MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

Autonomous Institution – UGC, Govt. of India

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA

Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

A.Y : 2022-23 VOL.2

Under

Student Chapter IEEE, IETE & Technical Association Electropheenix

ELEKTOR

HALF YEARLY TECHNICAL MAGAZINE

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

E E E

www.mallareddyecw.com

DEPARTMENT VISION

- To develop competitive industry ready electrical engineers by establishing traditions, by providing creativity and growth of excellence to effectively meet the technological requirements.

Vision

DEPARTMENT MISION

- To develop proficiency by imparting application oriented knowledge and inculcate analytical thinking to solve the technological problems associated with analysing, designing and testing electrical systems.

Mission

ABOUT THE DEPARTMENT

The Department of Electrical & Electronics Engineering is accredited by NBA, with an intake of 60 students. The Dept. has state of the art laboratories with latest softwares like MATLAB, ORCAD, SCI LAB, PSPICE and Multisim. We have well qualified faculty members. Several faculty members have received their best teacher awards from institutions of International repute and have been working on research and development projects and regularly publish their work in international journals and conferences. EEE department faculty teams attained patent rights for their technological innovations. The Dept. established IEEE, ISTE student chapters under which it organizes National Level Technical Symposium -FUTURE SASTRA & State Level Technical Symposium- MEDHA every academic year. The Dept. organized National conference on "Emerging Trends in Electrical Systems & Engineering" NCETESE, International Conference on "Emerging Trends in Electrical Systems & Engineering"(ICETESE) every year since 2014, The Dept. organizes Faculty Development Programmes, Refresher courses and workshops in different streams and Student Development Programmes like Workshops, intra college conferences, Industrial visits , Guest lectures and our students actively participate in hackathon programmers conduct at state and National level. Our students are actively participated and won prizes in curricular activities organized by other colleges. The Dept. also organizes regular student seminar sessions of two hours per week for I to IV B.Tech student to enhance their all round performance.

The Dept. also offers value added certification Courses on oxford, Microsoft, CISCO certification through Oxford University, Microsoft Innovation Centre and CISCO Networking Academy respectively. The College Offers Campus Recruitment Training Programmes in collaboration with TIME and FACE Institutions. The Department also publishes the Registered Journal "International Journal of Research in Signal Processing, Computing and Communication-System Design (IJRSCSD) with an ISSN: 2395-3187.

PO'S

PO1	Engineering knowledge	An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling
PO2	Problem analysis	An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components
PO3	Design / development of solutions	An ability to design a complex electronic system or process to meet desired specifications and needs
PO4	Conduct investigations of complex problems	An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
PO5	Modern tool usage	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice
PO6	The engineer and society	An understanding of professional, health, safety, legal, cultural and social responsibilities
PO7	Environment and sustainability	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
PO8	Ethics	Apply ethical principles, responsibility and norms of the engineering practice
PO9	Individual and team work	An ability to function on multi-disciplinary teams.
PO10	Communication	An ability to communicate and present effectively
PO11	Project management and finance	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
PO12	Life-long learning	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

PSO'S

The graduates of the department will attain:

PSO1: The ability to analyze, design and implement application specific electronic system for complex engineering problems for analog, digital domain, communications and signal processing applications by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

PSO2: The ability to adapt for rapid changes in tools and technology with an understanding of societal and ecological issues relevant to professional engineering practice through life-long learning

PSO3: Excellent adaptability to function in multi-disciplinary work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

PEO'S

PEO1-PROFESSIONAL DEVELOPMENT

To develop in the students the ability to acquire knowledge of Mathematics, Science & Engineering and apply it professionally within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability with due ethical responsibility.

PEO2-CORE PROFICIENCY

To provide ability to identify, formulate and solve engineering problems with hands on experience in various technologies using modern tools necessary for engineering practice to satisfy the needs of society and the industry.

PEO3- TECHNICAL ACCOMPLISHMENTS

To equip the students with the ability to design, experiment, analyze and interpret in their core applications through multi disciplinary concepts and contemporary learning to build them into industry ready graduates.

PEO4- PROFESSIONALISM

To provide training, exposure and awareness on importance of soft skills for better career and holistic personality development as well as professional attitude towards ethical issues, team work, multidisciplinary approach and capability to relate engineering issues to broader social context.

PEO5- LEARNING ENVIRONMENT

To provide students with an academic environment and make them aware of excellence, leadership, written ethical codes and guidelines and the life-long learning to become a successful professional in Electronics and Communication Engineering

MESSAGES

Founder Chairman's Message

Ch. Malla Reddy

Founder Chairman, MRGI
Hon'ble Minister, Govt. of Telangana State

MRECW has made tremendous progress in all areas and now crossing several milestones within a very short span of time and now I feel very happy to know that the students and faculty of the EEE department of MRECW are bringing out the volume-2 of the Technical magazine Technitronix in A.Y 2022-23. As I understand this magazine is intended to bring out the inherent literary talents in the students and the teachers and also to inculcate leadership skills among them. I am confident that this issue will send a positive signal to the staff, students and the persons who are interested in the educational and literary activities.

Principal's Message

I congratulate the department of EEE, MRECW for bringing out the issue of the prestigious half yearly department technical Magazine Technitronix under A.Y: 2022-23, I am sure that the magazine will provide a platform to the students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and will also strengthen the all round development of the students. I am hopeful that this small piece of literary work shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well. My congratulations to the editorial board who took the responsibility for the arduous task most effectively. I extend best wishes for the success of this endeavor.

Dr. Y. Madhavee Latha

Principal

HOD'S MESSAGE

It is an occasion of great pride and satisfaction for the department of EEE, MRECW to bring out the issue of the half yearly of the Technical magazine Elektor in A.Y 2022-23, it gives me immense pleasure to note that the response to the magazine has been over whelming. The wide spectrum of articles gives us a sense of pride that our students and faculties possess creative potential and original thinking in ample measures. Each article is entertaining interesting and absorbing. I applaud the contributors for their stimulated thoughts and varied hues in articles contributed by them.

Dr. S.Vijaya Madhavi

HOD EEE

CSE - IOT

ABOUT THE DEPARTMENT

Internet of Things (IoT) is an interdisciplinary program which has its application enormously increased in the past few years; it has a vast scope of usage. IoT generally refers to a growing network of internet-connected devices that find various applications in engineering and sciences. When objects are interconnected across the world it allows people to be connected anytime. Connected things shall ease human life. As an example, from urban transport to medical devices, home electronics and appliances to cars, heart monitoring implants and many more.

HOD'S MESSAGE

Dr. S. Pradeep

HOD – CSE (IOT)

It is an occasion of great pride and satisfaction for the Department of CSE- IOT, MRECW to bring out the inputs of the Half –Yearly Technical Magazine **"ELEKTOR"** under Academic year 2022-23 . It gives me immense pleasure to note that the response to the magazine has been overwhelming. The wide spectrum of articles gives us a sense of pride that our students and faculties posses creative potential and original thinking in ample measures. Each article is entertaining interesting and absorbing.

I applaud the contribution for their stimulated thoughts and varied hues in articles contributed by them.

SCIENTIST OF THE HALF YEAR

Michael Faraday

Michael Faraday (17911–1867) FRS was an English natural philosopher who contributed to the study of electromagnetism and electrochemistry. His main discoveries include the principles underlying electromagnetic induction, diamagnetism and electrolysis. As a young man in London, Michael Faraday attended science lectures by the great Sir Humphry Davy. He went on to work for Davy and became an influential scientist in his own right. Faraday was most famous for his contributions to the understanding of electricity and electrochemistry.

Faraday is most famous for his contributions to the understanding of electricity and electrochemistry. In this work he was driven by his belief in the uniformity of nature and the interconvertibility of various forces, which he conceived early on as fields of force. In 1821 he succeeded in producing mechanical motion by means of a permanent magnet and an electric current—an ancestor of the electric motor. Ten years later he converted magnetic force into electrical force, thus inventing the world's first electrical generator.

In the course of proving that electricity produced by various means are identical, Faraday discovered the two laws of electrolysis: the amount of chemical change or decomposition is exactly proportional to the quantity of electricity that passes in solution, and the amounts of different substances deposited or dissolved by the same quantity of electricity are proportional to their chemical equivalent weights. In 1833 he and the classicist William Whewell worked out a new nomenclature for electrochemical phenomena based on Greek words, which is more or less still in use today—*ion*, *electrode*, and so on.

FACULTY ARTICLES

Electric Ships

In the last few years, the carbon footprint produced by the international shipping industry has become a well-known fact. According to a study conducted by the International Maritime Organization, the maritime sector produced 940 million tonnes of CO2 per year, contributing between 2.5% and 3% of global greenhouse gases emissions. To find an alternative to fossil fuels, the sector has been working on different solutions, including electric ships powered by lithium-ion batteries, which are usually the biggest individual batteries in the whole electric vehicle sector. The use of electric ferries, tugboats, and container ships in the maritime industry is on the rise. As the world looks to reduce greenhouse gas emissions and combat climate change, the shift toward electric propulsion in the shipping industry is becoming increasingly important. This article, will explore the market trends, advantages, disadvantages, technologies used, supply chain, manufacturers, disruption, and other salient points related to the use of electric ferries, tugboats, and container ships.

Dr.N.Vengadachalam
Assoc.Professor,EEE

Thermoelectric Generators

Thermoelectric generators (TEGs) use heat—or more accurately, temperature differences—and the well-known See beck effect to generate electricity. Their applications range from energy harvesting of available heat and especially “wasted” heat in industrial and other situations, to being the heat-to-electrical energy converter using radioactive-based powers sources for spacecraft in radioisotope thermal generators (RTGs). TEG-based RTGs use the heat of natural decay of plutonium-238. They have been used in nearly every space mission since 1961 (see References) as well as for remote Earth-based applications. They don’t get a lot of attention compared to highly visible, clean-looking, often dazzling solar panels in space, but the reality is that solar panels alone can’t provide adequate power themselves, even for many orbiting or close-to-Earth missions.

Dr. G. Dinesh Kumar
Professor, EEE

India's EV Economy

India is the third largest automobile market globally in terms of sales, ahead of Germany and Japan. The Indian government has set a target to achieve 30 percent electrification of the country's vehicle fleet by 2030, and has introduced several incentives and policies to support the growth of the EV industry. The industry was given a major boost in the FY24 Union Budget for the production of electric vehicles, adoption of hydrogen fuel, and embracing changing technologies. In the 2023-24 Union Budget, Finance Minister Nirmala Sitharaman announced a budget allocation of INR 35,000 crore for crucial capital investments aimed at achieving energy transition and net-zero targets by 2070. Furthermore, she stated that the government will support Battery Energy Storage Systems with a capacity of 4,000 MWH through viability gap funding. For electric vehicle manufacturers, the government has already launched initiatives such as the Faster Adoption of Manufacturing of Electric Vehicles Scheme – II (FAME – II) and the Production Linked Incentive Scheme (PLI).

Dr.K.Chandran
Professor,EEE

Infineon Technologies to Acquire GAN Systems

Infineon Technologies and GAN Systems announced that the companies had signed a definitive agreement under which Infineon will acquire GAN Systems for US$830 million. GAN Systems is a global leader in developing GAN-based solutions for power conversion. The company is based in Ottawa, Canada, and has more than 200 employees. Infineon's GAN roadmap will move a lot faster after the planned acquisition. This is because GAN Systems has research and development resources, an understanding of applications, and a pipeline of customer projects that no other company has. It will also strengthen Infineon's position as the leader in power systems by helping the company master all relevant power technologies, such as silicon, silicon carbide (SiC), and gallium nitride (GAN).GAN provides customers with value as a wide bandgap material by increasing power density, efficiency, and size reductions, particularly at higher switching frequencies. GAN is well suited for various applications thanks to these characteristics, which enable energy reductions and small form factors.

Dr. B.Madusudhan Reddy
Professor, EEE

EV Fast Charging Stations

Despite the increasing number of electric vehicle (EV) manufacturers and government incentives, the adoption of electric vehicles has not yet skyrocketed. One reason for this may be the longer charging time compared to filling up a traditional car with gasoline. However, experts believe that advancements in fast charging technology with improved sustainability and lower costs will be a major driver for the proliferation of EV fast charging stations, which in turn will drive the growth of the electric vehicle market. As a result, there is a lot of research and development happening in this field, with various companies and organizations introducing their own fast charging methods, some of which can charge a vehicle in as little as 10 minutes. DC fast chargers are significantly faster than regular AC charging stations taking between 15 and 45 minutes to charge most passenger electric vehicles up to 80 percent—making it quick and easy to charge on the go.

Dr.A.Bala krishna
Assist.Professor,EEE

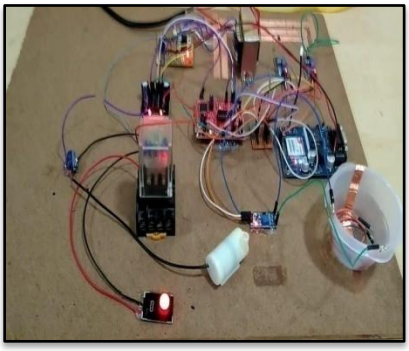
Standby Solutions to Prevent Power Failure

Comprehensive Solutions providing essential backup power is the only sure way to guarantee you can continue to operate keeping the lights on during outages. FACT- All applications are dependent having a secure electrical supply. Power Continuity has a Proven Track record that priorities efficient uninterruptible power security. Every site requirement is bespoke to your organisation. Our engineers carry out the feasibility survey and thereafter, we design the complete integration and commissioning. Critical mission business operations require absolutely 100% Total NO Break Power uninterruptible power protection solutions, to prevent power failure, 24 hours a day.Power Continuity standby solutions are automatically activate in the event of a GRID failure providing seamless emergency power to ensure your operations continue to operate without any power disruption. 100% No Break Power.

Mrs.P.Radhika
Assist. Professor, EEE

STUDENT ARTICLES

AI BASED INDUSTRIAL SAFETY SYSTEM

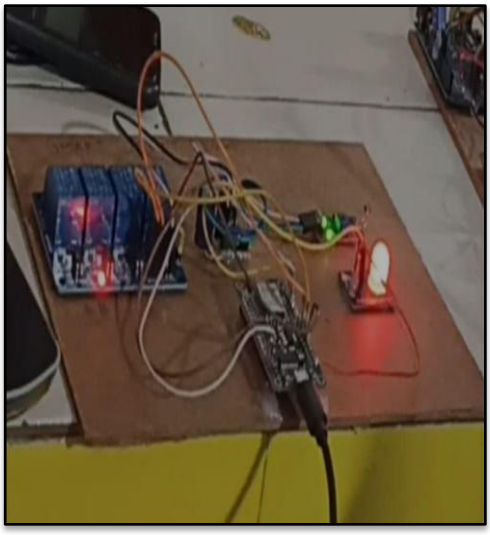


This industrial safety system aims to decrease the damage caused by fire outbreaks in industries due to leakage in petroleum, chemicals, and kerosene oil, which results in human loss and property damage. It is important to have a system in every place that can keep locations secure and appropriately give an alert in case of an emergency. It can also send the information to the Occupational Safety (OSH) team so that they can save and help the people in the workplace.

The MQ-2 gas sensor is used to detect smoke and methane, while the DHT-11 sensor is used to record temperature and humidity. If harmful gases get leaked the sensors get active and send the information to the Arduino and the buzzer gets active and gives an alert to the people nearby. Electrical power systems are extremely huge and complex networks. Such electric power systems provide a secondary source of energy essential to meeting man's needs, improve living standards and boost socio-economic development. These systems are integrated to provide economic benefits, increased reliability, operational advantages .

20RH1A0233(Veena R),20RH1A0244(Y Jyothsna sri),21RH5A0225(P Keerthana)

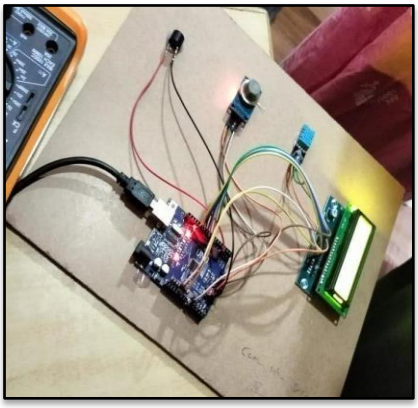
SMART STREET LIGHT



The IOT (Internet of Things) is a blooming technology that mainly concentrates on the interconnection of devices or components to one another and the people. As the time being, many of these connections are changing as ―Device – DeviceII from ―Human to Device. Finding the faulty street light automatically is become a vital milestone by using this technology. The primary goal of the project is to provide control and identification of the damaged street light automatically. The lighting system which targets the energy and automatic operation on economical affordable for the streets and immediate information response about the street light fault.

20RH1A0206(Ch.Alekhya), 21RH5A0210(E.Hrudaya), 20RH1A0217(K.Snigdha Reddy)

COAL MINE SAFETY ALERT SYSTEM

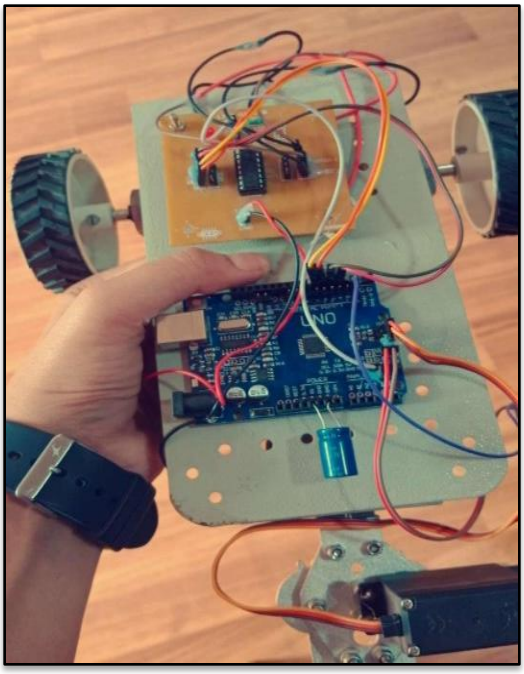


In order to further improve the safety production management capacity of coal enterprises and minimize the rate of coal mine safety accidents, based on the purpose of improving safety production efficiency, this paper constructs a coal mine safety detection system based on GIS technology. At the same time, on the basis of fixed-point positioning and remote monitoring at the PC end, this paper implements the whole process detection and monitoring of coal mine safety production with the help of mobile terminal intelligent system.

The system software uses Java language to code it. In the first round of test, one function omission, three serious system errors, 14 general errors, and 21 minor errors are found. The accident passing rate of the second test is greater than 99.88%, and all performance indexes of the system meet the performance requirements, which proves the feasibility of the system.

21RH1A0205(Chendireddy Hema), 21RH5A0212(J arshitha), 21RH1A0245(Y Sai bhavani)

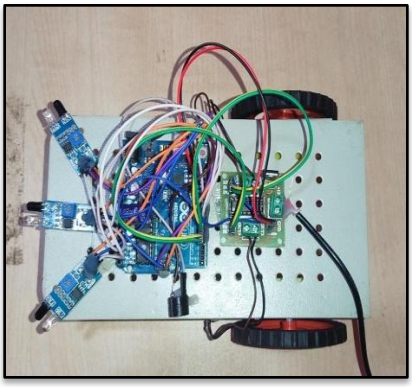
BOMB DIFFUSION ROBOT



The present world everyone is in need about the safety due to increase in crime rate this has led to an increase in importance of surveillance system. Surveillance is the monitoring of behavior activities or other changing information usually of people for the purpose of influencing, managing, directing or protecting them. Project is to design and build a manually controlled surveillance robot. The main purpose of the robot is to be able to roam around in a given environment while transmitting back real time data (video) to the ground station. This real time data can then be used by the controller (human) to move the robot around. This robot is mainly designed for army operations which has robotic arm in front to do pic and place operation and etc which is very useful for ARMY application.

20RH1A0205(S.S.SHREYA), 21RH5A0212(R.VINEELA), 20RH1A0245(P.POOJA)
20RH1A0245 (R.PRAVALIKA)

MEDIAN ACCIDENT ALERT SYSTEM

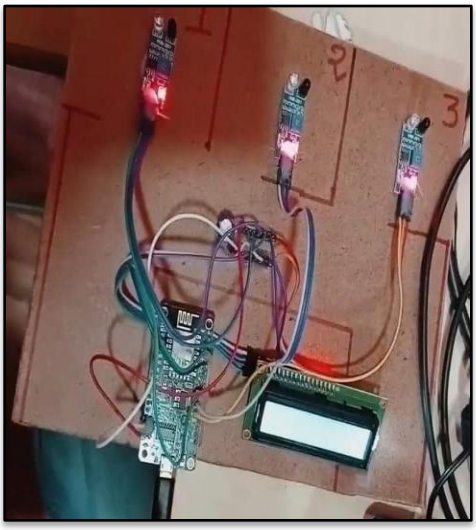


In this project, we present an idea to develop a system that can be inbuilt in a car which will help the user to avoid road accidents. Nowadays road accidents are one of the major concerns in our country. One of the major types of accidents to be concerned about is Median Accidents. The speeding vehicle either runs into a divider that appears from nowhere or hits the side of the median strip then flips, and rolls into oncoming traffic. The existing vehicle system has the mechanism of detecting objects only at the rear end of the car.

Unfortunately, this couldn't avoid median accidents; hence, we propose a system that could detect the objects approaching the car from all sides. In our prototype, we use Infrared sensors. One is placed at the front side, detecting medians approaching from the front end. One Infrared sensor is placed each at both sides of the car sensing the proximity medians approaching from the sides (Left and Right). The motor in the vehicle is further responsible for the tilt in the steering.

20RH1A0223(Navyasri S),20RH1A0203(B Himabindu),21RH5A0222(N Manaswini)

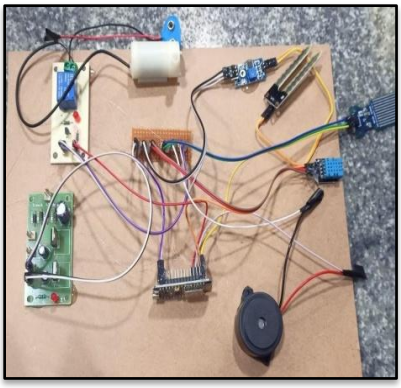
PARKING SLOT AVAILABILITY GOVERNING OVER IOT



Now days in many multiplex systems there is a severe problem for car parking systems. There are many slots for car parking, so to park a car one has to look for the all lanes. Moreover there is a lot of men labour involved for this process for which there is lot of investment. So the need is to develop a system which indicates directly which parking slot is vacant in any lane. The project involves a system including infrared transmitter and receiver in every lane and a LED & LCD display. So the person entering parking area can view using IoT module involved and can decide which slot to enter so as to park the car. Conventionally, car parking systems does not have any intelligent monitoring system. Parking slots are monitored by human beings.

20RH1A0249(K. Niharika), 21RH5A0247(K. Srilekha), 20RH1A0229(P. Anusha)

ANALYSIS OF CROP USING IOT

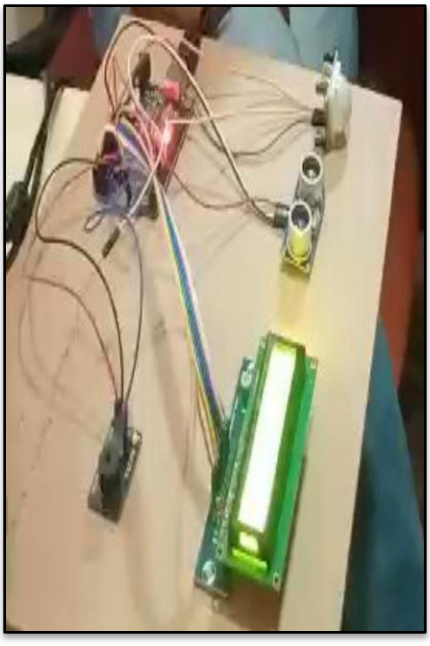


Internet of things (IOT) and Artificial Intelligence (AI) has become most important technologies of the recent years. They have successfully revolutionized the agriculture industry in many ways. These technologies are used for overcoming the most common problem the world is facing, i.e., narrowing the gap between food demand and supply. The application of IOT with AI, just like in other sectors, is changing the game majorly in the agricultural sector as well. IOT in agriculture can be commonly termed smart farming.

This type of hi-tech farming takes a capital-intensive approach, thus making it sustainable for the future. The usage of such systems not only can target large, conventional farming operations but also uplift other modern types of farming such as organic farming, etc. Smart farming based on IOT involves the usage of different kinds of sensors that monitor the field based on weather data, soil moisture, light intensity, humidity, temperature, etc. To meet the rising demand for more food and improve crop quality, farmers must adopt new technologies, and smart farming uses AI and IoT technologies to help farmers improve yield.

20RH1A0216(K.Nikhitha Reddy),20RH1A0218(K.Sreeja),21RH5A0227(P.Nikhitha)

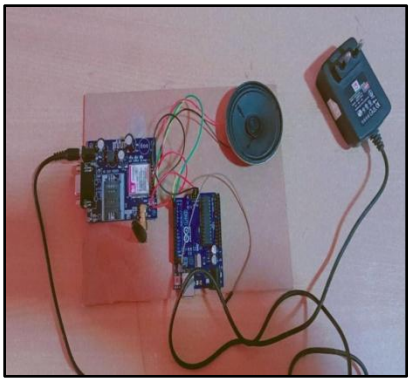
BOREWELL PROTECTION SYSTEM



Present time, children fall in the borewell due to the carelessness nature of the people in society. The currently available systems to save the child are less effective and costly too. Thus the society is in need of a new technique which is more efficient and effective. In most cases reported so far, a parallel hole is dug and then horizontal path is made to reach the child. It is not only a time taking process, but also risky in various ways. The proposed rescue method will guarantee the life of child as we can easily identify the depth of kid inside bore well. In this method the main parts are red light, and body detection system .When a person is coming towards the bore well and walking as like if he enters the distance of 25m near to the bore well then the body detection system detects the person and automatically the red light glows and buzzer makes sound in order to alert the people in surrounding areas.

20RH1A0204(B. Swetha), 21RH5A0226(P. Apoorva), 20RH1A0230(S.SRAP. Apoorva VANI)

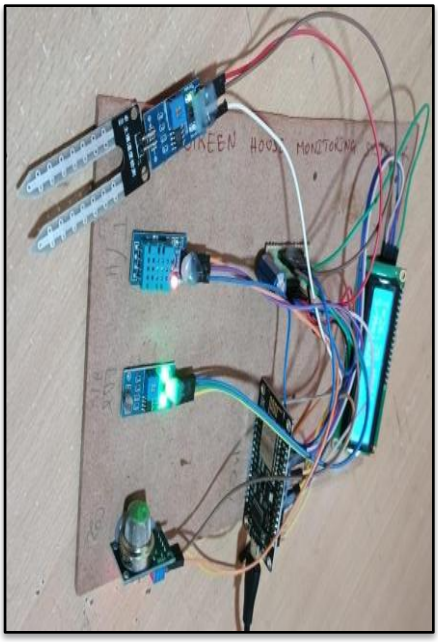
SMART CALL LIFTING



Now a days most of the tribal people doesn't know how to pick the call, in case the mobile is in the silent mode they may not answer the call. If any accidental issues gonna happen at the place they are working, but they information need to be passed through them but they were in the situation of not answering the incoming call by officers. o rectify these problems our idea plays major role. Our idea is based on the smart automation technology. Our idea is when the forest officer calls to a particular person working at the accidental zone then automatically calls picks up and Speaker will be on and the surrounding people can listen and they can escape from there. Secondly, in case of the paralysis and handicapped people they cannot lift the call, in case of this when we have to speak to those people or inform anything in those cases then automatically call picks up and speaker will be on and the person can listen, for this we can include only particular phone numbers. Through our idea we can give information immediately which is affordable, easy access to inform. Hope this technology is worth full and may overcome several issues.

20RH1A0241(T.Lahari),20RH1A0221(N.Deekshitha),21RH5A0209(D.Sanjana)

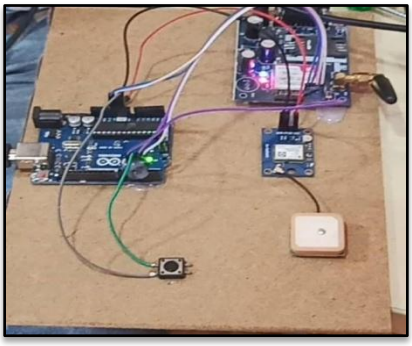
GREEN HOUSE MONITORING AND CONTROLLING SYSTEM



A green house is a closed environment that provides optimal conditions for a pant growth and promotes plant growth by indoor and outdoor environments .A complete greenhouse remote monitoring system first detects indoor environmental elements through various sensors and then uploads the measurements signals to the control platform through wireless methods and the control platform remotely controls various terminal valves in the room. This system mainly measures indoor carbon dioxide ,temperature, humidity, light, soil moisture , soil PH, and air pressure. These factors directly affects the growth of greenhouse plants. The sensor is a key component of the greenhouse remote monitoring system. After the system detects the value deviation, its outputs A signal to the controller of the specific sensor to control the corresponding valve switch and make adjustments in time.

21RH5A0207(K.Manusha), 21RH5A0208(T.Sangeetha), 21RH5A0209(T.Alekhya)

SMART WOMEN SAFETY DEVICE

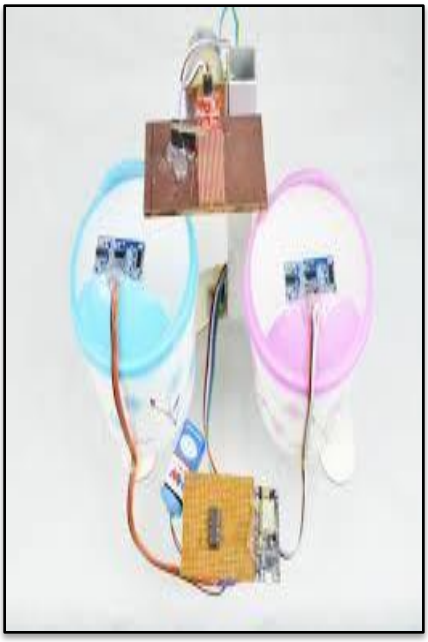


The purpose of this device is to safeguard women in the event they might face any danger. The device uses wireless sensor network communicate and to send alerts to them. The GPS and GSM are used to share the location and shares the video directly to the saved contacts. The proposed work aims at designing an IoT based safety device that relies on providing security to women by fingerprint-based method of connectivity to the device and alerting nearby people and police when a women is not safe.

An unsafe situation is sensed by fingerprint verification for a minute then it will automatically alert nearby people and police if the device senses no signal. Moreover, for first-hand safety, shockwave generator is also designed that women can use to attack the perpetrator. Additional features such as sending group messages, audio recording are also part of the proposed design. A mobile app is designed for women safety where safe locations from victim's current location will be shown on the map so that women can reach the safe place from her current location.

20RH1A0243(V.ANJALI),20RH1A0236(RIYASAHU),21RH5A0207(RACHANA)

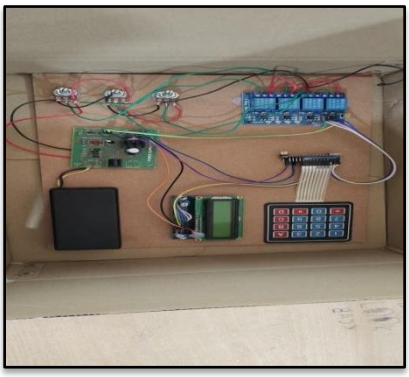
SMART GARBAGE SEGREGATION



In our today's generation the primary and the important problem for our country is waste management. We can observe this anytime that the garbage bins placed at public places in the service of people are many times overloaded making the place look unhygienic with bad smell which can cause many hazardous diseases. To avoid this condition and in concern with the public health and cleanliness of surrounding we are designing IOT based waste management for smart cities. This paper puts forward the design of the system that can show the real time status of all the dustbins located around the city is checked and accordingly the embedded device which helps in measuring the level of the garbage generates the alert signal. When the level of the garbage will reach its maximum limit the signal will be send to the concern authorities with the help of the internet and cleaning of dustbin will be made in action.

20RH1A0214(K.sai swetha), 21RH5A0239(T.supriya), 20RH1A0242(V.sahithya)

UNIVERSAL LAPTOP CHARGER

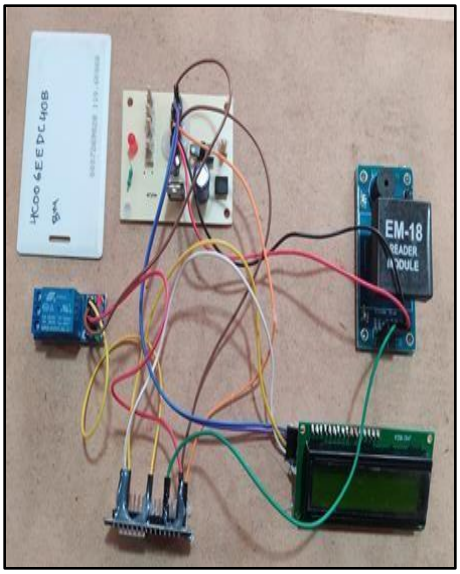


When you own a laptop, you need a reliable power supply. We had developed the universal charger at public places for charging their laptops which has a setup with high power adaptor and keypad module to select the desire laptop for charging, the user has to select the laptop model then that particular channel voltage will be applied. To obtain this we are using 4*4 keypad to select the laptop name, lcd display for user info, so that we can see the model what we have selected.

A universal laptop charger is essentially a regular AC laptop power adapter that has been altered and tweaked to be compatible with more than one type of laptop. There are two main types: those that use interchangeable tips and those that accommodate laptops through the use of an adjustable-length cable. The first kind of universal laptop chargers will have a wide range of different tips on hand for any brand or model of laptop so as long as you have the right tip for your particular system it should work just fine!

21RH1A0210(V.Jai Suda), 21RH1A0211 (V.Jai Suma),21RH5A0212(T.Shilpa)

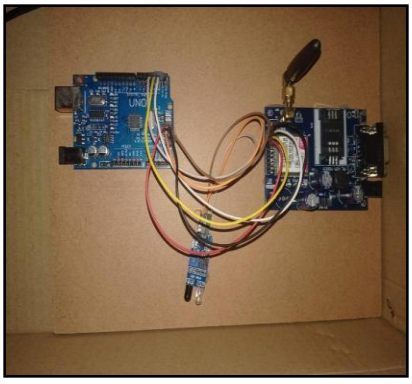
PREPAID SMART METER OVER IOT



This study has specifically focused to develop a IOT Based Prepaid Smart Metering System which would be able to address some of the challenges currently available in the regular digital automated metering system in Eurasia. Smart Metering with its unique performance with the Internet of Things (IOT) tend to be an efficient system for electricity management, secure against the intervention by third parties, and reliable for tracking and real-time remote monitoring. The purpose of this project is to develop a Smart Electricity meter using GSM. This can reduce human errors and helps to retrieve the real time meter value via GSM and send it to customers mobile phone through GSM. This also al- lows electricity board to modify the variable package price in specific duration.

20RH1A0208(Ch. Yamuna), 21RH5A0228(P. Anuhya), 20RH1A0248(G. Priyanka)

SMART ANTI THEFT SYSTEM WITH AUTO CALLING FEATURE

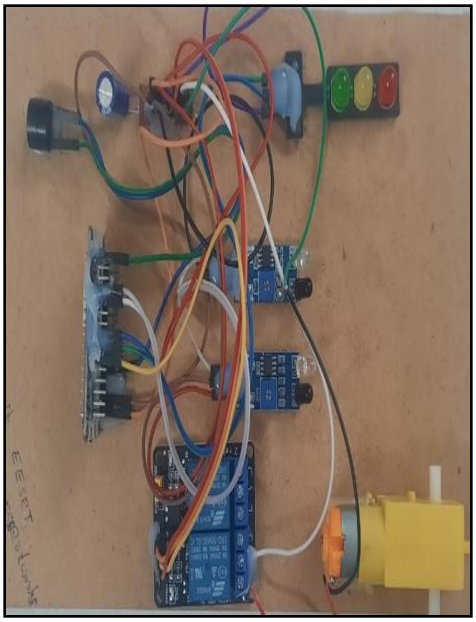


Home security has become a prime concern in recent years. Now a days CCTV (closed-circuit television) camera systems are installed to protect our home and shops from burglary and break-ins. But with our busy lives, it is not possible to monitor it 24*7. So, we need a more reliable and robust smart security system that can notify us when someone enters into our shop or home. This is possible with our smart device that we are going to make. This paper presents design and prototype implementation of a home security system that makes home security more convenient, flexible, and less expensive

The system is based on Arduino, which assists in ensuring residential security. This system includes a PIR sensor, GSM module, Arduino, wires, Battery which provides the ability to monitor their home in real-time from anywhere. This system also provides an auto calling feature. So, this smart device sends or receive data by checking the door status and occurrence of motion. User can easily be connected to the system and will get a call through GSM module to user's phone number whenever a person is detected by a PIR sensor

20RH1A6940(P. Gowthami)

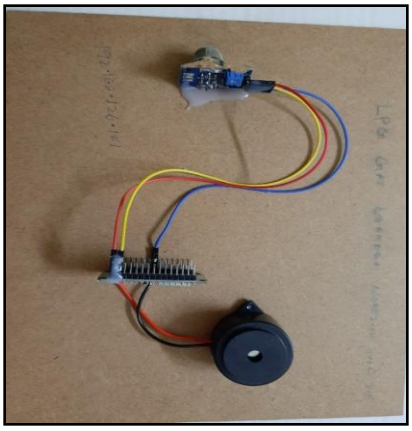
GHAT ROAD ACCIDENT AVOIDANCE



This proposed work is an attempt to design a vehicle alerting system on ghat roads to android device over Bluetooth communication. In ghat roads we cannot predict or see opposite vehicle coming on road, so there are many chances of vehicle getting accident and to avoid them we are using alerting system which detects the vehicle in advance and sends the alert signal to android app. In this project we have proposed a device which has 2 IR sensors to sense vehicle in form analog and gives the same data to 2 Relay modules which can read the same and send the data for sending it to the mobile to get alert when vehicle is crossing. Android device will be paired with hardware system over Bluetooth, we will be having a option to change the Bluetooth device in android application. The entire project works with 9V DC power supply.

20RH1A6929(M.SAISRI)

LPG GAS LEAKAGE ALERTING OVER IOT



Places like industries, hotels, canteens, laboratories, etc. make use of various kinds of flammable gases for example, LPG, carbon dioxide, ammonia, etc. The use of these gases puts all the places mentioned above at risk leading to a threat to damage of life and property due to any kind of leakage of these gases. Safety becomes of utmost importance. This factor leads to a necessity of a gas detection system to be installed at such accident-prone locations for continuous monitoring of any kind of leakage which cannot be detected by the human senses. The proposed system will continuously monitor the surroundings for any leakage

In case of any leakage detection, it will alert the user via a buzzer and by using the Ethernet shield module and an Android application; it will alert the user about the environmental conditions like the gas level and temperature of that location of installation using social media sites like Twitter or via an email notification.

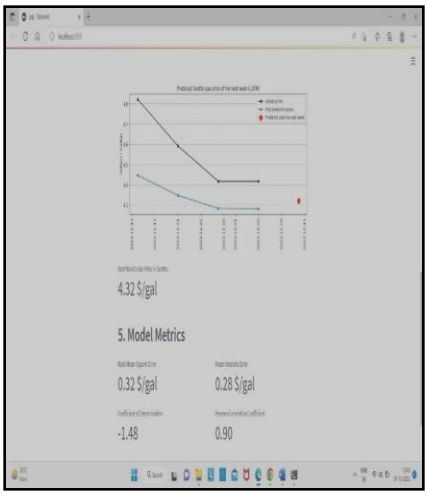
20RH1A6960(Y.MONIKA)

ENSIGHT

Ensight (Educational insight) is an ed tech community start-up run by the students of Malla Reddy College of Engineering for women, Hyderabad. Here we tend to help our fellow batch mates and juniors all over the country. The main aim of ensight is to help those who have doubts related to education, career etc. by connecting them with their seniors or fellows who have already excelled in that particular field (whom we mention as student mentors). In order to get eligible for the mentorship program you must need to enroll first .We also educate students about different fields they can opt for in accordance with their interests and passions. Just something like and career guidance session. We talk about some under explored skills and fields so that students know they don't have to follow what others are doing, they have to be the best in what they are so as to achieve the maximum results

20RH1A6923(K. Sreeja Rani)

RECKONING OF NATURAL GAS PREDICTABITITY INDEX

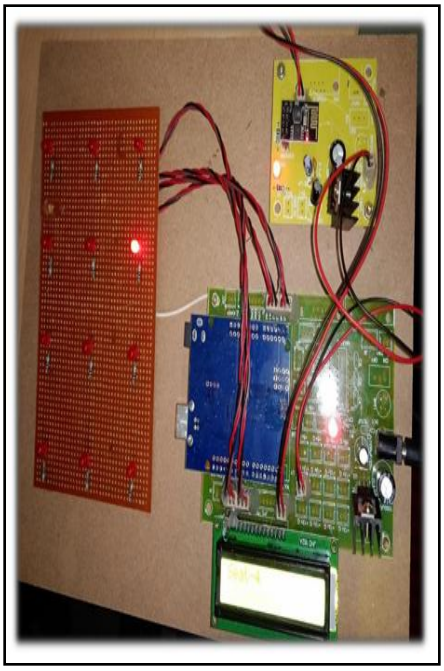


In this paper, we will be predicting the price of natural gas in US markets using statistical modeling methods. We will be studying the usage and comparison of the linear regression models: random forest and Decision tree model. We have used the dataset of natural gas prices in the United States in US dollars per Btu during the period of 1998 through 2020 with a total of 5800 records. Being a supervised learning algorithm random forest performs regression using ensemble learning algorithms. By using the existing prices and comparing them, random forest will forecast the price which will be helpful for the user to estimate the risk in bidding prices. The values of the result are marked up to 97% accuracy

The empirical results show that our suggested approach can handle the boundary problem, such that it facilitates the extraction of the appropriate forecasting results. The performance of the wavelet-hybrid approach was superior in all cases, whereas the application of detail components in the forecasting was only able to yield a small improvement in forecasting performance.

20RH1A6913(G. Vyshnavi)

OBJECT IDENTIFICATION SYSTEM USING IOT



In this project, we propose a methodology to leverage Internet of Things for the identification of seats in theatres. This might not be a serious issue but it is the most common issue faced by the people . Identifying our own place is been a task for the people in crowded and dark areas especially in cinema halls. Leading people cause an inconvenience in their entertainment . Identifying and reaching to their destination without any disturbance is most pacified by the people after all IOT card is used to give people solace and make them ease. The embedded system used in here will make the audience to identify their seat using their mobile phone within no time. Once you enter your screen number and select the seats which is allocated to you ,the lights will highlight the seat allocated indicating the seat is yours and you can reach there. When there is Large crowd this helps you to sort out the seats to make at least little easier.

20RH1A6909(D. Divya Sri)

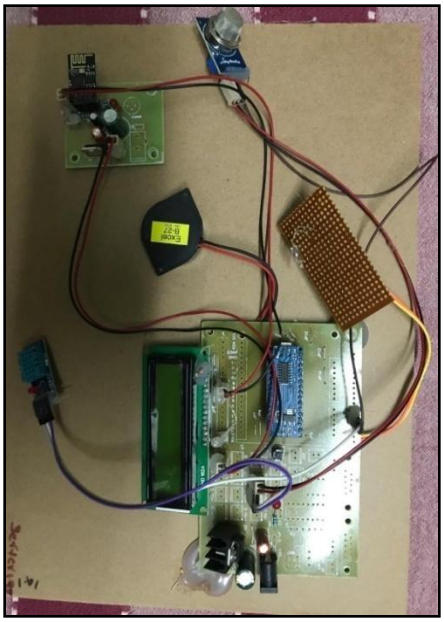
SMART TROLLEY

A creative item with societal acknowledgment is the one that guides the solace, accommodation, and effectiveness in regular daily existence. Acquiring and shopping at enormous shopping centers is winding up day by day action in metro urban areas. We can see huge surge at these shopping centres on siestas and ends of the week. Individuals buy distinctive things and place them in trolley. After fruition of buys, one needs to go to charging counter for installments. At charging counter, the clerk set up the bill utilizing standardized identification per user which is extremely tedious process and results in long line at charging counter

In this paper, we talk about a item “Smart Shopping Cart" being produced to help a man in regular shopping as far as diminished time spent while buying. The primary target of proposed framework is to give an innovation situated, minimal effort, effectively adaptable, and rough framework for helping shopping face to face.

20RH1A6910(D Harshini)

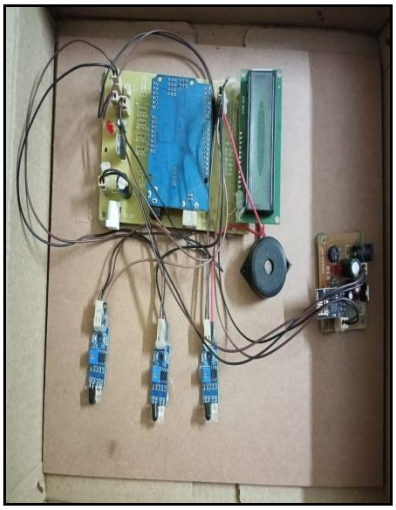
WEARABLE SAFETY DEVICE FOR COAL MINERS



In this project, Worker safety in underground coal mines has always remained a challenging task. Several fatal and non-fatal accidents take place worldwide resulting in casualties and injuries of coal miners. Lack of monitoring of mine environment and working of human and machine in close proximity to each other leads to severe accidents. Study aims to develop a wearable safety device comprising of gas as sensor, temperature and humidity sensors and tilt sensor and Wi-Fi module. Gas sensor detects the presence of Methane (CH4) and Carbon monoxide (CO) .The device triggers alarm when the measured values exceed set threshold limit values (TLVs). The safety device was tested and prototype testing process is reported in the paper. The device reported in this paper detects any machine approaching towards a worker. It also updates in the created website for every 30 seconds.

20RH1A6902(B. Joshna)

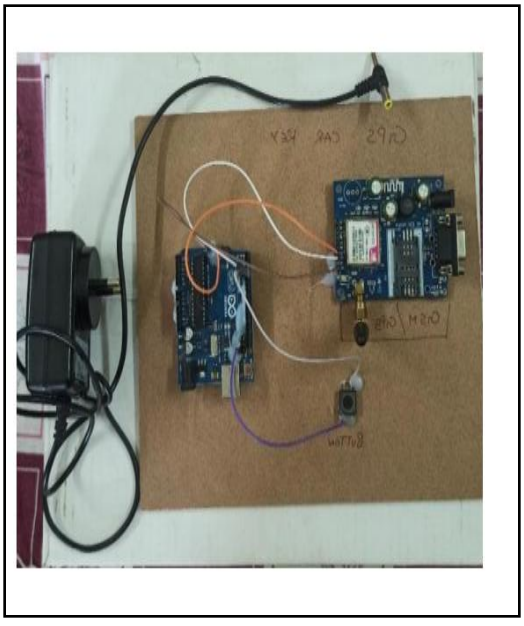
IOT BASED PARKING SYSTEM AND PHONE DISPLAY



Efficient and smart way to automate the management of the parking system that allocates an efficient parking space using internet of things technology. The IoT provides a wireless access to the system and the user can keep a track of the availability of the parking area. With increase in the population of the vehicles in metropolitan cities, road congestion is the major problem that is being faced. The aim of this paper is to resolve this issue. The user usually wastes his time and efforts in search of the availability of the free space in a specified parking area. The parking information is sent to the user via notification. Thus, the waiting time for the user in search of parking space is minimized.

20RH1A6938(N. Kiranmai)

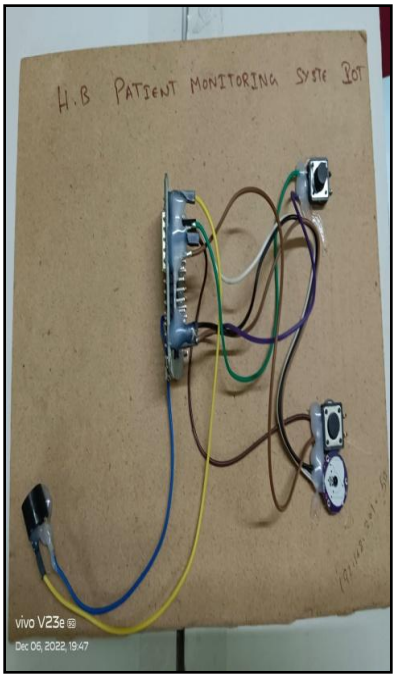
CAR KEY WITH GPS



The main motive of our project is to finding a missing key and tracking with help of gps. Security systems and navigators have always been a necessity of human's life. The developments of advanced electronics have brought revolutionary changes in the fields. we will present key tracking system that employs a GPS module and GSM to find the location of a key. The aim of the project is to find the key. An SMS message is sent to the tracking system and the system responds to the users request by performing appropriate actions. Short text messages are assigned to each of these features. A web page is specifically designed to view the keys location on google maps

20RH1A6943(P.AKHILA)

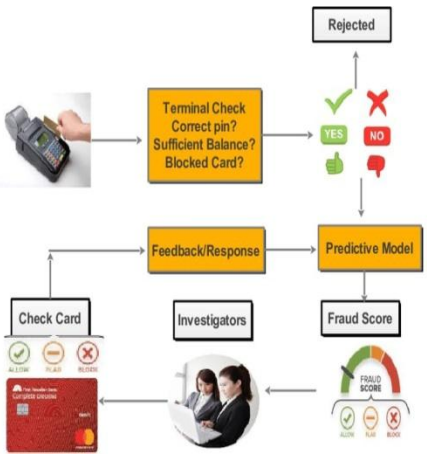
PATIENT HEALTH MONITORING SYSTEM IOT BASED REAL TIME PATIENT MONITORING



Monitoring various parameters of the patient using internet of things. In the patient monitoring system based on Internet of things project, the real-time parameters of patient's health are sent to cloud using Internet connectivity. These parameters are sent to a remote Internet location so that user can view these details from anywhere in the world. There is a major difference between SMS based patient health monitoring and IOT based patient monitoring system. In IOT based system, details of the patient health can be seen by many users. The reason behind this is that the data needs to be monitored by visiting a website or URL. This is one of the Latest Electronics Project Ideas related to Medical applications. One more benefit of using IOT is that, this data can be seen using a desktop computer, laptop, using an Android smart phone comma using a tab or Tablet. The user just needs a working Internet connection to view this data. There are various cloud service providers which can be used to view this data over Internet

20RH1A6941(P.Swejal)

CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING

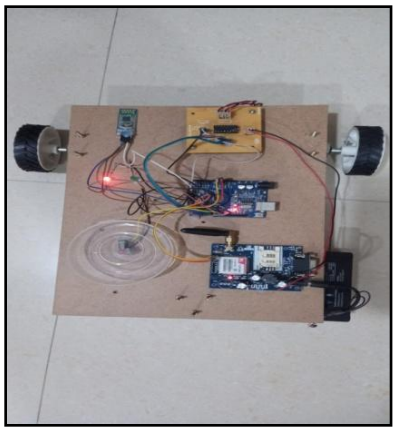


Credit risk is one of the main functions of banking. Banks classify risk according to their profile. Although many algorithms came into existence still the issue is yet to solve. Inexistence, data normalization is applied before Cluster Analysis and the obtained results from Cluster Analysis and Artificial Neural Networks on fraud detection has shown by clustering attributes and the neuronal inputs can be minimized. Significance of the paper is to find an algorithm to reduce the cost measure. The result obtained was 23% and the algorithm used was Minimum Bayesian-Risk (MBR). In proposed system, Random Forest Algorithm is used for classification and regression. Random forest has the advantage over decision tree as it corrects the habit of over fitting to their training data sets

It has been found to provide a good estimate of generalization error and resistant to over fitting. In credit card fraud detection, credit card data sets are collected for trained data sets and user credit card queries are collected for testing data sets. After classification process, Random Forest Algorithm is used for analyzing data sets and current data sets. Finally, the optimization is done and the accuracy obtained by Random Forest is 99.9%.

20RH1A6920(K. NAGAHARATHI)

A WHEEL CHAIR WITH ATTACHED OXYGEN CYLINDER FOR COPD PATIENTS

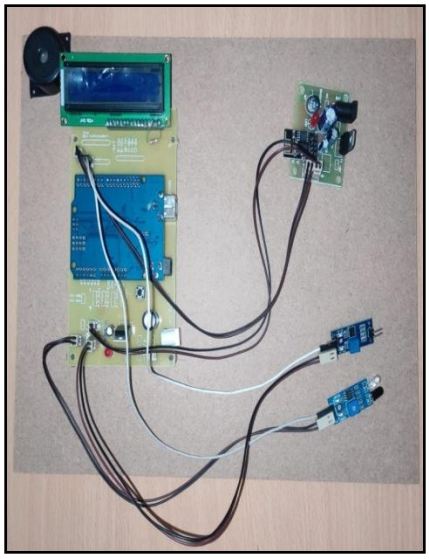


The movement of a person from one place to another during his/her unhealthy conditions becomes a tedious task. It is required to move the patient within the hospital campus for the and helping staff. The main objective of this wheel chair system project is recommended to control a wheel chair by using speech recognition module. The system is designed to control a wheel chair using the commands of person. The objective of this project is to provide the movement of the people who are disabling or handicapped and early people who are not able to move well. The goal of this system will allow

Certain people to live a life less dependence on other for with their movement as a daily need. This can be realized and optimized with use the smart phone device as an intermediary or interface

20RH1A6964(Tippana Chandrika)

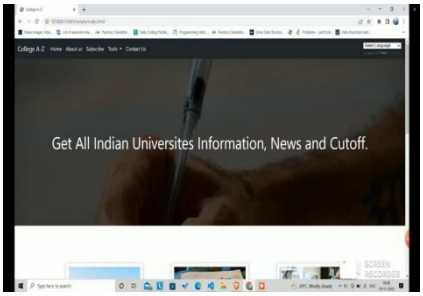
TRACKING, REDUCING AND REUSING OF PLASTIC



The project uses 38 KHz IR signal generated feeding an IR diode which is received bytuned IR receiver. These IR sensors are interfaced to a microcontroller of 8051. The IR transmitter continuously transmits rays over the receiver and when these rays are blocked byany object an interrupt is sent to the microcontroller. The microcontroller according to program written performs the desired action. A lamp is used as load in this project for demonstration purpose. This lamp is actuated by a relay which is interfaced to the microcontroller output. So when the interrupt is sent to the controller, it in turn switches ON the relay to actuate the load. Further the project can be enhanced by using a counting arrangement with a display. This arrangement will be helpful in manufacturing industries where keeping a total count of production is required.

20RH1A6926(M.Santhoshi Pravalika M.Rajasr)

COLLEGES A-Z

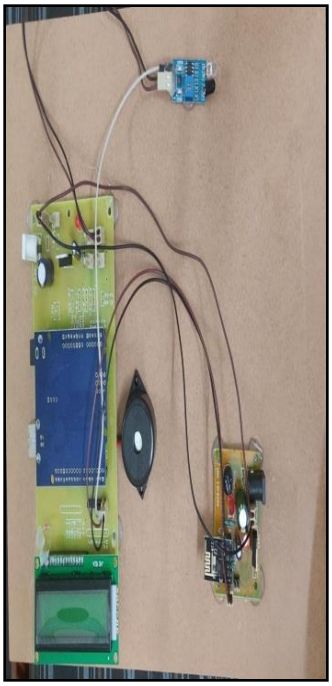


Colleges A-Z is an ed tech community start-up run by the students of Malla Reddy College of Engineering for women, Hyderabad. Here we tend to help our fellow juniors all over the country. The main aim of this insight is to help those Students who had doubts related to colleges, cut offs, career etc. Students in our country might feel confused in choosing college after completion of their Higher Secondary School.Every year, millions of students in the United States graduate high school and set off on their next big adventure. For many of them, that adventure is attending college at one of the country's many universities. If you're preparing to go to college in the next year or two and you only want the best in the India., these are many universities and colleges consistently earn high rankings for academics, program options and other factors and you will get all the information about college infrastructure, fee structure, well-educated faculty, and the placements details and cutoff marks etc...

Graduating from high school and heading off to college is one of the most exciting times in a young person's life, but it also comes with a fair amount of anxiety as both parents and students worry about everything from newfound teen independence to paying for college expenses

20RH1A6919(K Akanksha)

IOT BASED SECURITY SYSTEM



Internet of Things (IoT) conceptualizes the idea of remotely connecting and monitoring real world objects (things) through the Internet. When it comes to our house, this concept can be aptly incorporated to make it smarter, safer and automated. This IoT project focuses on building as mart wireless home security system which sends alerts to the owner by using Internet in case of any trespass and raises an alarm optionally. Besides, the same can also be utilized for home automation by making use of the same set of sensors. The leverage obtained by preferring this system over the similar kinds of existing systems is that the alerts and the status sent by the Wi-Fi connected microcontroller managed system can be received by the user on his phone from any distance irrespective of whether his mobile phone is connected to the internet. The alerts and the status of the IoT system can be accessed by the user from anywhere even where Internet connectivity may not be readily available (since it is not necessary for the mobile phone to be connected to internet only board is required to have an access to Wi-Fi).

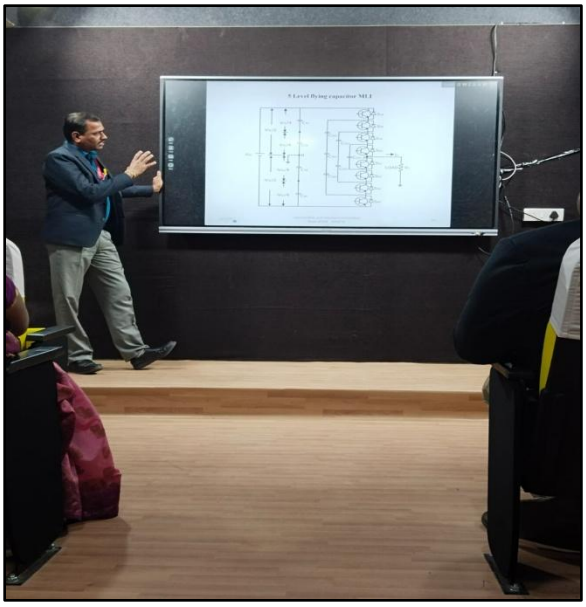
20RH1A6932(M.Harika)

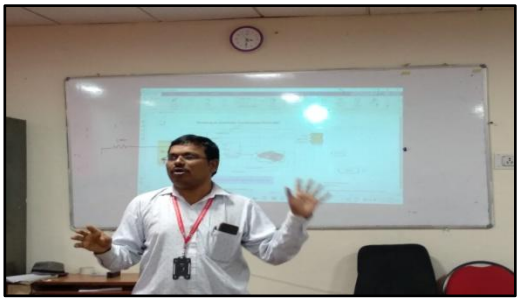
MEMORABLE EVENTS

ONE WEEK FACULTY DEVLOPMENT PROGRAMME ON

MODERN POWER CONVERTERS AND OPTIMIZATION TECHNIQUES FOR ELECTRIC VEHICLES

during 6th to 10th Feb, 2023





PARENT TEACHER MEET

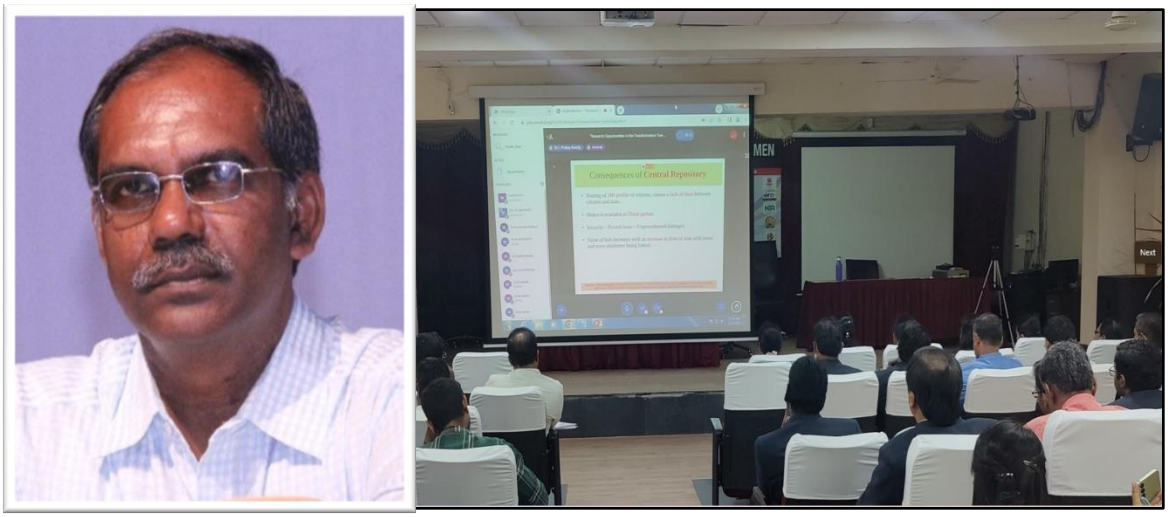
DEPARTMENT OF ECE ACCREDITED BY NBA - 3rd TERM

E-SUMMIT 2K23

EXPERT LECTURE ON

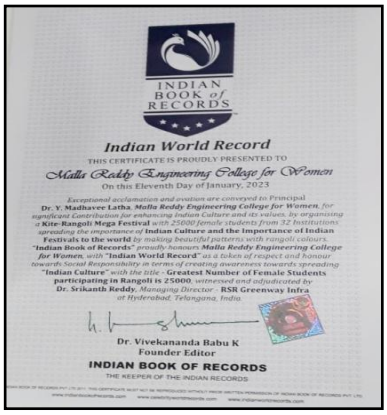
RESEARCH OPPORTUNITIES IN THE TRANSFORMATION TOWARDS DIGITAL ECO SYSTEMS

by **Dr.L. Pratap Reddy**, Professor(ECE), JNTUH



INDIAN WORLD RECORD

Exceptional acclamation and ovation are conveyed to Principal Dr. Y. Madhavee Latha, Malla Reddy Engineering College for Women for significant contribution for enhancing Indian Culture and its values, by organising a Kite-Rangoli Mega Festival with 25000 female students from 32 Institutions spreading the Importance of Indian Culture and Indian Festivals to the World.



INDIAN BOOK of RECORDS

Indian World Record

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Malla Reddy Engineering College for Women

On this Eleventh Day of January, 2023

Exceptional acclamation and ovation are conveyed to Principal **Dr. Y. Madhavee Latha**, ***Malla Reddy Engineering College for Women***, *for significant Contribution for enhancing Indian Culture and its values, by organising a* **Kite-Rangoli Mega Festival** *with 25000 female students from 32 Institutions spreading the importance of* **Indian Culture and the Importance of Indian Festivals to the world** *by making beautiful patterns with rangoli colours.* **"Indian Book of Records"** *proudly honours* ***Malla Reddy Engineering College for Women****, with* **"Indian World Record"** *as a token of respect and honour towards Social Responsibility in terms of creating awareness towards spreading* **"Indian Culture"** *with the title* **"Greatest Number of Female Students participating in Rangoli is 25000,** *witnessed and adjudicated by* **Dr. Srikanth Reddy**, *Managing Director ,* **RSR Greenway Infra** *of Hyderabad, Telangana, India.*

Dr. Vivekananda Babu K
Founder Editor
INDIAN BOOK OF RECORDS
THE KEEPER OF THE INDIAN RECORDS

THE ANNUAL RECOGNITION OF 'TOP WOMEN'S COLLEGE IN INDIA - 2022 BY WOMEN ENTREPRENEUR INDIA MAGAZINE

DR. Y. MADHAVEE LATHA

Principal, Malla Reddy Engineering College for Women

A GUIDING LIGHT FOR AMBITIOUS YOUNG GIRLS OF THE NATION

Apart from the technical skill development, we also focus on the students' life skills. here, we are into developing their all-round personality that includes their softskills, leadership abilities, attitude and communication abilities because we have several students coming in from rural areas as our college is known for the security and safety and at the same time great skill development and settlement for students

There are people who say, and then there are people who do. The harsh reality being, when it comes to women empowerment, the former outnumbers the later. Yet there are visionaries, who know what to do and how to do it. Education indeed has the power to change it all, to make the society realize that a woman is equal to a man in each and every aspect of life, be it education, be it professional life or be it family. This creates a dire need for educational institutions that support the 'Beti Padhao Beti Bachao' (Educate a girl child Save a girl child) movement launched by the central government and is determined to change the point of view of the patriarchal Indian society. Founded in 2008, Malla Reddy Engineering College for Women (MRECW) does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity. Women Entrepreneur India engages in a conversation with Dr. Y. Madhavee Latha, Principal, MRECW in order to know more about the institute and the core philosophies it is governed by.

how the institution has grown over the years.

Institution was established in 2008 with intake strength of 300 and right now we have an intake of 1068. we have established the institution with a great vision visualizing a great future for the intelligentsia by imparting state of the art technologies in the field of engineering and technology for the bright future and prosperity of the students and specially to offer world class training to the promising engineers and in this regard basically, we are emphasizing in offering technical expertise to students through various certification courses apart from their regular academic course. we also have established several technical clubs in our college related to all the trending technology areas wherein the students have hands on experience from experts in that particular technology, they can develop their own products as well and able to participate and perform good in Hackathons not just in India but worldwide.

COVER FEATURE

Women Entrepreneur
WOMEN COLLEGES IN INDIA

Malla Reddy Engineering College for Women (MRECW Autonomous Institution) The Women Empowerment world) does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity.

INAUGURATION OF G-CELL

EFFECTIVE TEACHING STRATEGIES & METHODS

TECH TALK BY HITACHI

ALUMNI MEET – 2K23

NATIONAL LEVEL HACKATHON – 2K23

VILLAGE SURVEY UNDER NSS UNIT I & II

MUSICAL SHOW BY

Arun Kaudinya – Sathyabhama Swathi

Saketh & Team

INNOVATIVE PROJECT EXPO

ALUMNI TALK

My happy place Malla Reddy Engineering College for Women.

Placements: Around 100% placements from our batch. The highest package is 24 LPA and the lowest package is 3.5 LPA. Accenture, Amazon, IBM, Capgemini, Xoriant, and Delloite are the recruiting companies. The percentage of students who got internships is 75% because some companies offer internships and some will take them directly.

Infrastructure: We have classrooms, labs, and a library up to 6 pm. The food available in the canteen and hostel is very hygienic. They will not allow any type of other junk foods into the hostel. In the hostel, we have Wi-Fi for 24 hrs for better study. The hostel provides yoga, self-defense, Zumba, etc.

Faculty: Semester exams are not either tough or easy. The faculty will make our company ready. Our faculty are very helpful they will teach us in the classroom and clarifies our doubt whenever needed. Our top sir and his team are very cooperative they will answer us whenever we ask

Ms.N.NEELIMA
Data Engineer
Royal Bank of Canada(RBC)
2012-16 BATCH

College Infrastructure: Good college with nice infrastructure and an excellent architecture design. All the security measures were taken by the college management for the women safety. Beautiful greenery garden is maintained all over the campus. Classrooms with smart boards, projector and internet is available.

Academics: Good academic area with experienced faculty. Faculty and other staff members are available to the students . And also the availability of good laboratories with experienced technicians with up to date maintenance. Awareness programs were conducted on workshops and we're are also subjected to gain knowledge and better skill development.

Placements: I'm proud to say that our college management is showing special interest towards students placements in campus drives. And the proper guidance is given by the experienced professors to the students to crack the interview. Almost 100% of students in every year is being placed in good companies with expected annual packages.

Campus Life: Secured measures for women safety is taken. Pleasant atmosphere to study. All the basic facilities availability.

Others: Safe and secure with bright future.

Ms.T.KAVYA
Associate System Engineer
Tata Consultancy Services
2015–19 BATCH

IMPORTANT WEBSITES

www.ieee.org/india
www.engineering.careers360
www.technologyreview.com
www.mathworks.in/products/matlab/
www.microwaves101.com/
www.ece.utoronto.ca/student-life-links
https://www.ece.org/
Science Commons.org
MathGV.com:
http://www.engineeringchallenges.org/
http://engineering.stanford.edu/announcement/stanford-announces-16-online-courses-fall-quart
http://www.tryengineering.org/
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www.dspguide.com
www.howstuffworks.com
http://nptel.iitm.ac.in
http://www.opencircuitdesign.com/
http://www.futuresinengineering.com/

ELEKTOR

MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

Autonomous Institution – UGC, Govt. of India

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA

Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

EAMCET CODE **MRCW**

www.mallareddyecw.com