Guru Nanak Dev Engineering College

Mailoor Road, Bidar, KA – 585403

Approved by AICTE New Delhi and Affiliated to VTU Belagavi

Criterion 1 – Curricular Aspects

Department of E&CE

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GURU NANAK DEV ENGINEERING COLLEGE

BIDAR-585403, KARNATAKA

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "DESIGN & IMPLEMENTATION OF AN OPEN SOURCE & MODULAR RISC V CORE" is a bonafide work carried out by, **M A MUNEEB (3GN19EC017) & MD MOTESIM AHMED (3GN19EC022)**, in partial fulfillment for the award of Degree Bachelor of Engineering in **ELECTRONICS AND COMMUNICATION ENGINEERING** from the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the academic year 2021-2022. The mini-project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

Dr. VEERENDRA D.	**Dr. MD BAKHAR**	**Dr. DHANAJAY D.MAKTEDAR**
(Guide)	(HOD)	(Principal)

EXTERNAL VIVA

Name of examiner	**Signature with Date**
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2) Pavan Mankar	27/2/22

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Guru Nanak Dev Engg. College, Bidar

CHAPTER 1

INTRODUCTION

ABSTRACT : This paper starts by briefing about Instruction Set Architecture (ISA), what it does, what is made up of, its work and role in digital systems and described about the two different types of ISA i.e., CISC & RISC. Then briefed about the history of RISC V, how it is evolved, fundings, support from tech-giants, collaboration with Linux Foundation, starting from a simple project to a revolutionary move in the domain of computing. We then described about the four modular RISC V Base ISAs which is the building blocks of any RISC V based cores. This Base ISAs are custom and can be used for simple implementation as well as we can extend its power by adding the Standard Extensions provided by the RISC V Organization. In this paper, we used the RV32I Base ISA and designed a simple yet powerful Core. Synthesis and Simulation results are attached that depicts the Overall working and functionality of the design. We aim to extend this work in future by adding different Instructions, integrating other base formats and extending its capabilities that suits and supports Embedded Applications.

1.1 ISA

Instruction Set Architecture (ISA) is an abstract model of a computer, it is the interface between both hardware and software. It is a collection of machine Language Instructions that a particular processor understands and executes. An ISA is computer-dependent and machine-dependent hence, for different families of computers, we have different ISAs. An ISA can take different formats of Instruction Length, type, length and position of operation codes and the number and length of operand addresses etc. Two major parts of ISA are Opcode and operands. Opcode means Operation Code that specifies operations to be performed whereas operand specifies the address field on which data processing is to be performed. An operand can reside in the memory or a processor or can be given as immediate data.

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DEPARTMENT OF
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CERTIFICATE

This is to certify that the project work entitled "**ANTI-SLEEP ALARM FOR DRIVERS USING ARDUINO AND EYE BLINK SENSOR**" is a bonafied work carried out by **SHUBHAM HADOLE (3GN19EC012), NITIN PATIL (3GN19EC031), NITISH(3GN19EC032)** in partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering from Visvesvaraya Technological University, Belagavi during the year 2021-22. It is certified that all corrections indicated for internal assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academics requirements in respect of project work prescribed for the Bachelor of Engineering degree.

Dr. PREMALA P
PROFESSOR
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Name of the Examiners

1. Soni Manral

2. Pawan Mohal

Signature with Date

ABSTRACT

Nowadays There has been a very large increase in road accident due to drowsiness of driver while driving which leads to enormous fatal accident. The driver lose his control when he falls sleep which leads to accident. This is because when the driver is not able to control his vehicle at very high speed on the road. Driver in-alertness is an important cause for most accident related to the vehicle crashes. Driver fatigue resulting from sleep deprivation or sleep disorders is an important factor in the increasing number of the accidents on today's roads. Drowsy driver warning system can form the basis of the system to possibly reduce the accidents related to driver's drowsiness. This project can generate a model which can prevent such accidents. To prevent this, we outlined a very simple and economical system which deals with this issue. In this project, when a driver falling asleep, an alarm is raised to warn the driver attached to the rear of the vehicle. The alarm continues for a minimum of 10 seconds so that the driver wakes and get ready to steady the vehicle he drives. Thus we can control the major accidents.

PRINCIPAL
Basaveshwar Engg. College, Bidar

GURU NANAK DEV ENGINEERING COLLEGE BIDAR

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "PERFORMANCE ANALYSIS OF BEAM FORMER FOR MOBILE APPLICATION" is a bonafide work carried out by **ANJALI HONDALE (3GN19EC005), NISHU PATIL (3GN19EC030), SONALI EKLARKER (3GN19EC050)** in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Dr. VEERENDRA D	**Dr. Md. BAKHAR**	**Dr. DHANANJAY D.MAKTEDAR**
(PROJECT GUIDE)	(HOD ECE)	(PRINCIPAL)

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ABSTRACT

Smart antennas involve processing of signals induced on an array of sensors such as antennas, microphones, and hydrophones. They have applications in the areas of Radar, Sonar, Medical Imaging and Mobile Communication. Smart antennas have the property of spatial filtering, which makes it possible to receive energy from a particular direction while simultaneously block energy from other direction. This property makes smart antennas a very effective tool in detecting, locating sources and finally forming the main beam in the look direction and nulls in the interfering signal directions.

In this project, we analyzed the performance of various direction of arrival algorithms for direction estimation of incoming source signals. Namely, Bartlett and Multiple Signal Classification for detecting single and multiple mobile users. All the methods are simulated using MATLAB simulation software. We studied and compared the classical and subspace DOA methods. The simulation results clearly show that the subspace methods outperform the classical methods.

Furthermore, we analysed the performances of Sample Matrix Inversion (SMI) and Least Mean Square (LMS) adaptive beamforming algorithms. Simulation results clearly show that the SMI is suitable for only less antenna elements. It works properly for less than 10 antenna elements. This limits its application for 5G and above networks. Whereas LMS algorithm works efficiently for both less and more antenna elements. Hence LMS algorithm is much better than the SMI for smart antenna based wireless communication applications.

VIVESVARAYA TECHNOLOGICAL UNIVERSITY BELGAVI

GURU NANAK DEV ENGINERING COLLEGE BIDAR,AFFILATED TO VTU, BELAGAVI

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "DIGITAL RULER USING ARDUINO" is a bonafied work carried out by ATIF SHAZEB (3GN19EC007) , KAMRAN ABDUL RAFEY (3GN19EC014) , NASER (3GN19EC024) in partial fulfillment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering **from** Visvesvaraya Technological University , Belagavi **during the year 2021-22 . It is certified that all corrections indicated for internal assessment have been incorporated in the report deposited in the department library . The project report has been approved as it satisfies the academics requirements in respect of project work prescribed for the Bachelor of Engineering degree**

Signature of Guide	Signature of Hod	Signature of Principle
Prof. RAJENDAR KULKARNI (PROJECT GUIDE)	Dr.Md Bakhar (HOD ECE)	Dr. DHANANJAY D.MAKTEDAR (PRINCIPAL)

Prof.SONI MANKARI
(PROJECT COORDINATOR)

Name of Examiners	Signature with date
1)	1)
2)	2)

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CHAPTER 1

INTRODUCTION

ABSTRACT

This paper starts by briefing about the device called digital ruler .we developed a digital ruler that dynamically helps people in all measuring aspects.we describes what is does, what it is made up of,how it works and it's role in the digital systems.we also provides the description of its components like Arduino uno which is an open source microcontroller board based on micro chip ATmega328p,

an ultra sonic sensor that generate or sense ultra sound energy, LCD display module used to display data in devices such as calculators, ovens etc and an I2C module which is synchronous ,multi master packet switched single ended serial bus.How it reduce the man work. We aim to extend this project in future by adding different instruction and extending its capabilities that suits and support embedded applications.

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CERTIFICATE

This is to certify that the mini project work entitled "MOBILE PHONE DETECTOR" is a Bonafede work carried out by ANJALI B (3GN19EC004), BASAVASHREE (3GN19EC009), BHAGYASHRI (3GN20EC400) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Prof. NAMRATHA	Dr. MD BAKHAR	Dr.DHANANJAY D.MAKTEDAR
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2)	

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Abstract

This work involves the design and development of a digital signal detector which is capable of detecting incoming and outgoing signals from mobile phones. The presence of an activated mobile phone can be detected by this handy, pocketsize mobile signal detector from a distance of one and a half meters, which could be used in preventing the use of mobile phones in examination halls, confidential rooms etc. It is also suitable for detecting the use of mobile phone for spying and unauthorized video transmission. The circuit can detect the incoming and outing calls, text messages, and video transmission even if the mobile is kept in the silent mode. The moment the gadget detects Radio Frequency (RF) transmission signal from an activated mobile phone, it starts sounding a beep alarm and the Light Emitting Diode (LED) blinks. The alarm continues until the signal transmission ceases.

The circuit is assembled on a general purpose PCB as compact as possible and enclosed in a small box.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

GURU NANAK DEV ENGINEERING COLLEGE, BIDAR-585403, KARNATAKA

DEPT. OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "**LASER SECURITY ALARM SYSTEM**" is a bonafide work carried out by **NISHA (3GN18EC023) , PALLAVI (3GN20EC401)** in partial fulfillment of the requirements for the award B.E in Electronics and ommunication engineering by visvesvaraya technological university, belagavi during academic year 2021-2022. It is certified that the mini project report has been approved as it satisfies the academic requirements in respect of the mini project work prescribed for B.E.

Signature of guide
Prof. NITIN KULKARNI

Signature of HOD
Dr.M.BAKHAR

EXAMINER 1:

EXAMINER 2:

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ABSTRACT

This project deals with a model of laser security alarm system design. Laser security systems used to be difficult to install and rarely available to anyone other than the super-rich. Now, there are dozens of different security systems on the market that utilize lasers and can effectively protect everything from small apartments and businesses to large areas of property. Most home laser security systems consist of two parts: a basic alarm unit and an infrared motion detector. Laser based security system is a type of security and alarm system that uses laser light and a light sensor. Why a laser to be used? It is known that a laser light goes through long distance without any scattering effect (disturbing) and it is only visible at source and the destination point so it can be used as mediator between source and destination but to analyse the source a sensor is need, here the use of LDR is applicable. Just analysis is not enough alerting should be done in general alerting is sound effect so here buzzer act as alerting. Making use of this, a laser security system is designed. Its working: There is a laser diode that generates the laser beam which continuously strikes over the Light dependent resister sensors. When any person crosses the path, it inhibits laser to reach LDR and the sensor generate a low which is read by controller to power on the buzzer

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2021-2022

DEPARTMENTOF

ELECTRONICSAND COMMUNICATION ENGINEERING

CERTIFICATE

This is certified the mini project work on **"ARDUINO BASED WIRELESS NOTICE BOARD USING BLUETOOTH"** is a bonafide work carried out by **NAUSHEEN HASSAN (3GN19EC025), NAZNEEN FATIMA (3GN19EC027), NISHA JOSHI (3GN19EC029)** in partial fulfillment of there requirements for the award of the Degree **Bachelor of Engineering in Electronics and Communication Engineering** from Visvesvaraya Technological University, Belagavi during the year 2021-2022. Itcertified that all the corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the department library. The project report has been approved as its satisfies the academic requirements in respectofmini project work prescribedfor theBachelorof EngineeringDegree.

Signature of guide	Signature of HOD	Signature of Principal
Prof. Shilpa Biradar	**Prof. MD Bakhar**	**Dr. Dhananjay Maktedar**

Name of Examiners **Signature with Date**

1) Soni Mankari 1)

2) 2)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ABSTRACT

Bluetooth based wireless notice board using Arduino will help us in passing any message almost immediately without any delay just by sending a SMS which is better and more reliable than the old conventional way of passing the message on notice board. This proposed idea can be used in colleges, many public places, to enhance the security system and also make awareness of the emergency situations and avoid many dangerous situations. For this purpose, Android based application programs for Bluetooth and Wi-Fi communication between Android based personal digital assistant devices and remote wireless display board are used Using the developed system, two different applications for displaying messages on a remote digital notice board and wireless person calling has been implemented. It also helps in saving the time and the cost for paper and printing hardware.

The notice boards being used specially at offices and public places to display important news and notices. To make the notice boards easy to use and more technically advance, I have used this prototype of wireless notice board where we can display the message by simply sending the message through your cell phone. These display systems are very accurate and easy to control and cheaply available and the most important thing is that they can be operated on low Voltage (Up to 12 Voltage). Arduino is a tool for making computers that can sense and control more of the physical world than your desktop computer. It's an open- source physical computing platform based on a simple microcontroller board, a development environment for writing software for the board. Our project is designed with the Arduino module and the Android technology.

Keywords: Bluetooth HC05, Arduino Uno, LCD.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELAGAVI, KARNATAKA

GURU NANAK DEV ENGINEERING COLLEGE BIDAR, KARNATAKA

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This certified that the preliminary project review report on topic **"AUTOMATIC TOL TAX USING ARDINO"**,a bonafide work carried out by **ANKUR(3GN19EC006), AUGUSTINE(3GN19EC008), JAGADISH(3GN19EC008),** in partial fulfillment of requirements for the award of the Degree B.E 6th semester course in ELECTRONICS AND COMMUNICATION ENGINEERING by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI, during the year 2021-2022**

Prof. SONI MANKARI (PROJECT GUIDE)	Dr.Md. BAKHAR (HOD ECE)	Dr.DHANANJAYD.MAKTEDAR (PRINCIPAL)

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2) Pavan mankal .....

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CHAPTER-1

TOLL TAX SYSTEM USING ARDUINO : ULTRA SONIC SENSOR WITH SERVO MOTO

Abstract

Online Toll gate management system is designed to automatically keep track of the vehicle's movement, record the time and the details like Owner's name, date of registration, vehicle model etc. This system is very useful for automatic vehicle tracking, time management and also for automation of Toll gate.

GURU NANAK DEV ENGINEERING COLLEGE BIDAR

DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "HOME AUTOMATION SYSTEM (BY CONTROLLING LED) USING NODEMCU AND WEBSERVER" is a Bonafede work carried out by AISHWARYA(3GN19EC002),KAVYANJALI(3GN19EC015),MADHU (3GN19EC018) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Prof. SONI MANKARI	Dr. MD BAKHAR	Dr. DHANANJAY D. MAKTEDAR
(PROJECT GUIDE)	(HOD ECE)	(PRINCIPAL)

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2) Panduraj mankari	

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Abstract

Home automation is a topic which gaining popularity day by day, because of large advantages. One can achieve home automation by simply connecting home appliance electrical devices to the internet or cloud storage. the reason for this surge demand of network enabled home automation is reaching the zenith in recent days for its simplicity and comparable affordability. Platforms based on cloud computing help to connect to the things surroundings everyone so that one can find it easy to access anything and everything at any time and place in a user friendly manner using custom defined portals. Hence, cloud act as a front end to access IOT. Here we are assuming a system which can control devices through wireless based network or cloud based approach. In project we use IOT based home automation system which goal is to develop a home automation system that gives the user complete control over all remotely controllable aspects of his or her home. The automation system will have ability to be controlled from a central host PC, the internet, and also remotely accessed via a packet PC with a windows mobile based application.

Our project titled "Home Automation using IoT" holds relevance in today's world which is largely driven by technology in many ways. Home Automation has always had one purpose and that is to control your home using either your voice or with a touch of a button, and since most of today's technology is advanced and supports this idea, it only makes sense to utilise this idea of automation to the fullest if not in some way or the other.

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MAILOOR ROAD BIDAR, KARNATAKA-585403

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Internship entitled "**Clap Switch**" a bonafide work carried out by Vissa Anil (3GN18EC060), Nikhilesh (3GN19EC028) in partial fulfilment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering from Visvesvaraya Technological University, Belagavi during the academic year 2021-2022. It is certified that all the corrections / suggestions indicated for internal assessment have been incorporated in the report deposited in the department library. The Mini-project report has been approved as it satisfies the academic requirements in respect of mini-project prescribed for the Bachelor of Engineering Degree.

Signature of Principal	Signature of HOD	Signature of Guide
(Dr. Dhananjay D Maktedar)	(Dr. Md Bhakar)	(Prof. Santosh Yadav)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ABSTRACT

Clap switch is an interesting hobby circuit which turns on the lights with a clap sound. Although its name is "Clap switch", but it can be turned ON by any sound of approximately same pitch of Clap sound. The main component of this clap switch circuit is the Electric Condenser Mic, which has been used as a sound sensor. Condenser Mic basically converts sound energy into electrical energy, that in turns used to trigger 555 timer IC, through a Transistor. And triggering of 555 IC would turn ON the LED, which will be automatically turned OFF after some time. I have made this circuit as simple as possible, you can find many complex Clap switches (using 555 IC) with some more components in it, and merely doing the same thing. Even make things simpler require more effort than making it complex.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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This certified that the mini project work entitled "**AUTOMATIC PLANT WATERING SYSTEM USING ARDUINO UNO**", is a bonafide work carried out by **Maheshwari(3GN19EC019), Nageshwari(3GN19EC023),** in partial fulfillment of requirements for the award of the Degree Bachelor of Engineering in ELECTRONICS AND COMMUNICATION ENGINEERING by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI**, during the academic year 2021-2022.It is certified that mini project has been approved as it satisfies academic requirement in respect of mini project prescribed for B.E.

Dr. SAVITA SOMA	**Dr.MD BAKHAR**	**Dr. DHANANJAY D MAKTEDAR**
(PROJECT GUIDE)	(HOD ECE)	(PRINCIPAL)

External Viva

Name of the Examiners	Signature with Date
1)...	.....
2)...	.....

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Abstract

Automatic plant watering system, which is considered as one of the most commonly used and the most beneficial automated systems nowadays, which help people in their daily activities by reducing or completely replacing their effort. This system uses sensor technology along with microcontroller and other electronics in order to behave like smart switching system which senses soil moisture level and irrigates the plant if necessary. Purpose of this work is to show how someone can easily make own and cheap automatic plant watering system in just few hours by connecting certain electronic components and other materials required. In our experiment, we connected all required materials exactly as shown in this paper, in order to test whether our system will work properly or not. Although the system made in that way would be the most appropriate for home usage as solution for some daily and usual issues, there is a wide spectrum of possibilities of implementing these systems as a long-term solution for many agricultural and medical problems, some of which are undernourishment and air pollution as most prominent, dangerous and important ones. As one possible agricultural solution, this system can be very helpful in keeping vegetables and other useful and specific plants watered for bigger harvest, which enables farmers from all around world to breed crops of these plants which are the most wanted and the most commonly used in diet. As medical solution, these systems can be used for purpose of cultivating certain plants that are famous and well known by their ability to remove air pollutants and therefore reduce the concentration of toxic pollutants in the air as well the occurrence of respiratory diseases. Future possibilities include some challenging and demanding ideas like joining plants of similar variety and characteristics into complex connections of plants, called "Internet of plants". There are also many other possibilities like using more than one sensor or solar power supply for experimental purposes, but the fact is however, that, independently of the materials used and the way in which they are connected, this type of automated systems can be very helpful in solving very wide of human-related problems nowadays.

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CERTIFICATE

This is to certify that the mini project work entitled "RADAR SYSTEM" is a Bonafede work carried out by AKASH (3GN19EC003), PRASHANTH (3GN19EC036) AND PREM(3GN19EC038) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Dr. MD BAKHAR	**Dr. MD BAKHAR**	
(PROJECT GUIDE)	(HOD ECE)	(PRINCIPAL)

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CHAPTER 1

INTRODUCTION

Fires represent a constant threat to ecological systems, infrastructure and human lives. Past has witnessed multiple instances of fires. With the faster and faster urbanization process, more and more high-rise buildings appear around us. This also can make the frequency of fire increase and bring great losses to people's lives and property. In areas where fire would pose an unreasonable threat to property, human life or important biological communities, efforts should be made to reduce dangers of fire. As the damage caused by fires is so tremendous that the early fire detection is becoming more and more important. Recently, some fire detectors have been used in many places, they used the smoke, temperature and photosensitive characteristics to detect fires. But they are too worse to meet the needs in a large space, harsh environment or the outdoor environment etc.

Traditional fire protection methods use below:

Watch Fire Tower

In watch towers human are made to observe the location throughout. If any fire occurs he reports it. However, accurate human observation may be limited by operator fatigue, time of day, time of year, and geographic location.

Wireless Sensor

Networks In a wireless sensor-based fire detection system, coverage of large areas in forest is impractical due to the requirement of regular distribution of sensors in close proximity and also battery charge is a big challenge.

ARDUINO WITH FIRE SENSOR LED AND BUZZER

Satellite and Aerial

Monitoring Satellites based system can monitor a large area, but the resolution of satellite imagery is low. A fire is detected when it has grown quite a lot, so real time detection cannot be provided. Moreover, these systems are very expensive. Weather condition (e.g. clouds) will seriously decrease the accuracy of satellite-based forest fire detection as the limitations led by the long scanning period and low resolution of satellites.

Motion detection is used to detect any occurrence of movement in a video. It is done by analyzing difference in images of video frames. There are three main parts in moving pixel detection: frame/background subtraction, background registration, and moving pixel detection Similar to the fire detection. We are also modeling smoke pixels. The smoke pixels do not show chrominance characteristics like fire pixels. At the beginning, when the temperature of the smoke is low, it is expected that the smoke will show color from the range of white-bluish to white. Toward the start of the fire, the smoke's temperature increases and it gets color from the range of black-grayish to black.

Area detection method is used to detect dispersion of fire pixel area in the sequential frames. DHT11 Temperature & Humidity Sensor features a temperature & Humidity Sensor features a temperature & humidity sensor complex with a calibrated digital signal output. As the fire increases humidity decreases and temperature increases, for this threshold is set. So after analyzing all above parameters fire will be detected and it will give pop-up on the screen of a fire action to suppress fire and to avoid losses of human lives and their valuable Properties.

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This is to certify that the mini project work entitled "RADAR SYSTEM" is a Bonafede work carried out by VEER VIKRAM SINGH (3GN19EC062), VEERENDRA PATIL (3GN19EC063). VISHNU JOSHI (3GN19EC064) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Dr. ANURADHA A	**Dr. MD BAKHAR**	**Dr. DHANANJAY D. MAKTEDAR**
(PROJECT GUIDE)	(Head of E & CE Dept.)	(PRINCIPAL)
DEPT OF E & CE Guru Nanak Dev Engg College, BIDAR (K S)	G.N.D Engineering College BIDAR-585 403. (K.S)	PRINCIPAL Guru Nanak Dev Engg. College BIDAR

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Name of the Examiners	Signature with Date
1) Soni Mankari	9.5.22
2) Parag Mandal	

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Abstract

RADAR is a detection system that uses radio waves to determine the characteristics of the detected objects such as: range, height, direction, or the speed of objects. In this paper, we designed a radar system that uses an ultrasonic sensor to detect objects. In this paper, the ultrasonic is used to measure the distance between the radar and any object-based non-contact technology. Whereas, the movement of the sensor is controlled by using a small servo motor. This radar-controlled using the Arduino Uno board as a microcontroller. The signal received from the sensor would be processed using "Processing Development Environment Software," then the result would be shown on a PC screen.

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This is to certify that the mini project work entitled "TRAFFIC LIGHT SIMULATOR" is a bonafede work carried out by VEENA (3GN19EC061), ZOHA MAHEEN (3GN19EC065), GOURI KULKARNI (3GN19EC066) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONIC AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. This mini project report has been approved as it satisfies the academic requirements.

SIGNATURE	SIGNATURE	SIGNATURE
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Abstract

Rapid advances in scientific understanding and global economic activity have resulted in a significant increase in the volume of automatic activity for human and product mobility, necessitating greater road construction. Controls for vehicular movement, as well as controllers, are thus a crucial requirement of modern society.

This research aims to construct a micro-controller-based traffic control device to achieve this goal. For this project, the Arduino platform is the micro-controller of choice. A Light Emitting Diode (LED) advertising display has also been added into its implementation to take use of the red light wait period to distribute relevant information or facts, making this idea more effective and productive.

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DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "DISTANCE MEASURING USING ULTRA-SONIC SENSOR" is a Bonafede work carried out by P.SRINIVAS(3GN19EC033), *SAI ADITYA(3GN19EC041), SYED MUJTABA ALI(3GN19EC055) in partial fulfilment of* the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Prof. PRADEEP.K.
(PROJECT GUIDE)
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Dr. MD BAKHAR
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Dr.DHANANJAY.D.M.
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1).....Nitin.k.....

2)...Pavan Manikal

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Abstract

The project is designed to develop distance measurement system using ultrasonic waves and interfaced with arduino. We know that human audible range is 20hz to 20khz. We can utilize these frequency range waves through ultrasonic sensor HC-SR04.The advantages of this sensor when interfaced with arduino which is a control and sensing system, a pro per distance measurement can be made with new techniques. As large amounts are spent for hundreds of inflexible circuit boards, the arduino will allow business to bring many more unique devices. This distance measurement system can be widely used as range meters and as proximity detectors in industries. The hardware part of ultrasonic sensor is interfaced with arduino. This method of measurement is efficient way to measure small distances precisely. The distance of an obstacle from the sensor is measured through ultrasonic sensor. After knowing the speed of sound the distance can be calculated.

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CERTIFICATE

This is to certify that the mini project work entitled "OBSTACLE DETECTOR USING ARDUINO" is a Bonafede work carried out by DEEPIKA (3GN19EC011), PADMAVATI (3GN19EC034), SANJEEVINI (3GN19EC044), SANYUKTA (3GN19EC045) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Prof. PAVAN MANKAL (PROJECT GUIDE)	**Dr. MD BAKHAR** (HOD ECE)	**Dr. DHANANJAY D.MAKTEDAR** (PRINCIPAL)

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Name of the Examiners	Signature with Date
1) Soni Mankar	22/12/22
2) Pavan mankal	22/12/22

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Abstract

Train accidents aren't as common as other transportation accidents, which perhaps is why they aren't viewed as a major threat.

Although railroads aren't used as often as they were in centuries past, they still remain quite active. Unfortunately, when train accidents happen, they often result in serious injuries and fatalities.

This is a simple guide on how to make a distance detector using an **Arduino**, a **HC-SRO4 Ultrasonic Sensor**, a **Buzzer**, and some **LED's**.

The ultimate goal of this project is to use the buzzer and LED's to display how far the object is from the ultrasonic sensor.

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CERTIFICATE

This is to certify that the mini project work entitled "**SERVO DISTANCE INDICATOR USING ARDUINO**" is a bonafide work carried out by SHRADDHA (3GN19EC035), SHAILAJA (3GN19EC046), SHILPA (3GN19EC048) in partial fulfillment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

PROF. SANTOSH YADAV	Dr.MD BAKHAR	Dr. DHANAJAY D .MAKTEDAR
(PROJECT GUIDE)	(HOD E&CE)	(PRINCIPAL)

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2)..... Param mandal.....	.....

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ABSTRACT

This project uses an ultrasonic sensor module to detect objects in front of it. The sensory output from the ultrasonic module is used to trigger the rotation of the servo motor. The degree of rotation of the motor is directly proportional to the distance of the object from the ultrasonic module. The project isdesigned to develop distance measurement system using ultrasonic waves and interfaced with arduino. We know that human audible range is 20hz to 20khz. We can utilize these frequency range waves through ultrasonic sensor HC-SR04.The advantages of this sensor when interfaced with arduino which is a control and sensing system, a pro per distance measurement can be made with new techniques. As large amounts are spent for hundreds of inflexible circuit boards. the arduino will allow business to bring many more unique devices. This distance measurement system can be widely used as range meters and as proximity detectors in industries. The hardware part of ultrasonic sensor is interfaced with arduino. This method of measurement is efficient way to measure small distances precisely. The distance of an obstacle from the sensor is measured the rough ultrasonic sensor. After knowing the speed of sound the distance can be calculated.

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CERTIFICATE

This is to certify that the mini project work entitled "**PASSWORD DOORLOCK USING ARDUINO**" is a Bonafide work carried out by RAKSHITA (3GN19EC040), SAKSHI (3GN19EC042), VAISHNAVI (3GN19EC058) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

28/7/22

PROF. POOJA HUGGI
(PROJECT GUIDE)

Dr.MD BAKHAR
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Head of E & CE Dept.
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Dr. DHANAJAY D. MAKTEDAR
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1) Nitin k	
2) Paras mankal	8/7/22

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ABSTRACT

Security is a main concern in our everyday life. Each and every individual needs to feel secure. An access control for doors forms an essential part in our security pattern. Doors locked using conventional locks are not as safe as they used to be, anyone can break in by breaking these locks. This project to make a framework that will give 24/7 benefit. Password based door lock system allows only approved persons to access restricted areas. This system is fully controlled by Arduino. The password can be entered via a keypad. If the password is matched with the stored password in Arduino the door gets open. This programmed password based bolt framework will give client more secure and minimal effort method for locking-opening framework. The security door lock automation system promises a bold step to the future where mechanical door locks will be substituted by electronic door locks.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This certified that the preliminary project review report on topic

"FOOTSTEP POWER GENERATION USING PIEZOELECTRIC TRANSDUCER"

A bonafede work carried out by **PREETI (3GN19EC037), SOUMYA (3GN19EC051), SYEDA JAWERIYA (3GN19EC057)**, in partial fulfilment of requirements for the award of the Degree B.E 6th semester course in ELECTRONICS AND COMMUNICATION ENGINEERING by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI, during The year 2020-2021.**

Prof. Shweta Patil	**Prof. Pooja Huggi**	**Dr. Md Bakhar**
(PROJECT GUIDE)	(PROJECT COORDINATOR)	(HOD ECE)

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ABSTRACT

The electrical power consumption is increasing exponentially. Therefore, the need of a fool-proof and economically viable power generation and distribution system demands a certain interest. This project proposes utilization of human locomotion energy which, although extractable goes mainly to waste. This project proposes a model that uses human walking, jumping and running as a source of energy and store it for essential use. Such a model is apt in a demography that of a country like India which has such a huge pedestrian population. This project illustrates a method for harvesting this human locomotion energy with the use of piezoelectric sensor and demonstrates an application with the stored energy i.e. to charge a mobile phone securely using RFID. The ground reaction force (GRF) exerted from the foot, when converted to voltage by piezoelectric sensors is capable enough to power up a device. Successive exertion leads to aperiodic voltage build up which with proper circuitry can be used to charge a storage battery. The power produced by this technique can also be employed in basic application such as street lighting, notice boards, gyms and other areas of public domain. It also promotes green energy and environment friendly approach towards energy generation. In this paper we have provided the basic concept and design details of this model and a basic implementation of the same.

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ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "SMART PARKING SYSTEM" is a Bonafide work carried out by SHAKHEEL (3GN19EC047), SYED ADIL HUSSAINI (3GN19EC054), SYED SAJEE (3GN19EC056) in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

28/7/22

PROF POOJA HUGGI
PROJECT GUIDE)

Dr. MD BAKHAR
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Dr. DHANANJAY. D.
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1) ....Nitin.k.....	28-7-22
2) Pavan Mankal	.....28.7.22

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Abstract

Smart car parking project aims at providing a confusion free and easy parking. This project helps the drivers of the cars to park their vehicles with minimum wastage of time with accurate information of the availability of the space to park It includes an Arduino Uno as the microcontroller unit to which the servo motors, LCD display ultrasonic sensors (HC-05) are interfaced. The LCD displays the availability of the space, the ultrasonic sensors keeps the check of the number of cars entering andexiting the parking space. The ultrasonic sensors detect the availability of the parking space. To enhance the security system in the world, it is important to monitor and control the access of vehicles in the parking areas of Government and private sector. The Ultrasonic Range Detection Sensor is utilized with Arduino to indicate the empty slot .By measuring the distance using ultrasonic sensor drivers are able to find the empty. The paper additionally depicts an abnormal state perspective of the framework engineering. Towards the end, the paper examines the working of the framework in type of an utilization case that demonstrates the rightness of the proposed show. The Ultrasonic Range Detection Sensor is utilized with Arduino to indicate the empty slot .By measuring the distance using ultrasonic sensor drivers are able to find the empty slot in parking to park the car and help the driver to find the slot easily and reduce the searching time .As the parking place is found to be empty it is detected using ultrasonic sensors which report it further. We achieved this by programming the sensors and Arduino.

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DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "PARKING RADAR SENSOR USING ARDUINO" is a Bonafede work carried out by SUKESHINI (3GN19EC052), SUMAVATI (3GN19EC053), SANDHYARANI (3GN19EC043), in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Dr. PRAVEEN REDDY (PROJECT GUIDE)	**Dr. MD BAKHAR** (HOD ECE)	**Dr. DHANANJAY D.MAKTEDAR** (PRINCIPAL)

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Name of the Examiners	Signature with Date
1) Nitin K	1)
2) Pavan Mankar	2) 28/3/22

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Abstract

Now a days there are so many major accidents occurs because of the carelessness of the driver and many more things like negligence, human errors and some vehicle errors such as break failures etc, so majorly in this project we are mainly focusing on the parking sensor which is used to sense the car or any other vehicles which is near to our vehicles.

In this project we are using 5-6 LED lights and buzzer depending upon the distance which is nearer to our vehicle LED and buzzer will start glowing and which alerts the people and prevents many accidents.

As we are using some basic components such as Arduino, ultrasonic sensor and LED and Buzzer, Ultra Sonic sensor which senses the distance which is away from the vehicle, whenever other vehicles come nearer the different LED will start glowing and buzzer glows.

GURU NANAK DEV ENGINEERING COLLEGE BIDAR

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ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the mini project work entitled "ARDUINO WITH FIRE SENSOR ,LED AND BUZZER" is a Bonafied work carried out by NAVYASHREE (3GN19EC026). VAISHNAVIDEVI (3GN19EC059),VANIKA (3GN19EC060), in partial fulfilment of the requirements for the Bachelor's degree in ELECTRONICS AND COMMUNICATION ENGINEERING of VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM during the year 2021-2022. It is certified that this Mini Project Report has been approved as it satisfies the academic requirements.

Prof RAMYA S PURE	**Dr. MD BAKHAR**	**Dr. DHANANJAY D.MAKTEDAR**
(PROJECT GUIDE)	(HOD ECE)	(PRINCIPAL)

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Name of the Examiners	Signature with Date
1) Soni Manica	
2) Pavan Manikar	

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ABSTRACT

Fire detection is the main objective of this project besides surveillance. The aim of the project is to early detection of fire apart from preventive measures to reduce the losses due to hazardous fire. The project mainly is based on image processing and arduino serial communication. In this project, at the user end, the fire images will be feeded in the form of video frames. These images will be further processed by using the software, MATLAB. The proposed system uses RGB and YCbCrcolor space. The advantage of using YCbCrcolor space is that it can separate the luminance from the chrominance more effectively than RGB color space. along with this smoke, motion, area detection is also performed using its color characteristics. The proposed system consist of hardware such as arduino, DHT 11 to monitor the Humidity and Temperature. There is a camera for the surveillance. This camera will give a real-time video output to the user on the laptop or computer via a small GUI-graphic user interface which is to be built in MATLAB. Thus the fire will be detected using this model. This project can also be served for security and surveillance applications.

CERTIFICATE

OF COMPLETION

This is to certify that

Basavasagar (3GN17EC017)

has successfully completed

INTERNSHIP Program of 30 days

on IOT

technology offered by

Times Institute of Management & Technical Studies

certified by

AICRA - All India Council for Robotics & Automation

15th DEC 2021

Issued on:

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Program Head

PRINCIPAL

Guru Nanak Dev Engg. College, Bidar

Reg. No : AAB9565

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INVENTERON TECHNOLOGIES AND BUSINESS SOLUTIONS LLP

CERTIFICATE OF INTERNSHIP

This is to certify that Mr/Ms. Mahalaxmi . Shetkar

has completed internship on Design and Development of Embedded System & IOT

from 10th Sept 2021 to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies and Business Solutions LLP

Managing Director

Managing Director

ARM CORTEX Processor Technology IoT Raspberry PI Java

www.inventeron.com

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Guru Nanak Dev Engg. College, Bidar

CERTIFICATE

OF COMPLETION

This is to certify that

Supreet Paul (3GN17EC063)

has successfully completed

INTERNSHIP Program of 30 days

on IOT

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Times Institute of Management & Technical Studies

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AICRA - All India Council for Robotics & Automation

15th DEC 2021
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Program Head

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CERTIFICATE

OF COMPLETION

This is to certify that

ADITHYA SHEELVANT

has successfully completed

INTERNSHIP Program of **30** days

on **IOT**

technology offered by

Times Institute of Management & Technical Studies

certified by

AICRA - All India Council for Robotics & Automation

15th DEC 2021
Issued on:

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nothing but smart..

INVENTERON TECHNOLOGIES AND BUSINESS SOLUTIONS LLP

CERTIFICATE OF INTERNSHIP

This is to certify that Mr/Ms. Aishwarya Chidguppikar

has completed internship on Design & Development of Embedded Systems & IOT

from 10th Sept to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

Managing Director

ARM CORTEX Processor Technology

IoT

Raspberry PI

Java

PRINCIPAL
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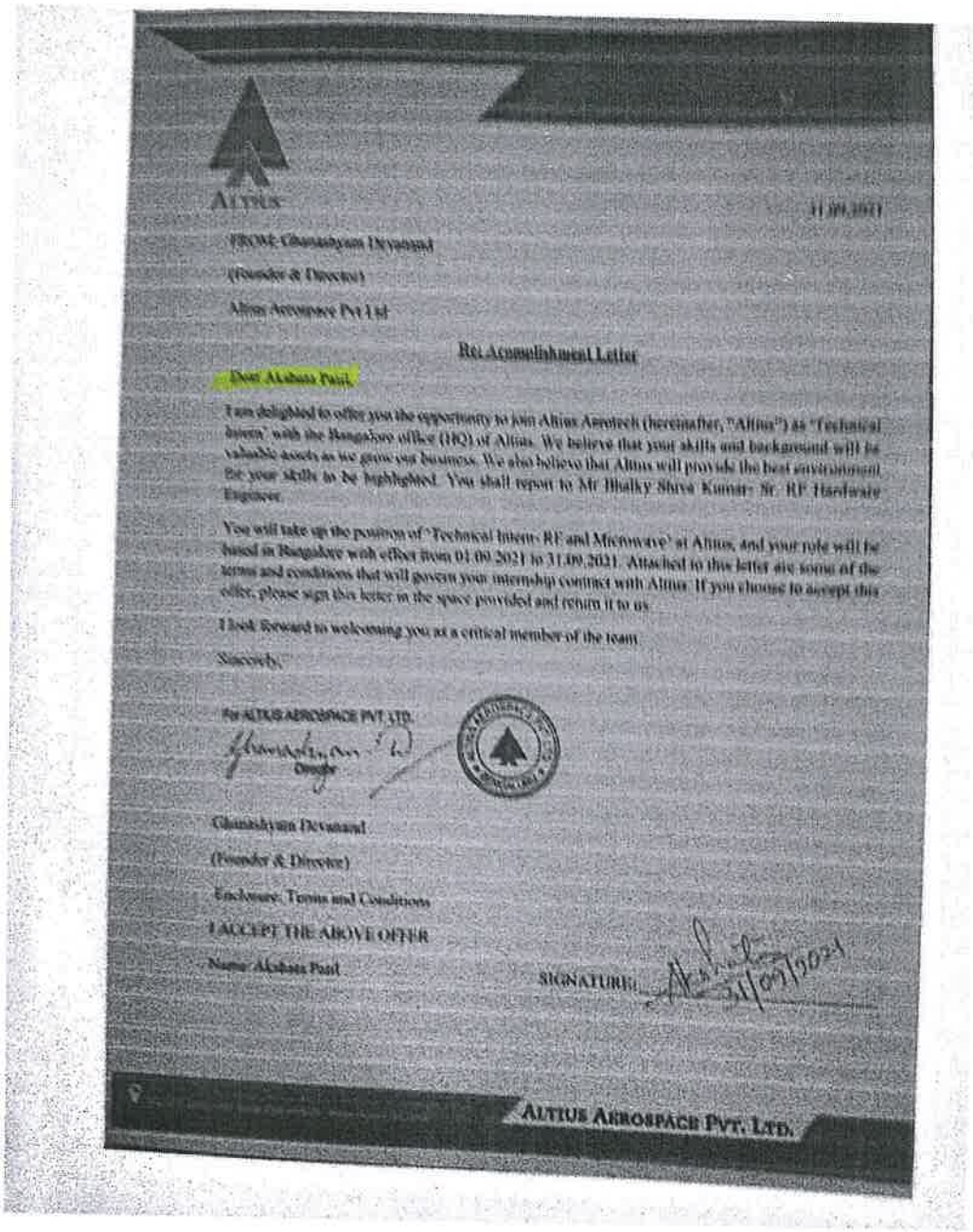

ALTIUS

31.09.2021

FROM: Ghanashyam Devanand

(Founder & Director)

Altius Aerospace Pvt Ltd

Re: Accomplishment Letter

Dear Akshata Patil,

I am delighted to offer you the opportunity to join Altius Aerotech (hereinafter, "Altius") as 'Technical Intern' with the Bangalore office (HQ) of Altius. We believe that your skills and background will be valuable assets as we grow our business. We also believe that Altius will provide the best environment for your skills to be highlighted. You shall report to Mr Bhalky Shiva Kumar- Sr. RF Hardware Engineer.

You will take up the position of 'Technical Intern- RF and Microwave' at Altius, and your role will be based in Bangalore with effect from 01.09.2021 to 31.09.2021. Attached to this letter are some of the terms and conditions that will govern your internship contract with Altius. If you choose to accept this offer, please sign the letter in the space provided and return it to us.

I look forward to welcoming you as a critical member of the team.

Sincerely,

For ALTIUS AEROSPACE PVT. LTD.

Director

Ghanashyam Devanand

(Founder & Director)

Enclosure: Terms and Conditions

I ACCEPT THE ABOVE OFFER

Name: Akshata Patil

SIGNATURE: 31/09/2021

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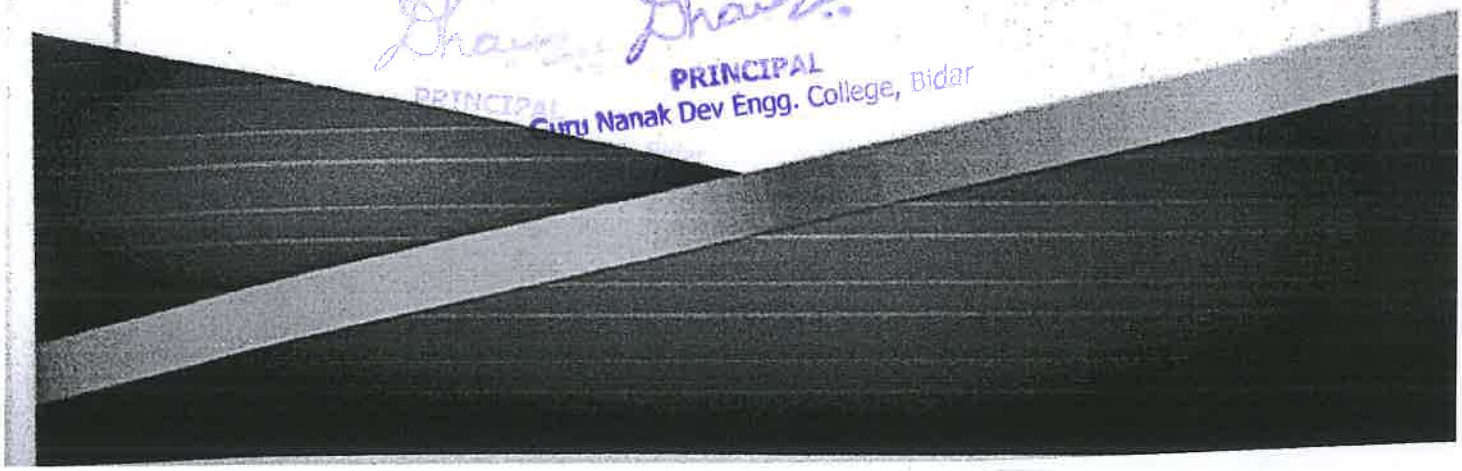

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MAILOOR ROAD BIDAR, KARNATAKA-585403

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is certified that the project work entitled **"CONVOLUTIONAL NEURAL NETWORK(CNN) TO DETECT COVID-19 INFECTION AND PNEUMONIA"**, a bonafide work carried out by **AKSHATA PATIL (3GN18EC004), AMMARA FIRDOUS (3GN18EC007) and BHAVYA MULGE (3GN18EC011),** in partial fulfillment for the award of Degree **B.E 8th semester course** in **ELECTRONICS AND COMMUNICATION ENGINEERING** by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the academic year 2021-2022. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor Of Engineering Degree

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Prof. NITIN KULKARNI (GUIDE)	**Dr. MD BAKHAR** (HOD)	**Dr. DHANANJAY D. MAKTEDAR** (PRINCIPAL) **PRINCIPAL** Guru Nanak Dev Engg. College BIDAR

External Viva

Name of Examiners	Signature with Date
1) Dr. Savita Soora	25/7/22
2) Prof. Hanagatti	25/7/22

ABSTRACT

Artificial intelligence (AI) techniques in general and convolutional neural networks (CNNs) in particular have attained successful results in medical image analysis and classification. A deep CNN architecture has been proposed for the diagnosis of COVID-19 based on the chest X-ray image classification. Due to the Non availability of sufficient-size and good-quality chest X-ray image dataset, an effective and accurate CNN classification was a challenge. To deal with these complexities such as the availability of a very-small-sized and imbalanced dataset with image-quality issues, the dataset has been preprocessed in different phases using different techniques to achieve an effective training dataset for the proposed CNN model to attain its best performance.

The preprocessing stages of the datasets performed in this study include dataset balancing, medical experts' image analysis, and data augmentation. The experimental results have shown the overall accuracy as high as 99.5% which demonstrates the good capability of the proposed CNN model in the current application domain. The CNN model has been tested in two scenarios. In the first scenario, the model has been tested using the 100 X-ray images of the original processed dataset which achieved an accuracy of 100%. In the second scenario, the model has been tested using an independent dataset of COVID-19 X-ray images. The performance in this test scenario was as high as 99.5%. To further prove that the proposed model outperforms other models, a comparative analysis has been done with some of the machine learning algorithms.The proposed model has outperformed all the models generally and specifically when the model testing was done using an independent testing set.

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This is to certify that Mr/Ms. Divya Hiremath.

has completed internship on Design And Development of Embedded System & IOT

from 10th Sept 2021 to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

ARM CORTEX IoT

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Managing Director

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certified that the Project work entitled "SMART VILLAGE FOR RURAL DEVELOPMENT" is a bonafide work carried out by AMEETH PARSHETTY (3GN18EC006), GADGI VISHAL (3GN18EC013), K VINAY KUMAR (3GN18EC0016) in partial fulfilment of requirements for the award of Degree of Bachelor of Engineering in ELECTRONICS AND COMMUNICATION ENGINEERING by VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the year 2021-2022. The Project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

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Dr. ANURADHA MS (PROJECT GUIDE)	Dr. Md. BAKHAR	Dr. DHANANJAY D. MAKTEDAR (PRINCIPAL)
DEPT. OF E & CE Guru Nanak Dev Engg College, BIDAR (K S)	Head of E & CE Dept. G.N.D Engineering College BIDAR-585 403. (K.S)	PRINCIPAL Guru Nanak Dev Engg. College BIDAR

External Viva

Name of the Examiners	Signature with Date
1) Prof. Nagnath	
2) Dr. Sangita Soma	23/7/22

ABSTRACT

IoT based smart village system is developed to support value-added services for various attributes of the village and for the people, while it still being a broad and complex category that are characterized by specific application domain. Rural development is designed to support the Smart village mission, which aims at exploiting the most advanced communication technologies. The global focus on waste, energy and water management and conservation and the cloud based system plays a key role in extending the connected benefits of the smart village beyond the distribution, automation and monitoring being done by utility. IoT based Monitoring system will help consumers to monitor their own usage and adjust behaviors. The proposed systems will eventually regulate automatically by operating during off-peak energy hours and connect to sensors to monitor occupancy, waste collection system, lighting conditions, and also optimized irrigation management for those attributes are incorporated.

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This is to certify that Mr/Ms. Jyotika Reddy

has completed internship on Design & Development of Embedded Systems & IOT

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We wish this intern all the best for future endeavours.

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Managing Director

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DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the **"ANTIPHOTOGRAPHY SYSTEM FOR PHOTOGRAPHY PROHIBITED AREAS"** is a bonafied work carried out by **MAHIMA STARLIN (3GN18EC018), NAGARAJ BIRADAR (3GN18EC022)** and **PALLAVI B (3GN18EC027)** in partial fulfillment of the requirements for the award of degree of Bachelor of Engineering in **ELECTRONICS AND COMMUNICATION ENGINEERING** by the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2021-2022. It is certified that the Project report satisfies the academic requirements in respect of project prescribed for the Bachelor of Engineering VIII semester.

Signature of Guide	Signature of HOD	Signature of Principal
Dr. Praveen Reddy	Dr. Md Bakhar	Dr. Dhananjay D Muktedar
DEPT OF E & CE Guru Nanak Dev Engg. College, BIDAR	Head of E & CE Dept. G.N.D Engineering College BIDAR-585 403. (K.S)	PRINCIPAL Guru Nanak Dev Engg. College BIDAR

MAHIMA STARLIN (3GN18EC018)
NAGARAJ BIRADAR (3GN18EC022)
PALLAVI B (3GN18EC027)

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

NAME OF EXAMINER	SIGNATURE WITH DATE
1) Prof. Nanditha	26/7/22
2) Dr. Sanjeev Sonnad	26/7/22

ABSTRACT

The no-photography policy is a worldwide phenomenon. Photography is banned at places such as museums, courtrooms, shopping malls, industries, defense areas, etc. Eliminating the use of cameras in such places improves the visitor experience. Banning photography is believes to boost security by preventing thieves or terrorists from visually capturing and pinpointing weakness in alarm systems and surveillance. Also, taking photographs after violates copyright protection. Film industry also suffers 1/3 loss due to movie piracy. Hence, there arises a need to prevent this undesired photography, to avoid this heavy loss. Our project provides a solution for this undesired photography to prevent the security and privacy of the site. Our solution is based on detecting the camera's that are capturing pictures of the site. After detection of the camera's a strong light is focused onto the detected camera, which degrades the quality of the captured image, thus rendering the captured photograph useless.

Digital cameras and smartphones with cameras are very common these days. These cameras used a CCD sensor, which is responsible for converting light falling on it into equivalent electric charge and process it into electronic signals. When we visit places such as banks, courts, theatres etc. people tend to capture images of the site which interferes withthe privacy of the site owner. Our project aims at a solution which will detect the cameras which are interfacing with privacy or security of site owner. After detection of the camera,a strong light source i.e. LASER will be focused onto that camera's lens, the highlighted content of the image will be distorted due to overexposure of light.

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DEPARTMENT OF

ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled **"IOT ENABLED SMART REFRIGERATOR"** is a bonafide work carried out by **MUZAMMIL(3GN18EC021), AFNAN(3GN18EC019), SAHIL (3GN18EC039)** in partial fulfillment of requirements for the award of Degree of Bachelor of Engineering in **ELECTRONICS AND COMMUNICATION ENGINEERING** by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during. The year **2021-2022**..The Project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

26/7/22

Prof. POOJA HUGGI
(GUIDE)

Dr.MD BAKHAR
Head of E & CE Dept.
(HOD)
G.N.D Engineering College.
BIDAR-585 403. (K.S.)

Dr. DHANANJAY D.MAKTEDAR
(PRINCIPAL)
PRINCIPAL
Guru Nanak Dev Engg. College
BIDAR

External Viva
PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

Name of the Examiners	Signature with Date
1). Prof. Nanaratha	26/7/22
2). Dr. Sarita Soma	26/7/22

ABSTRACT

The need to interconnect devices over the Internet has led to the development of smart devices, home automation and the Internet of Things (IOT), which is still an emerging phenomenon. As a result of IOT explosion, home appliances are able to be fully connected and controlled through an Intelligent Digital Network (IDN). Nevertheless, futuristic refrigerators will be able to connect to the Internet, which in turn will be able to accept a number of applications. While this brings effectiveness and convenience of connecting household appliances to the Internet, the threat level that is posed by interconnecting these appliances is high because a number of vulnerabilities exists that have potential to be exploited. Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. These had greater importance than any other technologies due to its user-friendly nature.

Keywords—Home automation, Load controlling, Fire detection, Temperature sensing, Motion detection. Lock system, GSM technology.

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Vajre

October 15, 2021

TO WHOM SO EVER IT MAY CONCERN

We are pleased to inform that **Ms. Pahuljeet Kaur D/O Ms Tajinder Kaur** student of **Gurunanak Dev Engineering College, Bidar, Karnataka** has successfully completed her **45 Days Internship as Java Trainer from 1st September, 2021 to 15th October, 2021** under mentorship of **Mr. Saurabh Patel at Vajre India Technologies Pvt. Ltd.**

During this internship, the intern was exposed to various activities and projects in **Java Development Domain.**

The intern was found extremely inquisitive and smart working. She has met the requirement of internship to fulfill the requirement of degree of BE from **Gurunanak Dev Engineering College, Bidar, Karnataka.** Each and every tasks provided were completed on time and the willingness to get into the depth of the subject was revealed.

Team Vajre India Technologies wishes all the best for future endeavors.

Saurabh Patel

(Saurabh Patel)
Authorized Signatory
Vajre India Technologies Pvt. Ltd.

Credential ID: VIT14102021210

CIN Number: U72900JH2020PTC015326

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Mr./Ms. **Pallavi B (3GN18EC027)** from **Guru Nanak Dev Engineering College, Bidar** has successfully completed his/her remote internship program for a duration of 1 month from 30/08/2021 to 29/09/2021. During this period he/she has learned and contributed for a project under Web Development usingLAMP/WAMP domain.

Shaik Imam,
Director

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This is to certify that Mr/Ms. POOJA

has completed internship on Design and Development of Embedded Systems & IOT

from 10th Sept 2021 to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

Managing Director

Managing Director

ARMCORTEX IoT Raspberry Pi Java

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This is to certify that Mr/Ms. Humera Fatima

has completed internship on Design & Development of Embedded Systems & IoT

from 10th Sept 2021 to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

Managing Director

Managing Director

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This is to certify that Mr/Ms. Nameen Sultana

has completed internship on Design & Develop Embedded Systems & IOT

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We wish this intern all the best for future endeavours.

For Inventeron Technologies And Business Solutions LLP

Managing Director

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Project work entitled "**3D HALOGRAPHIC DISPLAY WITH GESTURE CONTROL**" a bonafide work carried out by ASHWINI(3GN17EC011), AMBIKA(3GN17EC007), SHESHADRI A(3GN18EC042) in partial fulfilment for the award of degree of Bachelor of Engineering in Electronics and Communication Engineering from Visvesvaraya Technological University, Belagavi during the academic year 2021-2022. It is certified that all the corrections / suggestions indicated for internal assessment have been incorporated in the report deposited in the department library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

Prof. RAMESH PATIL (GUIDE)	Dr. MD BAKHAR (HOD)	Dr. DHANANJAY D. MAKTEDAR (PRINCIPAL)

Head of E & CE Dept.
G.N.D Engineering College
BIDAR-585 403. (K.S)

External Viva

Name of Examiners	Signature with Date
1) Prof. Mamatha	25/1/22
2) Dr. Savita Soma	25/1/22

PRINCIPAL
Guru Nanak Dev Engg. College, Bidar

ABSTRACT

Hologram makers render 3D projections whether it's inside a glass tube or suspended in thin air. 3D multi dimensional images enable users to interact with content in a totally unique way from a 360-degree seeing point. The way to the operation of holographic projectors is the 3D image. A holographic projector utilizes part illuminations reflected together from multiple viewing angles of the subject in a combined form to reproduce a picture of the subject in a 3D state. Our system produces holographic projections created through anticipated picture by refraction through the interference design, losing barely any light, and working with substantially more productivity.

Our system uses a raspberry pi controller based system to achieve such holographic projections. We then use a display to provide part live videos to the projector setup in order to get the desired 3d hologram.

Our frame is constructed to project image in 3d state using a clear pyramid frame in an accurately designed 3d reflective state. Now we use a gesture sensing board for raspberry pi to detect the gestures by user and then use it to forward or rewind to previous projections without even touching the panel. Thus we successfully an efficiently designed 3D holographic display system with gesture interface controller.

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This is to certify that Mr/Ms. Syeda Khizra Tasneem

has completed internship on Design and Development of Embedded Systems & IOT

from 10th Sept 2021 to 10th Oct 2021 successfully

We wish this intern all the best for future endeavours.

Managing Director

ARMCORTEX IoT

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This is to certify that

RABIYA BASREEN

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This is to certify that the project work entitled "SUSPICIOUS ACTIVITY TRACKING & DETECTING AI CAMERA" is a bonafide work carried out by, SIDDRAMAPPA LAMBU (3GN18EC047), RAHUL SHAMBHU (3GN18EC033), SUDEEP (3GN18EC050) in partial fulfillment for the award of Degree Bachelor of Engineering in ELECTRONICS AND COMMUNICATION ENGINEERING from the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI during the academic year 2021-2022. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

Prof. NAMRATHA. E	Dr. Md BAKHAR	Dr. DHANAJAY D.MAKTEDAR
(Guide)	(HOD)	(Principal)
		PRINCIPAL Guru Nanak Dev Engg. College BIDAR

EXTERNAL VIVA

Name of examiner		Signature with Date
1) Dr. Savita Sonna	PRINCIPAL Guru Nanak Dev Engg. College, Bidar	26/7/22
2) Prof. Namratha		

ABSTRACT

Recognition of suspicious human activity from surveillance video is an active research area of image processing and computer vision. Through visual surveillance, human activities can be monitored in sensitive and public spaces such as bus stations, railways railway stations, airports, banks, shopping malls, schools and colleges, parking lots, roads, etc. to prevent terrorism, theft, accidents and ,chain snatching, crime and other suspicious activities. It is very difficult to continuously monitor public places, therefore, intelligent video surveillance that can track human activities is required in real-time and categorize them as usual and unusual activities; and can generate alerts. The last decade has witnessed a large number of publications in the field of visual surveillance recognize abnormal activities. In addition, several surveys can be seen in the literature to recognize various abnormal activities; but none of them deal with it differently abnormal activity in the review. In this paper, we present the state of the art demonstrating the overall progress in recognizing suspicious activities from surveillance videos in last decade.In general, we discussed all steps taken to recognize human activity from surveillance videos such as foreground object extraction, tracking-based object detection or non-tracking methods, feature extraction, classification; activity analysis and recognition.

key words : Suspicious Activity, AI Camera, Machine Learning, Google Teachable, Recognition

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Construction Industry Development Council
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Engineering Council of India

Certificate of Completion

This is to certify that Mr./Ms. ***Shagufta Naaz*** *student* of ***6th*** Sem, ***Guru Nanak Dev Engineering College Bidar*** has completed the industry oriented internship conducted from ***18.09.21*** to ***16.10.21***.

The opted course is ***Remote Sensing and Drone Technology.***

New Delhi
Date: 20/10/2021

Dr. P.R. Swarup
D.G., CIDC

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CERTIFICATE OF INTERNSHIP

This is to certify that Mr/Ms. Shweta Bhalke

has completed internship on Design and Development of Embedded System & IoT

from 10th Sept 2021 to 10th Oct 2021 successfully.

We wish this intern all the best for future endeavours.

for Inventeron Technologies And Business Solutions LLP

Managing Director

Managing Director

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Java

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CIN: U72900TN2020PTC137501
Email ID: mehuljindal18@gmail.com | Contact No.: +91 88706 [illegible]

Date: 14/10/2021

TO WHOM IT MAY CONCERN

This is to certify that **Ms. Sneha Prabhu**, student of **Guru Nanak Dev Engineering College, BIDAR**, has successfully completed a Summer Internship in the field of **Sales** during the month of **September 2021** under guidance of **Mehul Nath Jindal**.

During the period of her internship program with us, she focused on designing and running ads campaigns for the company. She was found to be a diligent and hardworking employee and showeased a good work ethic during her tenure.

We wish her the very best for all her career endeavors.

For and on behalf of

AURORAX PRIVATE LIMITED

MEHUL NATH JINDAL

Director

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This is to certify that the project work entitled "**DAM WATER LEVEL MONITORING AND ALERTING SYSTEM USING IOT** " is a bonafide work carried out by, RABIYA BASREEN(3GN18ECO32),ROHINI P CHAVAN (3GN18EC035),USHA RANI(3GN18EC057) in partial fulfillment for the award of Degree Bachelor of Engineering in ELECTRONICS AND COMMUNICATION ENGINEERING from the VISVESVARAYA TECHNOLOGICAL UNIVERSITY,BELAGAVI during the academic year 2021-2022. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

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Prof. PRADEEP K	Dr. Md BAKHAR	Dr. DHANAJAY D.MAKTEDAR
(Guide)	(HOD)	(Principal)
DEPT OF E & CE Guru Nanak Dev Engg College, BIDAR (K S)	Head of E & CE Dept. G.N.D Engineering College BIDAR-585 403. (K.S)	PRINCIPAL Guru Nanak Dev Engg. College BIDAR

EXTERNAL VIVA

Name of examiner	Signature with Date
1) Prof. Nanaraddi	26/12/22
2) Dr. Sarita Soora	26/12/22

ABSTRACT

Far ago, human based resistive mechanisms towards flood control open up multitude problems like dynamic reactions of prior alert about the risky situations and stage of current water level. The growth of Internet of Things (IOT) paved the significant attention in all fields. The objective we propose in this paper is the application system with integration of Internet of Things to ensure the safety to the public about the prior alerting of flood occurrence due to the increase in the water level in dams/reservoirs. To achieve the objective cloud database technique is maintained which encapsulate the periodic monitoring water level data and vicinity information. The sensor data is collected periodically that are uploaded to the cloud database where the automatic comparison analytics about the increase in water level is noted. Thus, the prior stages of rise in water level are automatically alerted to the public respectively. Finally, it was observed that the level of accuracy is grown by this technique in comparison with ordinary method of monitoring and alerting system.

Keywords: Internet of Things, water level, stage -wise warning caution

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