERTIES" is approved work done by

Name of the Students

1. Ms. Aayushi Vyas

- 5. Mr. Sahil Sulakhe
- 2. Ms. Tanmayee Mudpalliwar
- 6. Mr. Rahul Bisen

3. Ms. Ritika Sangode

7. Mr. Ninad Nandgave

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Dinesh Yelure

his hydrines

Guide

Dr. B. R Mahajan

Head of the Department

Project Examination held on 19/09/2021

Internal Examiner/ Guide

Winds Yelwin

External Examiner

DESING & DEVOLOPMENT OF FERTIROBOTICS: AN AUTOMATED ROBOT FOR FERTILIZATION OF COTTON CROP

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Vastav P. Bhagat

Chandrakant K. Wanve

Nayan S. Wanjari

Rahul D. Raut

Kamlesh D. Singade

Roshan N. Sable

Under the Guidance of Prof. Suhas A. Rewatkar



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

DESING & DEVOLOPMENT OF FERTIROBOTICS: AN AUTOMATED ROBOT FOR FERTILIZATION OF COTTON CROP

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Vastav P. Bhagat Chandrakant K. Wanve

Nayan S. Wanjari Rahul D. Raut

Kamlesh D. Singade Roshan N. Sable

Under the Guidance of Prof. Suhas A. Rewatkar



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Design and Development of Fertirobotix: An Automated Robot for Fertilization of Cotton Crop" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Suhas A. Rewatkar, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma, or certificate course.

Place: 15/12/2021

Date: Nogpus

Name of Student/Students

Vastav Bhagat

Chandrakant Wanve

Nayan Wanjari

Rahul Raut

Kamlesh Singade

Roshan Sable

CERTIFICATE

This is to certify that the project report entitled, "Design and Development of Fertirobotix: An Automated Robot for Fertilization of Cotton Crop" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Vastav Bhagat, Chandrakant Wanve, Nayan Wanjari, Rahul Raut, Kamlesh Singade, Roshan Sable to Dr. Babasaheb Ambedkar Technological University, Lonere. for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in whole or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Suhas A. Rewatkar Mechanical Engineering

Forwarded to:

Prof. Rahul G. Deshmukh Project Coordinator

Dr. Bhushan R. Mahajan Head of the Department Mechanical Engineering

> Dr S. V. Sonekar Principal

Principal

J.D. College of Engineering & Management

Khandala, Katol Road

Nagpur-441501

This is to certify that the Project Report on "Design and Development of Fertirobotix: An Automated Robot for Fertilization of Cotton Crop" is approved work done by Vastav Bhagat, Chandrakant Wanve, Nayan Wanjari, Rahul Raut, Kamlesh Singade, Roshan Sable in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad during the academic year 2020-2021.

Prof. Suhas A. Rewatkar Guide

Dr. Bhushan R. Mahajan Head of the Department

Project Examination held on 19/06/2021

Prof. Suhas A. Rewatkar

Internal Examiner/ Guide

Prof. R. B. Sharma External Examiner

IoT Enabled Optimization & Evaluation of Multi-point Fertilization Technique

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Saurabh J. Harde

Aditya D. Motghare

Sarwesh Y. Thaware

Ashwin D. Meshram

Pankaj G. Ingle

Manish A. Jichkar

Under the Guidance of

Prof. Nikhil V. Bhende



Department Of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad.

IoT Enabled Optimization & Evaluation of Multi-point Fertilization Technique

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

Mechanical Engineering

Submitted by

Saurabh J. Harde Aditya D. Motghare

Sarwesh Y. Thaware

Ashwin D. Meshram

Pankaj G. Ingle

Manish A. Jichkar

Under the Guidance of

Prof. Nikhil V. Bhende



Education to Eternity

Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad.

Year 2020-21

We hereby declare that the work presented in this project report entitled, "IoT Enabled Optimization & Evaluation of Multi-point Fertilization Technique" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Nikhil V. Bhende, Name of Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 20/92/2021

Name of Students

Saurabh J. Harde

Aditya D. Motghare

Sarwesh Y. Thaware

Ashwin D. Meshram

Pankaj G. Ingle

Manish A. Jichkar

3 | Page

CERTIFICATE

This is to certify that the project report entitled, "IoT Enabled Optimization & Evaluation of Multi-point Fertilization Technique" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Saurabh J. Harde, Aditya D. Motghare, Sarwesh Y. Thaware, Ashwin D. Meshram, Pankaj G. Ingle, Manish A. Jichkar to Dr. Babasaheb Ambedkar Technological University, Raigad for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof. Nikhil V. Bhende

Department of Mechanical Engineering

Forwarded to:

Prof. Rahul G. Deshmukh Project Coordinator

Dr. Bhushan R. Mahajan

Head of the Department

Department of Mechanical Engineering

Dr. S. V. Sonekar

Principal

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on IOT ENABLED OPTIMIZATION &

EVALUATION OF MULTI-POINT FERTILIZATION TECHNIQUE is approved work

done by

Saurabh J. Harde

Aditya D. Motghare

Sarwesh Y. Thaware

Ashwin D. Meshram

Pankaj G. Ingle

Manish A. Jichkar

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Raigad during the academic year 2020-2021.

Prof. Nikhil V. Bhende

Guide

Dr. Bhushan R. Mahajan Head of the Department

Project Examination held on 19/09/2020

Internal Examiner/ Guide

External Examiner

5 | Page

"STUDY & ANALYSIS OF TYRE WEAR CHARACTERISTICS OF TATA LPO 1618"

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Anmol Inudrkar

Mr. Palash Chimurkar

Mr. Sandip Patle

Mr. Suraj Kumar Nagina

Mr. Swapnil Tirpude

Mr. Ujwal Bawane

Under the Guidance of

Prof. Gaurav Gohane



Mechanical Engineering Department

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University, Nagpur.

Year 2020-2021

"STUDY & ANALYSIS OF TYRE WEAR CHARACTERISTICS OF TATA LPO 1618"

A Project Report submitted in partial fulfillment of the requirements

For the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Anmol Inudrkar

Mr. Palash Chimurkar

Mr. Sandip Patle

Mr. Suraj Kumar Nagina

Mr. Swapnil Tirpude

Mr. Ujwal Bawane

Under the Guidance of

Prof. Gaurav Gohane



Mechanical Engineering Department

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Nagpur.
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Study and Analysis of Tire Wear of TATA LPO 1618" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Gaurav Gohane, Mechanical Department, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 29/09/21

Mr. Anmol Indurkar

Mr. Palash Chimurkar

Mr. Sandeep Patle

Mr. Suraj Kumar Nagina

Mr. Swapnil Tirpude

Mr. Ujwal Bawane

CERTIFICATE

This is to certify that the project report entitled, "Study and Analysis of Tire Wear of TATA LPO 1618" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Dr. Babasaheb Ambedkar Technological University, Nagpur for the award of the degree of Bachelor in Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:

Prof. R. G. Deshmukh Project Coordinator Mechanical Engineering
Department

Dr. B. R. Mahajan)

Head of the Department

JDCOEM

(Dr. S. V. Sonekar)

Principal, Mechanical Engineering Department

Principal

J.D. College of Engineering & Management Khandala, Katol Road

Nagpur-441501

This is to certify that the Project Report on "Study and Analysis of Tire Wear of TATA LPO 1618" is approved work done by

Mr. Anmol Indurkar

Mr. Palash Chimurkar

Mr. Sandeep Patle

Mr. Suraj Kumar Nagina

Mr. Swapnil Tirpude

Mr. Ujwal Bawane

In partial fulfillment of the requirements for the award of the degree of Bachelor in Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Nagpur during the academic year 2020-2021.

Prof. Gaurav Gohane

Project Guide

Dr. Bhushan Mahajan Head of the Department

Project Examination held on _____

21/09/21

Internal Examiner/ Guide

External Examiner

Study and review of Quality 4.0 in the industry

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

1. Atul Bulkunde

4. Hrithik Yadav

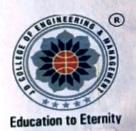
2. Vikas Mendhe

5. Prabhat Nagdeve

3. Anish Parate

6. Shivam Pandey

Under the Guidance of Prof. Gauray Gohane



Department of Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological University,

Lonere.

Year- 2020-21

1

Study and review of Quality 4.0 in the industry

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering
Submitted by

1. Atul Bulkunde

4. Hrithik Yadav

2. Vikas Mendhe

5. Prabhat Nagdeve

3. Anish Parate

6. Shivam Pandey

Under the Guidance of Prof. Gauray Gohane



Education to Eternity

Department of Mechanical Engineering

JD College of Engineering and Management, Nagpur-441501

Affiliated to Dr. Babasaheb Ambedkar Technological

University, Lonere.

Year 2020-21

2

We hereby declare that the work presented in this project report entitled, "Study and Quality 4.0 in the industry" in the subject Mechanical in the faculty of General Mechanical D. G. H. prof. Gaurav Gohane, Mechanical D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 29/03/22

Name of Students

- 1. Atul Bulkunde
- 2. Vikas Mendhe
- 3. Anish Parate
- 4. Hrithik Yadav
- 5. Prabhat Nagdeve
- 6. Shivam Pandey

CERTIFICATE

This is to certify that the project report entitled, "Study and review of Quality 4.0 in the industry" in the subject Mechanical in the faculty of Science and Technology submitted by Atul Bulkunde, Vikas Mendhe, Anish Parate, Hrithik Yadav, Prabhat Nagdeve, Shivam Pandey to Dr. Babasaheb Ambedkar Technological University, Lonere, for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Prof Caurav Gohane
Department of Mechanical Engineering

Forwarded to:

Prof.Rahul Deshmukh
Project Coordinator

Prof. B. R. Mahajan Head of the Department

Department of Mechanical Engineering

THE STATE OF STATE OF

Principal
Principal

Principal

J.D. College of Engineering & Management

College of Engineering & Flanks Khandala, Katol Road Nagpur-441501

4

This is to certify that the Project Report on Study and review of Quality 4.0 in the industry is approved work done by

Name of the Students

- 1. Atul Bulkunde
- 2. Anish Parate
- 3. Prabhat Nagdeve

- 4. Vikas Mendhe
- 5. Hrithik Yaday
- 6. Shivam Pandey

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Name of Branch at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Ganrav Gohane

Guide

Prof. B. R. Mahajan

Head of the Department

Project Examination held on 28 06 2021

Internal Examiner/ Guide

External Examiner

INFLUENCE OF STEERING MECHANISM ON THE PERFORMANCE OF E-KART

A Project Report submitted in partial fulfillment of the requirements

for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Yash U. Dhakate

Shrikant R. Meshram

Sonuttar B. Ramteke

Samir P. Mendhe

Piyush D. Kulmethe

Suraj A. Ghotkar

Pritam D. Kale

Under the Guidance of Prof. Rahul Deshmukh



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-2021

We hereby declare that the work presented in this project report entitled, "Influence of Steering Mechanism on the Performance of E-Kart" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rahul Deshmukh, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma, or certificate course.

Place: Nagpur

Date: 23/11/2021

Name of Students
Yash U. Dhakate
Shrikant R. Meshram
Sonuttar B. Ramteke
Samir P. Mendhe
Piyush D. Kulmethe
Suraj A. Ghotkar
Pritam D. Kale

CERTIFICATE

This is to certify that the project report entitled, "Influence of Steering Mechanism on the Performance of E-Kart" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by Yash U. Dhakate, Shrikant R. Meshram, Sonuttar B. Ramteke, Samir P. Mendhe, Piyush D. Kulmethe, Suraj A. Ghotkar, Pritam D. Kale to Dr. Babasaheb Ambedkar Technological University, Lonere, for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in whole or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

(Prof. Rahul Deshmukh) Mechanical Engineering

Forwarded to:

(Prof. Rahul Deshmukh)
Project Coordinator

(Dr. Bhushan Mahajan) Head of the Department Mechanical Engineering

> (Dr S. V. Sonekar) Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on INFLUENCE OF STEERING MECHANISM ON THE PERFORMANCE OF E-KART is approved work done by

Yash U. Dhakate

Sonuttar B. Ramteke

Pivush D. Kulmethe

Shrikant R. Meshram

Samir P. Mendhe

Suraj A. Ghotkar

Pritam D. Kale

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere, during the academic year 2020-2021.

Prof. Rahul Deshmukh

Guide

Dr. Bhushan Mahajan Head of the Department

Project Examination held on 29 |06 | 2021

Internal Examiner/ Guide

External Examiner

"Experimental Investigation of Influence of Magnetic Field on VCRs Cycle"

A Project Report submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Technology

In

Mechanical Engineering

Submitted by

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

Under the Guidance of Prof. Rahul Deshmukh



Mechanical Engineering

J D College of Engineering and Management, Nagpur-441501
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere.
Year 2020-21

We hereby declare that the work presented in this project report entitled, "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" in the subject Mechanical Engineering in the faculty of Science and Technology is the original contribution carried out by us under the guidance of Prof. Rahul Deshmukh, Mechanical Engineering, J D College of Engineering and Management, Nagpur. This work has not been submitted to any other University or Institution for the award of any degree or diploma or certificate course.

Place: Nagpur

Date: 20/11/21

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

This is to certify that the project report entitled, "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" in the subject Mechanical Engineering in the faculty of Science and Technology submitted by

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

to Dr. Babasaheb Ambedkar Technological University, Lonere for the award of the degree of Bachelor of Technology is a bonafide record of work carried out by them under my supervision. The contents of this Project Report, in full or in parts, have not been submitted or published to any other Institute or University for the award of any degree or diploma.

Forwarded to:

(Prof. Rahul Deshmukh)

Project Coordinator

(Prof. Rahul Deshmukh)

Mechanical Engineering Department

(Dr. B. R. Mahajan)

Head of the Department

Mechanical Engineering Department

(Dr. S. V. Sonekar) Principal,

JDCOEM, Nagpur

Principal

J.D. College of Engineering & Management Khandala, Katol Road Nagpur-441501

This is to certify that the Project Report on "Experimental Investigation of Influence of Magnetic Field on VCRs Cycle" is approved work done by

Mr. Himanshu N. Bhisikar

Mr. Chirayu B. Misal

Mr. Shubham A. Digrase

Mr. Pranay V. Bhosale

Mr. Pavan G. Sorte

Mr. Yogesh Y. Gore

In partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Mechanical Engineering at J D College of Engineering & Management, Nagpur affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere during the academic year 2020-2021.

Prof. Rahul Deshmukh

Guide

Dr. Bhushan Mahajan

Head of the Department

Project Examination held on __

26/09/21

Internal Examiner/ Guide

Mechanical Engineering & Nanagement J D College of Engineering & Nanagement Magpur Mech Engo

External Examiner