



Presents

INNOVATION-2022

Annual Project Competition

18-June-2022

In Association With



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IPR CELL**



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PREFACE

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At MITE, we produce professionals who have the optimum mix of attitudes, skills, culture and knowledge. This aids them adapt to the emerging trends with confidence and pursue their chosen professions with comfort.

It is our endeavor to ensure that the needs and expectations of every student are fulfilled, enhancing the ability to acquire and apply knowledge. Our highly professional and dedicated faculty drawn from academia and industry possess impressive credentials. Their missionary zeal in teaching shapes careers at MITE.

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VISION

“To attain Perfection in Providing **Globally Competitive Quality Education** to all our Students and also benefit the global community by using our strength in **Research and Development**. ”

MISSION

“To establish world class educational institutions in their respective domains, which shall be **centers of excellence** in their Stated and Implied sense. To achieve this objective we dedicate ourselves to meet the Challenges of becoming **Visionary and Realistic, Sensitive and Demanding, Innovative and Practical and Theoretical and Pragmatic**; all at the same time. ”

CORE VALUES

Passion and commitment: We strive to work with passion and commitment in all our activities towards the ultimate good of the society.

Making a difference: We strive to make a positive difference in the lives of all our students and the future generation by going beyond curriculum and academics.

Family culture: We believe in inculcating and nurturing a 'MITE FAMILY' culture among all the staff, students, alumni and all those who associate with us.

Care for the environment: We strive to work with utmost care for Nature creating a serene and conducive environment for quality education and research.





DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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RPA BOT TO AUTOMATE STUDENTS MARKS STORAGE

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Abstract:

Robotic Process Automation (RPA) is a technology that involves software robots that perform a set of specific repetitive actions or tasks very quickly without any errors. One such task that can be automated is Students Marks Storage Process. Every semester when vtu results are announced, the faculty has to manually store the marks of each and every student in their system, which is a repetitive and time consuming process. So we will be designing and developing a RPA bot to automate the students marks storage process, which in turn saves a lot of time of the faculty and makes the students marks storage process more efficient. In our project, we will be creating a dropdown menu using UiPath Studio to select the student semester and the faculty need to select the semester from the drop down menu. According to their selection the bot will run a specific semester workflow and fetch the students user from the excel sheet. Then the Bot will fetch the results of each and every student of the specified semester and store the fetched results in an Excel sheet in the specified format.

Keywords: *Robotic Process Automation, RPA, Data Extraction*



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Crime Activity Detection Using Machine Learning

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Abstract:

Surveillance is basically monitoring of behavior and activities of people for the purpose of protecting the people. Deployment of personnel on patrol duties is the best way to reduce crimes but it is not feasible to deploy personnel at every location. Hence, Detection of crime actions in automated video surveillance applications is of great practical importance. Reliable classification of human actions can be very difficult due to the random nature of human actions. Manually detecting these rare events or anomalies is challenging. Hence, we propose a framework for analyzing these specific movements and predicting crime actions. The primary objective of the project is to define an approach to the problem of automatically detecting crime activities in video. This project restricts at detecting crime activities. We make use of machine learning approach to solve this problem. A crime is defined as an action or an emission which constitutes an offense and is punishable by law. Crimes are never concerned to a specific location as they can happen anywhere i.e. from small villages to big cities. One of the methods to overcome this problem is to use automated video surveillance system instead of human operators. Such a system can monitor multiple screens simultaneously without the disadvantage of dropping concentration. Once the crime is detected a notification is sent to the concerned department. This way, criminals can be caught in a much faster rate when compared to manual inspection. Recognizing human actions in the real-world environment finds application in a variety of domains including intelligent video surveillance.

Keywords: Machine Learning



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Smart Shopping and Delivering System

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Abstract:

Technology has changed so much, so is the rate of people of all ages who are attracted to electronic gadgets. Retailers prefer using electronic devices such as smart card readers, barcodes, and Radio Frequency Identification (RFID) scanners. To optimize the shopping process and to reduce their workload, but all these gadgets cannot be used by small scale retailers. This project concentrates on optimizing the current shopping system in a way that it can be adopted by any small-scale retailers, by making use of an e-commerce mobile application, a website to assist retailers, and a centralized delivery system, using latest technologies like Robotic Process Automation (RPA), Global Positioning System (GPS). The e-commerce mobile application helps customer to plan their shopping, know the availability of the required products in their nearby shops which are registered in the system and get the purchase done according to their diligent. The centralized delivery service will enable all the retailers to make their products available to customers at their doorstep. The website enables the retailers to continuously keep track of their stocks, scan invoice and automatically update database using RPA and to maintain all the transactional details in an efficient way. This system will provide a great platform for all those shops which has trivial recognition to get exposure and will significantly reduce the requirement of human interaction thus saving a lot of time.

Keywords: RPA, GPS



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Detecting Abnormal Activities in ATM Centers

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Abstract:

In today's world, the way an ATM works of a given bank is not that huge a difficulty; a given user goes into the ATM, performs the different actions that are available like withdrawal of cash, checking the amount of balance in the bank account and many other things. What gets neglected amidst this normalized scenario is what we're focusing on with this project. A given user may enter into the ATM with his/her face covered, partially or fully and that individual's facial features may not be recognized by the surveillance camera that may be present inside that room. Not only that, illegal activities may also be occurring in the room with no immediate action taken in-order to prevent or control them from happening. Some of the users may enter the ATM room with illegal weapons that may not even be detected by the surveillance camera that is present. In this project, we work on improving the facial recognition of the users that operate the ATMs and be able to detect their faces even though their faces are partially or fully covered. Followed by which, we want to work on weapon detection whereby if a given user walks into the room with an illegal weapon, a trigger should be sent to the nearby police station.

Keywords: AI/ML, Facial recognition



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Smart Motion Detection System Using Raspberry Pi

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Abstract:

The main problem is the increasing prevalence of theft and burglary cases. This incident was caused by the business of every person in his daily life so that person forgot the security of their house. The IoT-based home security system that utilizes the PIR sensor as a human motion detector and then sends a notification in the form of notification via SMS or e-mail is one solution to overcome the problem that was previously proposed in previous research. However, to further clarify the warnings sent from the system, a home security system is needed that can attach images in the notification. In this study developed an IoT-based home security system. The IoT security system developed, can automatically send email alerts by attaching images when the PIR sensor detects human presence. The IoT system requires a Raspberry Pi as a microcontroller that has been connected to the internet, a PIR sensor to detect human movement and Pi Camera to win images when there are human encounters that are within the range of PIR sensors. Experiments in the study show that the IoT system can automatically send email alerts by attaching images when PIR sensors detect human presence in various light conditions with a range of 0-5 meters and the speed of sending email alerts affected by conditions of internet network connections and files size of image sent.

Keywords: *IoT, PIR Sensor, RaspberryPI, Email Alert, Image*



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RPA in Banking Sector

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Abstract:

The project presents an implementation of a prototype of robotic process automation (RPA) for banking system. The world is evolving into a digitally advanced environment. Transformation is a constantly evolving process where Robotic Process Automation or RPA came into the process of renovation. RPA has recently become a valuable tool in banking and financial institutions. RPA has shown a lot of various benefits for different organizations. The system utilizes RPA bots for the automating purpose. The aim of this work is to automate the repetitive tasks with path planning techniques to create a system that is able to navigate in given static environments. Business processes have been transformed into a more efficient and enhanced manner to improve customer experience and save operational costs. Robots and their applications evolved swiftly over decades, proving to be a great achievement in human history. Sales analytics is vital for retail decision-making, churn rate, product debuts, and trade promotions are improving people's lives by assisting them in resolving challenges they face on a daily basis. As a result, they have a greater impact on our lives. The influence of robot use on our lives is undeniably beneficial in terms of saving time and effort. Robotics constant advancement has created several growth potential in industries, education, utility facilities, and health care.

Keywords: RPA, loans, easy logging



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Detection and Recognition of Healthiness of Agricultural Plants Using Image Processing

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Abstract:

In the area of agriculture, the detection of diseases in plants plays a decisive role. The symptoms of plant illnesses are evident in different parts of a plant, like leaves. Manual detection of plant disease using leaf images is a tedious job. Diseases cannot be avoided because plant farming takes into account numerous variables such as the environment, soil, and amount of sunlight. The latest and most promising technologies, such as image processing, are used to detect the disease occurred in the plant. Plant diseases detection and recognition by machine learning can provide many clues for the identification and treatment of illnesses. In the project we have used the convolutional neural network(CNN) algorithm to recognize and classify the diseases of plants because of its high accuracy. The ML model is connected to the Android application through the Django framework. Image uploaded is sent to Django, where image is scanned, processed and plant disease gets predicted. Then, the result is sent to Android application where disease is displayed. The project consists of an FAQ section implemented using Android studio. This linguistic guide has been introduced to assist farmers in Karnataka to find solutions in their local language. This limits the ability to conduct a conversation solely in English. This project also includes an information section to help farmers grow healthy plants.

Keywords: Deep Learning, CNN, Django framework, Linguistic Guide.



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Emergency Medical Service-eRakshakAfzal Mehamood¹, Aradhya Maddodi², Gajanan Hegde³, Kruthik Raj⁴, Guruprasad⁵^{1,2,3,4} Department of Computer Science & Engineering,

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Abstract:

India ranks first in the number of road accident deaths across the 199 countries and accounts for 11% of accident related deaths in the world. The death rate in India is increasing mainly due to a lack of medical emergency treatment. According to the report, about 5,000,000 Indians die per year due to a lack of medical requirements. It may be due to road accidents, snakebites, health issues and also due to medical negligence. When there is a medical emergency, the medical requirements have to be arranged at a certain period or else it may lead to death. The immediate treatment can save the patients from further harm or death. Whenever an accident happens a user sends the messages to the hospital considering the condition of the patient through the application. The hospital administration or receptionist receives messages and makes all the arrangements and treatments for the patient. The application is very helpful in emergencies.

Keywords: *Emergency Treatment, Accidents*

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IoT-Enabled System for Monitoring Body Temperature and Face Mask Detection in Buses

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Abstract:

As we know, we are entering the third year of the most acute health crisis in a century, and the world remains in its grip. Instead of meeting in the aftermath of the pandemic, we are meeting as a fresh wave of cases and deaths. From work activities to social relationships, all kinds of sports activities, as well as off-screen and on-screen entertainment have all been affected due to this COVID-19 pandemic. Individuals with high body temperature are not to be permitted to enter public places because they are at a high risk of infection and spreading the virus; wearing a mask is essential. As a result, an entry device that automatically monitors human body temperature and detects a mask is developed. This system is a combination of temperature detection and mask detection. This project aims to develop a face mask detection and temperature reading system that detects if a person is wearing a face mask and their temperature is within a specific range. To detect the temperature of an individual, an MLX90614 infrared sensor is interfaced with a Raspberry pi. For mask detection, a Raspberry pi camera and computer vision techniques are used. This IoT-enabled system can help to reduce the disease spread.

Keywords: COVID-19, Body temperature, Mask detection, Raspberry pi, Convolutional Neural Network.



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Predicting Cancer and Heart Disease at Early Stages Using Machine Learning

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Abstract:

People today suffer from a variety of diseases as a result of their living habits and their surroundings. As a result, predicting diseases at an early stage becomes a crucial aspect. Machine learning has been demonstrated to be useful in assisting with decision-making and prediction from enormous amounts of data generated by the health sector. Heart disease is one of the leading causes of death in the modern world. Predicting and detecting cardiac disease has been a difficult issue for medical professionals. As a result, anticipating cardiac disease in its early stages will be beneficial to people, allowing them to take the essential steps before it becomes serious. Cancer has been described as a diverse illness with numerous subgroups, with lung cancer being the most common type. Early detection and prognosis of a cancer type has become a necessity in cancer research since it can help with a patient's treatment. It is useful for the user if they do not want to go to hospital, because by simply entering the symptoms and other relevant information, the user can learn about the disease they are suffering from. The health industry can also benefit from this system by simply asking the user for symptoms and entering them into the system, and in a matter of seconds, they can tell the exact and, to a degree, accurate diseases.

Keywords: Machine Learning, disease prediction, symptoms, heart disease, cancer



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Integrated Android App for Dairy Farmers

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Abstract:

Managing a dairy farm is difficult since the farmer must oversee the health and nutrition of the cattle as well as provide high-quality milk to attract customers. Currently, a dairy farmer in a rural location must travel a considerable distance to purchase cattle feed and must contact a doctor in the event of a cattle health problem. The usage of this user-friendly app will attract more people to buy and sell products, resulting in higher profits for farmers. One application may handle the entire procedure. Currently, a dairy farmer in a rural location must travel a considerable distance to purchase cattle feed and must contact a doctor in the event of a cattle health problem. Furthermore, the farmer will not receive precise information about the amount of milk he has given to the dairy every day, as well as other farm-related information such as dry grass availability, weekly/monthly milk delivered to the milk organisation, government subsidy, local milk requirements, and so on. Modules for disease prediction in cattle based on symptoms are available. In addition, the programme allows farmers to locate nearby doctors in the event of an emergency. The application also allows farmers to request artificial insemination from a doctor. The system will include features for buying and selling dry grass exchange partner and contributes to a long-term commercial environment.

Keywords: Farmers, Dairy, Milk, Dry Grass, Disease, Prediction, Veterinary Doctor



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Property Mapper

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Abstract:

People move from one place to another due to work, study or business. They need to search for property like a house, flat, shop, or office space at that location. This task to search for most relevant property with best possible facilities at the lowest possible cost is a difficult task for such people who are not fully aware to that place. They generally approach some real estate broker or sellers who have posted their property details online. As there are higher chances of getting incorrect details as well as excessive prices and other charges from these brokers and property owners, there is a need to provide an easy, interactive, need-specific, reliable, and secure interface for those people searching for a property. This project aims to develop an android application 'Property Mapper', which will be capable to provide such an interface with the features are Validation and Verification of Sellers and Buyers, Location-based search of available properties category-wise, budget-wise, associated features and reviews from other users, Interface to sellers as well as buyers to enter their available/required property details, Real-time calling and messaging options. It seems that the project will be able to provide a much-required technology solution to the users with more and more data addition.

Keywords: Authentication mechanism, LocationTracking/ Google Map View, Alert/Notification system



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Virtual Learning Platform for Students

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Abstract:

At present students go through a lot of hustle to find the right study material at right time, this can consume a lot of time & human efforts finding it in traditional manner, as things progressed the mode of learning has evolved as well. From old shelf libraries to E book learning's but one major problem students still face is the bridge between Students and The Professors due the parting of notes and its updation in E learning platform ,only way to fulfil this drought is E-learning platform. Virtual Learning Platform for Students is a responsive, functional and superfast web application. User can easily access the required study material through website. It consists of two sections i.e. lecture login and student login/signup. Lectures are allowed to upload any data related to subject and students are only allowed to access data. After login, list of the branches are displayed. Then the semester wise subjects are displayed. In each section of subject students are allowed to access prescribed textbook as well as notes or ppt provided by different lecturers. Student can choose any material regarding to the subject. In sub-category of branch there is a section called lecture details which includes complete details of lectures of their respective branches and the details of the projects under taken by them.

Keywords: *E learning, web application*



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Helmet Detection on Motorcyclist Using Deep Learning

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Abstract:

Motorbikes and motorcycles are the most widely used vehicle in India. Deaths due to road accidents throughout the world, especially in India are significantly high. Two wheeled motorcycles being an obvious choice as convenient transportation mode, it has a major contribution to road accident casualties and injuries. Despite the government traffic regulation, people still avoid using helmet. Impetuous or deliberate nature of people could be reasons for avoiding helmet. This project is an effort to create awareness in a society by endorsing strict use of helmet and lead people to safety. The project helps the traffic police in identifying the violations without interrupting the violations without interrupting the traffic. Nobody would ever try to disobey rules when they get a bill as SMS on reaching home. The project works on concept called transfer learning. The object detection algorithm used here is YOLO (You Only Look Once). The project using feature detection (which is the concept of object detection) tries to find the persons without helmet and sends the photo of them to the nearest police station. We have planned to further upgrade the project to identify the number plate and even match the details of the person using the number palate and send a bill through SMS to the violator.

Keywords: *Helmet detection, Motorcycle, YOLO*



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KYC Verification Using Blockchain

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Abstract:

KYC is a procedure by which banks gather information about a customer's identity and address. It's a regulated practise of completing due diligence on clients to verify their identity. This procedure ensures that banks' services are not being abused. When opening accounts, banks are responsible for completing the KYC procedure. Banks must also keep their customers' KYC information up to date on a regular basis. KYC may be a time-consuming, manual process that is duplicated across institutions. Financial institutions would be able to achieve better compliance outcomes, boost efficiency, and improve customer experience by sharing KYC information on Blockchain. We want to simplify this process as much as possible with KYC chain. By maintaining a single safe database on a block-chain, KYC-chain removes the redundant KYC checks that banks presently do. Unauthorized data modifications are automatically invalidated due to the structure of a block-chain. The concept of proof-of-reputation strengthens the verification process. We are currently building this registry on a local test-net where we are hosting our personal laptops. As a result, there are some scalability constraints, such as the maximum number of banks that can be registered, which is currently set at ten, and so on. We intend to distribute this registry on the Ethereum network in the future to improve its scalability.

Keywords: Blockchain, KYC Verification



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An Effective Approach to Design Customized Mobile Phone

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Abstract:

In the era of smartphones, the requirements of a regular user in phones are changing day in and day out. Most of smartphone users around the world are making a compromise by sticking with phones manufactured with fixed specifications by big brands. With this project, we are aiming to provide an interface where people can build their own phone which suits their requirements and budget. It aims to provide utmost customization a user can have with the hardware he requires or hopes to have. He can include all the things that he needs in his phone according to his budget and components from all the brands he likes while adjusting his budget to his needs while he is building the phone. Using this interface people with better understanding of mobile hardware and software can help people who are unfamiliar or unsure with what they want to build a phone for their requirements. This interface helps people to get exactly what they want in hardware and not to make a compromise and have under-powered or have needless features in their phone and overpay for unwanted things.

Keywords: React Native, JavaScript, Mobile Development



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Smart Hospital Management System

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Abstract:

Healthcare systems contain multiple burdensome tasks and strict regulations that require a substantial amount of resource allocation, such as patient scheduling. This leads to inefficiencies, high costs of operations, and slow processes. By leveraging the power of automation and RPA, healthcare providers can address these issues and make healthcare systems more efficient, healthcare processes faster, and improve the overall levels of patient satisfaction. QR codes are fast becoming the go-to method for many organizations and businesses around the world. The reason complex management systems are using QR codes to manage their businesses better is that QR codes can help organize the overwhelming data gathered from customer and, on the other hand, give out information to users where it is due. Hospitals are some of the most challenging and complex organizations to manage and maintain. There are many variables to consider when running a hospital, such as patients, doctors, staff, drugs, labs. The purpose of Hospital Management System is to automate the existing manual system of admission process by the help of computerized equipment and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same through QR code. The required software and hardware are easily available and easy to work with.

Keywords: Health care, QR code, RPA



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Skin Cancer Detection using CNN

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Abstract:

Dermatology remains one of the most uncertain and complicated branches of science because of the sheer number of diseases that affect the skin and the uncertainty surrounding their diagnosis. The variation in these diseases can be seen because of many environmental, geographical, and gene factors and human skin is considered one of the most uncertain and troublesome terrains due to the existence of hair, its deviations in tone and other mitigating factors. Skin disease diagnosis includes a series of pathological laboratory tests for the identification of the correct disease and among them, cancers of the skin are some of the worst. Skin cancers can prove to be fatal, particularly if not treated at an initial stage. The automatic skin cancer classification system can help people in identifying the particular type of cancer that has spread. The Convolutional Neural Network system proposed in this paper aims at identifying seven skin cancers: Melanocytic Nevi, Melanoma, Benign keratosis-like lesions, Basal cell carcinoma, Actinic keratoses, Vascular lesions, and Dermatofibroma. The idea behind this project is to make it possible for a common man to get a sense of the disease affecting his/her skin so they can get a head start in preparing for its betterment and also the doctor in charge can get an idea about the type of cancer which helps them in the diagnosis.

Keywords: Skin Cancer, Convolutional Neural Network



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Pro-active Alerting System for Rapid Response Emergency Vehicles

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Abstract:

Access to healthcare services is critical for good health. Rural residents often encounter barriers to healthcare services that limit their ability to obtain the care they need. Transport infrastructure is one of the most important factors for a country's progress. It is necessary to access goods, services, and activities such as emergency services, health care, adequate food and clothing, education, employment, and social activities. It is clear that transport and health are inextricably linked. Transportation barriers can affect a person's access to health care services. These barriers may result in missed or delayed health care appointments, increased health expenditures, and overall poorer health outcomes. Because transportation touches many aspects of a person's life, adequate and reliable transportation services are fundamental to healthy communities. Problems with transport also affect the ability of staff to deliver health services. This Project aims to develop smart transport system for emergency vehicles like ambulances and fire fighting vehicles. It alerts the drivers of non-emergency vehicles regarding presence of emergency vehicles to free the emergency lanes. It also provides features like detection of vehicles on next road, optimal route selection, priority timer, and prior intimation to chosen hospital to the driver of emergency vehicle.

Keywords: Alerting System, Congestion Delay, Emergency Vehicle, Pro-active.



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Malarial Parasites Detection Using Convolutional Neural Network

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Abstract:

Malaria is a life-threatening, infectious mosquito-borne disease caused by Plasmodium parasites. These parasites are transmitted by the bites of infected female Anopheles mosquitoes. It is a significant burden on our healthcare system and it is the major cause of death in many developing countries. Therefore, early testing is necessary to detect malaria and save lives. The standard diagnostic methods for malaria detection are Microscopy and Rapid Detection Test (RDT). Microscopy process requires a skilled microscopist which sometimes cannot be available in rural areas and it is impossible to manually detect the presence of parasites. The RDT may not be able to detect some infections with lower numbers of malaria parasites circulating in the patient's bloodstream. Therefore, there is a need for specialized technology that proves essential to overcome this problem. The main aim of this malaria detection system is to address the challenges in the existing system by automating the process of malaria detection using Deep learning and image processing. This proposed system uses a deep learning model based on convolutional neural network(CNN).The convolutional neural network distinguishes between healthy and infected blood samples.

Keywords: Malaria, CNN, Deep Learning



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Payroll Processing Using RPA

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Abstract:

Payroll is a key activity for every organisation because it ensures that employees are paid appropriately and on schedule. Taking control of employee pay computations is a time- consuming process that requires more effort and time, especially in large firms. As a result, automating this procedure would be beneficial because calculating employee salaries would take less time. Robotic process automation (RPA) is attracting a lot of corporate attention as part of the ongoing digital transformation. Robotic process automation (RPA) is a novel technology aimed at automating repetitive, routine, rule-based human processes with the goal of bringing benefits to businesses who choose to employ such software. Every monotonous procedure is being automated due to the fact that RPA is a relatively new technology on the market. As a result, the goal of this study is to automate salary computations and payment processing, which is a repetitious operation. Also discussed is the benefit of automating this process over manual labour. The biometric data of an organization's personnel is used in this process. This gives an overview of RPA and one of its tools, UiPath, which is used to automate the process that ends in sending emails to the appropriate employees when all of the calculations are completed without the need for human intervention.

Keywords: RPA, Payroll, UiPath



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Smart Safety Device for Sewage Workers

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Abstract:

Sanitation workers are those who work in any part of the sanitation system. These workers are frequently in close contact with various types of garbage, such as human excreta, household wastes, and other hazardous materials, while working without proper safety equipment or protection, exposing them to a wide range of health risks and diseases. Toxic gases in septic tanks and sewers, such as Ammonia (NH₃), carbon-monoxide (CO), and sulphur-dioxide (SO₂), can cause workers to pass out or die. In this project, a wearable smart safety device for sewage workers is proposed which intends to safeguard their life by providing early notifications for the presence of toxic gases. Values from sensors were registered and plotted on the ThingSpeak that same result represent in worker profile website, and a GSM module was used to send a warning to a mobile number that was entered into the code. These parameters in real time alerts the worker to stay safe and detects harmful gases before any harm. It also gives notification to other persons like supervisors. If sewage workers are in an emergency, an alarm is raised instantly. The data collected by the sensors are stored in the cloud and can be further processed.

Keywords: *Arduino Uno, Wi-Fi module, gas sensor, temperature sensor, Internet of things*



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Citizen Centric Panchayath system with Digital management and Automation

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Abstract:

Now a day's people in rural areas have to go to the panchayath office in their location to know about the benefits of the panchayath. It requires a lot of time and may result in work delays. The data in the office has to be maintained manually. There is no security for the data and faults can be encountered during entering the data mainly which require higher calculations. People also face so many problems in their area. They complain to their respective ward members but they may or may not respond quickly. There are many other problems in the present-day panchayath raj system. So, this system provides solutions to all the problems in the current system. It provides online services to the people living in that area. All the services which are done manually are made online in the project with automation. The people can know about their panchayath activities, notifications, and all other information related to their villages. All the applications and certificates are applied and verified online. The users in the village can complain about their problems and feedback online. Suggestions are also accepted by the people for the development of their village.

Keywords: Application, Automation



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Android Application For Finding Local Jobs And Connecting People

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Abstract:

The evolution of Technology has led to a world where everyone is connected just via computers, mobile phones and tablets. Thus has made world seem smaller. That one invention that made a drastic change in the lives of people are smart phones. The factor that makes mobile phone a smart widget are mobile applications. Various applications serve various purposes according to the need. In spite of wide range of application available, few sectors still lack in making the optimal use of this technology. One such sector is vacancy in job applications of small scale industry. The traditional way of notifying job in these sectors are via news papers or bulletins. Hence this, project aims designing an application for the job seekers and providers of the small scale industry. Another sector that lack are community level organisation's. As community grows maintaining the record of the members gets tedious. Currently small community maintain records of their members like personal informations, telephone records, etc manually in a register. All these information could be just a click away when put together in one application. The existing solutions to the problem are advertisements on newspapers or pamphlets or bulletins. Since technology has grown so far the need to read such articles via newspapers have become less. Instead of using the traditional method the project aims in designing an user friendly application of such small scale industries and help them grow. This application aims in providing a platform for job seekers in small scale industries along with the job location and registration.

Keywords: *Android*



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Detection of Pneumonia using Convolution Neural Network

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Abstract:

Pneumonia is a disease which occurs in the lungs caused by a bacterial infection. Pneumonia manifests itself in alveoli consolidations mainly caused by bacteria and fluid. Early diagnosis is an important factor in terms of the successful treatment process. Generally, the disease can be diagnosed from chest X-ray images by an expert radiologist. The differences between healthy and pneumonia X-Rays are pretty clearly visible, though in some images, the differences may not be as definite. Even for very professional and experienced doctors, the diagnosis of pneumonia through X-ray images is still a tremendous task because X-ray images have similar region information for different diseases, such as lung cancer. Therefore, it is very time consuming and energy-consuming to diagnose pneumonia through traditional methods and impossible to diagnose whether a patient suffers pneumonia through a standardized process. In the proposed model we divide the images into training, validation, and test sets to achieve high performance. The X-ray images are pre-processed and augmented before testing with the ML model. The image data has to be fed into the proposed CNN model to obtain the results.

Keywords: CNN, ML



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Improved CNN Based Model For Classifying The Stress Level Of The Plants

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Abstract:

As an agriculturist may face a lot of difficulties in his/her work, one of them is plant stress which may cause significant economic loss. Plant stress is normally caused due to Nitrogen Deficiency. Plants that have deficiency in nitrogen have stunted growth, depending on the severity of the deficiency. To help the agriculturist the developers are researching different methods to measure the deficiency in the plant. In this paper we use Deep Learning and convolutional neural networks to measure the plant stress. Compared to traditional image-based phenotyping approaches, deep learning-based systems are more efficient for measuring different plant traits for diverse genetic discoveries while searching for plant stress. We approach this paper using image analysis used in deep learning. We use deep convolutional neural networks (CNN) which detect and also pixel-wise segment features which take high definition images without significantly sacrificing pixel density; it gives more accurate detection and also proposed model improves the accuracy by 10%

Keywords: Deep learning, Convolutional neural network, Plant stress, Transfer learning.



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Ecommerce Sites Fake Review Detection Using ML Technique and RPA Based Notification

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Abstract:

Generally, e-commerce sites provide facility for customers to write reviews related with its services. The existence of these reviews can be used as a source of information. Customers increasingly rely on reviews for product information. Unfortunately, the importance of the review is impeded by fake reviews by certain parties who tried to create fake reviews, both aimed at raising the popularity of their product or to discredit the competitor's product. online reviews play a vital role in today's business and commerce. In the world of e-commerce, reviews are the best sign of success and failure. Basically, fake review or fraudulent review is an untruthful review. Positive reviews of the target object may attract more customers and increases sales, negative review of a target object may lead to lesser demand and decrease in sales. These fake/fraudulent reviews are deliberately written to trick potential customers in order to promote/hype them or defame their reputations. Identifying fake reviews depends not only on the key features of the reviews but also on the behaviours of the reviewers. This project proposes a machine learning approach to identify fake reviews. In addition to the features extraction process of the reviews, this project applies several features engineering to extract various behaviours of the reviewers. Our project aims to detect the fake reviews on E-Commerce site using the text, rating property and other information from a review, thereby helping the customers in their decision of choosing right product, vendors to have a clear idea about the status of their product and how their product is standing in comparison with competitors' product on E-Commerce site.

Keywords: e-commerce, Machine Learning, RPA.



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Farm – Easy Website

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Abstract:

As we all know that e-commerce is an emerging field during this digital world, all are familiar and known with this technology. There are not any boundaries during this field, urban to rural all are frequently using online buying and selling operations in various aspects of their livelihood. Food is one amongst the most important needs of people at large, which is fulfilled by the farmers. Right now, the farmers are failing to induce a correct price for his or her products thanks to vendors who violate market policies, set prices consistent with their will and back huge profits. So, now we are bringing new and unique thought into action that's an ecommerce website for farmers. We try to try to a little help for farmers through this website. this is often a website for farmers to ease their add agriculture by providing an easy online platform using the newest technologies. This web application will help farmer in comparing the current market rate of various products. this may help the farmers for the use of current technology to seek out the profitable ways for income. And also, it reduces the additional costs like transport and labour to the farmers. The farmer can save time for the sake of attempting to find their desired seeds within the market as we are providing one easy platform. The proposed web application is meant to use Naïve Bayes' Algorithm to predict.

Keywords: Agriculture, Crop Prediction



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Rural Mentoring Application

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Abstract:

Mentoring is one of the most dynamic and traditional tutelage tools that is dynamically used in teaching and learning in the educational field. Mentoring is a conventional method of transferring knowledge and ideas from a confirmed professional in society to an inexperienced member in the sector. The education sector has found mentoring as quite an effective tool since long back and with the advent of new technologies, comes an idea of online mentoring, which is also referred to as e-mentoring. Instead of face-to-face meetings, Online Mentoring System (OMS) uses asynchronous, electronic communications to establish and support the relationship between the mentor and the student using virtual mode. E- Mentoring uses a computerized medium to transfer knowledge and skills from mentor to mentee. Online Mentoring System is a Client-Server model, which acts as an Interface between mentor and mentee. OMS strives to reduce the workload of students in entering their details and at the same time enable the Mentors to assess their students more efficiently. It will also undertake a career exploration journey that will help them make informed career choices.

Keywords: E-Mentoring, Client-Server model



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Fake Product Detection Using Blockchain Technology

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Abstract:

The manufacturing and marketing of counterfeit or duplicate products and goods leads to consequential financial, health and safety threat to end users. It also impacts on the economic growth of original manufacturers and businesses through revenue loss, product defamation, downtime, replacement expenses, forcing brands to spend money fighting counterfeits, trust among business partners can also be at risk, stealing sales etc. To overcome these crucial effects of counterfeiting, a smart contract based blockchain technology system is used in identification of original products and detects duplicate products to ensure the identification of original goods.

In this project, with massive emerging trends in wireless technology, QR (Quick Response) codes and barcodes provides a robust technique to cut down the practice of counterfeiting the products. The fake products are detected using camera scanner, where QR or barcode of the product is linked to a blockchain in order to store product details, authentic certificate and guaranteed unique code of each product as blocks in the database. If the code matches, the notification will be sent to the customer indicating the authenticity of the product and else if it does not match, a notification will be sent to customer that product is fake or counterfeited as well as to manufacturer about the place of purchase if customer allows to track the location or manually types the address. This approach ensures that consumers won't completely rely on merchants to determine if products are original or forged.

Keywords: QR (Quick response) code, smart contract, blockchain.



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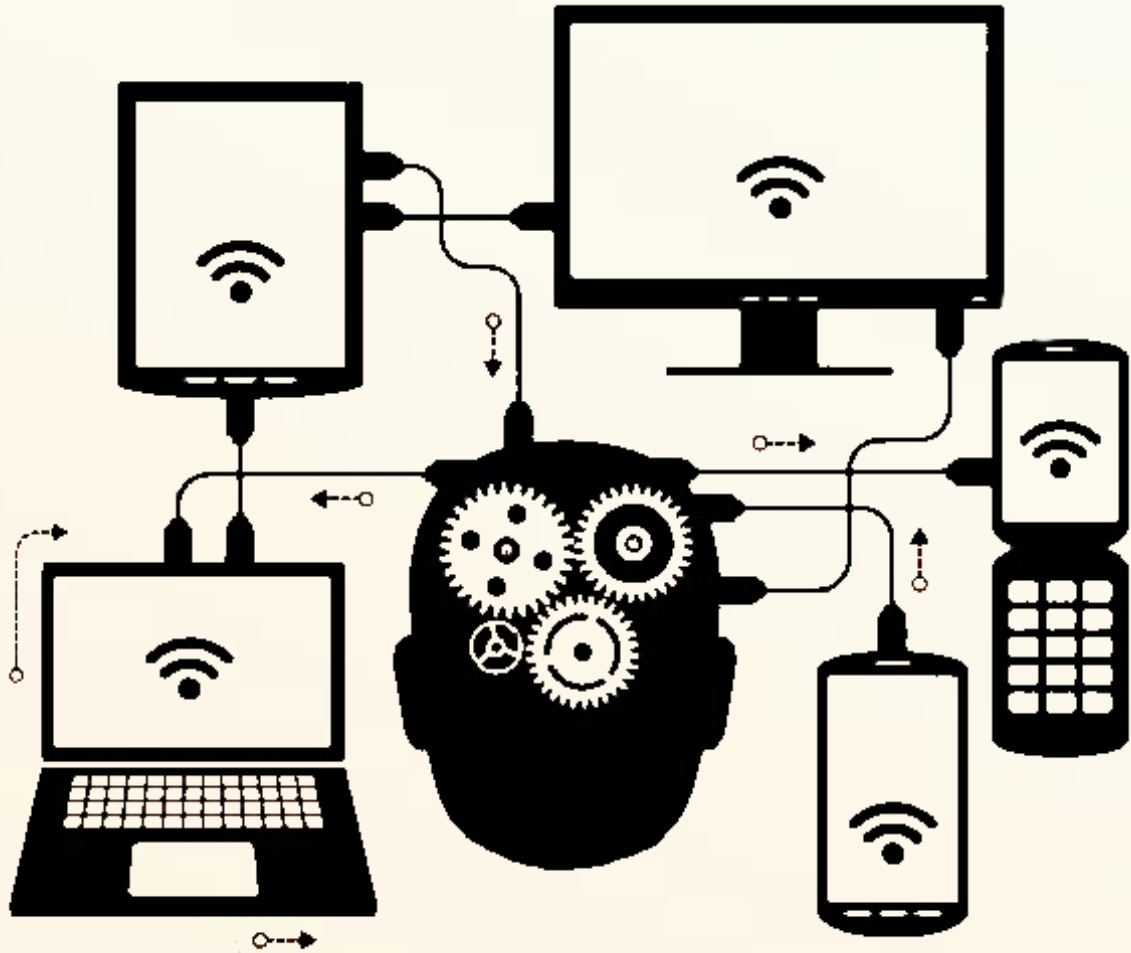
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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

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EDUFLICK- A New Age Mobile Classroom

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Abstract:

Education has been an important part of a person's life from time immemorial. Education has paved the way for development and prosperity for billions of people across the world. When COVID-19 hit, every sector in this world suffered greatly due to this including the education sector. Kids who were supposed to go to school, study and play were now locked down in their homes. Strict lockdowns were imposed to safeguard the public's health. But these lockdowns would mean the education of students would have to be sacrificed for a year. That is when e-education came to the rescue. E-learning meant, the students can sit and learn in a flexible location without risking their health. Watching educational videos much better than just reading the study materials as it helps students understand better. Eduflick can be used by students for e-learning and for faculties for teaching. This paper explains the use of a video library and how it can help the students for e-learning and is e-learning going to be the future? The goal of this work to help the students with every economical background to tackle the problem of COVID-19 pandemic and lockdowns. This application helps faculties to upload education related materials to the platform and the student can watch the videos.

Keywords: e-learning



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Interview Point: A Platform for Interview Preparation

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Abstract:

Career guidance is very important for students who are ready to get a job in the company of their dreams. Choosing the right career is probably the most important decision in a person's life. Choosing a career is a really very challenging element of your student life. However, most people are indecisive victims of their careers. Career advice platforms are the need for time to deal with millions of confused people. A student may be highly interested in a specific field of work and aims to get into a company which work on that specific field. But he/she may fail in getting placed in that company due to lack of information of the company's recruitment process and preparation. There is a high probability if you don't seek career guidance at the right time you might end up in the wrong career. There are websites which provide company specific interview questions but they are subscription based and it contains commonly asked question from around the country but not college or region specific. Interview point is a platform which helps the aspirants to get exposure to the interview process and assist them with company information, company reviews, interview questions, advice by which aspirants can choose the company and the specific domain in which they are interested.

Keywords: Interview Preparation, Placement , Career Guidance



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Milk Dairy Automation

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Abstract:

In the present generation the demand for the milk and the milk products has been increasing significantly. Due to this, the number of milk dairies in various regions are increasing day by day. Milk is one of the most important sources of nutrition for everyone. The maintenance of the quality and freshness has become the challenge. Due to some of the adulterants, the consistency of the milk may get affected badly. Adulteration of milk has been a major social problem in recent years. Consumption of such milk can lead to severe health issues. Therefore, the freshness of the milk must be detected in the early stages, and consistency of the milk should be ensured. To do this we have used pH sensors. This implementation is designed to make the process more convenient to all people who deposit milk. Along with the Ph Sensor we have used The Arduino Uno in this framework. The entire system is regulated by this Arduino Uno. The Controllers of the Arduino are connected to the pH sensor to detect the freshness. Based on pH value obtained by sensors, quality of milk is decided. This helps to detect the adulteration at initial stages of milk collection thereby avoiding it by getting mixed with milk collected by another milkman or customer. This is one of the easy-to-use methods.

Keywords: Arduino, Ph sensor, Freshness



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Event Management System

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Abstract:

When organizing an event many service providers work simultaneously and it is very hard to manage and keep track of all the paper work related to organizing an event. To manage all these activities, we have developed this software called as “Event Management System” which is an Event management portal. This portal gives feature of remotely creating, removing, information retrieval, modifying, etc related to an event. This project is capable of providing all the important access to both the user and admin and all the people related to a particular event. It gives organizer of the event access to see participants and guest list. Also, he/she will be able to create or delete an event. The user can view the events and register for the same. This project will reduce paperwork and man power hence creating a hassle-free way of managing an event. It allows the organizer to write report and collect feedback on the events and improve accordingly. The purpose of creating this project is to digitalize the processes involved in organizing an event. It provides most of the basic functionality required by any event manager to smoothly run the event.

Keywords: Admin, User, Event Management



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Priya Poojary
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Optimizing Product Delivery

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Abstract:

In today's modern world of digital technology, we often come across the issue of product delivery and transportation, especially while traveling to multiple destinations. Transportation can be related with delivery of a product from e-commerce sites and logistics organizations. So, it becomes quite a tedious task of planning the entire route manually, especially when there are a greater number of locations. In our approach we firstly take the coordinates of each of the places and then we proceed with the optimization and path finding. Then the data is passed to different kinds of shortest path algorithms such as Bellman-Ford, Dijkstra's Algorithm, Floyd-Warshall. These algorithms are used to tackle the Traveling Salesman Problem. This would be followed until all the given input locations are visited. Without this kind of system, the customer would have needed to manually enter the locations on the web and analyze it for endless hours. Our designed application will take locations or a file containing the location as input and display the best optimized path to the customer. This will save not only time but money and fuel too. The application is needed since it will be saving the valuable resources of the environment, which leads to sustainable development.

Keywords: Bellman-ford, Dijkstra, Floyd, Warshall



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CRM For Admission Management

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Abstract:

Customer relationship management software plays a crucial role in managing all your student inquiries. It takes your students through a smooth and streamlined admission process. The unifying goal of CRM here is to establish a robust relationship between the student and the institution, which is majorly missing out. Institutions can actually leverage the benefit of such relationships. You can guide your prospective students on how your institution can be a torchbearer in their pathway to success, and engage them with advisory content, throughout their journey in your institution the education sector, your students come from almost all channels known to this tech-savvy generation. Simply put, you get inquiries from your website, social media handles, PPC ad campaigns, listings, etc. These inquiries furnish necessary details like Name, email id, phone number, and interest of the student. Conventionally, these inquiries are added to the excel sheet, and the process of follow up is taken further. But, at the time of admissions, inquiries are not just a handful, they are over brimming. Here your admissions team is working at their best to reach every student. But call it an honest mistake, your admission team is prone to miss out a few inquiries in the thick of things. For situations like these, CRM employs its lead capture automation to ensure zero lead leakage. The software helps you to capture every student enquire that was made automatically.

Keywords: Customer relationship management, Zero lead leakage, Robust relation



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Mentor Connector

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Abstract:

Mentoring is a way of transferring skills and knowledge from a knowledgeable person to a person who is in need of guidance. In today's world mentoring has become one of the prominent way of learning. Usually a traditional mentoring programs will involve one person guiding a group of students (mentees). Our system is designed to connect Mentor and Mentee where there will be one to one interaction. Rather than learning without proper guidance, mentee can learn from mentor as he will share information about his carrier path, provide guidance and also helps with exploring carrier and setting goals. The responsibility of a mentor is to showcase the possibilities to the students and to guide them on respective possible outcomes. Mentor Connector is a web based application which is developed to improve the performance of the students by assisting mentors to understand mentees problems. This application connects more people compared to traditional face-to-face mentoring system. If a person wants guidance from any mentor he can search through this web application and select the mentor of his choice present in any corner of the world. This system mainly enables the mentors to concentrate effectively on each and every student assigned to them. Scheduling future meetings is also easier, since mentoring platform have built-in calendars and development tools.

Keywords: Web application, Track progress, Feedback, Mentoring



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Audio Analytics to Determine Age, Gender and Emotion of an Audio File using Machine Learning

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Abstract:

In many criminal cases like kidnapping and ransom evidence could be in the form of telephonic conversation /audio recording of the person involved. It is common for the kidnapper to do a ransom call. In such cases it is difficult for the investigators to identify the profile of the kidnapper. If the investigators want to search through the database, it would be time consuming process since there are lacs and thousands of criminals who may be active. Some of the problems which investigators could face are like; investigator might not know if the convict is a minor. Sometimes it is difficult to identify the gender of the criminal just by the audio evidence present. It is even difficult to tell the mental condition of the convict in a telephone call condition to ensure the safety of the innocent. With the above mentioned cases it is evident to create an application which would make it easy for the investigators to profile the age, gender, emotions which could be helpful sometimes in detecting the location from where the ransom call was made, for further investigation. Main purpose of the investigation is to determine age, gender, emotions from the audio file. When speaker verification model fails it would be useful for the investigators to have the characteristics to shortlist the convict. This model will be helpful in profiling the speaker and get more insight about him/her.

Keywords: Age Recognition, Gender Recognition, Emotion Recognition, Speech



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4MT18IS010

Home Chef

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Abstract:

Eating out can be a very pleasurable experience but it is healthier to eat at home and usually much more comfortable. People prefer home-cooked meals over restaurant food for their full-day schedule. The Home Meals app is a meal subscription app that allows users to subscribe to a meal pack. This app allows customers to order fresh homemade food from the home cooks. The home cook can add the menu of the meals and alter the menu if required. With an option to choose from diet or regular meal plans, the app brings an ability to have authentic homemade food from homemakers around the area. The customer who orders the food can discover local home-based cooks in the nearby locality, view the unique menu and subscribe to the meal pack. The customer can select the subscription pack and choose the payment options to confirm the order. The user can search and browse meals by category. Rating for the food delivered and the feedback to the chef will also be included in the app to ensure the best user experience. The app has a review and feedback page for valuing the customer. The new cooks can register to the app as a Chef. The Chef can also add individual items if he wishes to sell the food and the user can order them if needed.

Keywords: Meal Subscription, feedback, payment



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Phishing Website Detection

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Abstract:

Phishing is the technique of stealing user credentials and sensitive data from users by pretending to be an original website. It is a fraudulent attempt to obtain sensitive information such as username, password, bank account details, and credit card details for malicious use. There are various domains where phishing attacks can occur like the online payment sector, webmail, and financial institution, file hosting or cloud storage, and many other sectors. In phishing, the user is provided with a mirror website that is identical to the original one but with malicious code to extract and send user credentials to attackers. Phishing attacks can lead to huge financial losses for customers of banking and financial services. The drawback to this approach is poor accuracy and low adaptability to new phishing links. We plan to use machine learning to overcome these drawbacks by implementing some classification algorithms. URL is the main input in order to open any website, as it contains the various features and the source.

Keywords: URL, Phishing, Malicious



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Subscription Management System

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Abstract:

In today's age of modern technology, one of the commonly seen age-old practice both in rural and urban areas alike is the use of registers to keep track of newspaper, and magazine subscribers and manual calculation of their fare each month. This results in more time consumption for doing basic tasks such as adding the details of a new subscriber, updating, and managing the details of the hundreds and thousands of already existing subscribers, and calculating the individual fares for their respective subscription. There is no proper database used to store and maintain the information. To solve this issue, we have come up with a project to implement an efficient subscription management system. Subscription management is nothing but a systematic way of storing and managing the details of the newspaper/magazine subscribers, their subscriptions, and other details such as contact and address information making it easier for the vendors to retrieve the information when needed. All this information will be stored in a database. And the vendor can also store details about the newspapers and magazines that they deliver. The subscribers can also access this system and can use it to add a new subscription, update their contact or address information or to make payments. All the manual difficulties in managing the records by the vendors can be rectified by implementing this system.

Keywords: Mobile Application Development, Subscription Management, Database.



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Visitor Entry APP

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Abstract:

In this competitive world the impact of IT contributes major role in all real time systems. Various management systems implemented for achieving the business organization towards profit, standards, and further business enhancement. In colleges many visitors come in and out for various reasons and always faced with the problem of adequately keeping track of visitors. Nowadays most of the standard universities follows automated system for visitor entry. The special features of this system are allow users to generate report of visitors, view notification list, pre-booking to the visitors. In future this system will help the management to provide easy communication among the staff. With this app the data can be stored in the database. In this app, the visitor can meet with concerned host by filling out basic details and submitting it. Visitors can pre-book prior to their arrival to keep the process as streamlined as possible. The host can either accept or reject the requests, when the visitors check in, their hosts will be immediately notified. The security staff allows the visitor based the status shown in the app. Reporting the visits can offer valuable insights, being able to search and generate reports by criteria can help create a clear picture of things like peak visiting hours when the institution might need increased security measures. In this way time consumed on processing all these steps is reduced.

Keywords: Visitors, Report, Notification, Database



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Homeasy- A Home Service APP

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Abstract:

We have seen many workers looking for work at the junction of two roads or roadside. There are many skilled workers who are not recognized and they are in a need of platform to display their work and get employed. There should be a proper platform in which workers can show and utilize their skills. We are going to develop an app named “HOMEASY” which connects workers directly to their customers. Homeasy is an app for local workers like Carpenter, cook, painter, plumber, electrician, landscapers, appliances repairer, construction workers, loggers and grass cutters. End users of this app are workers and customers. Workers can use this app to find job and customers can use this app to find workers as per their requirements. The customer will enter his/her location and a wide range of choices will be displayed around their locality. Customer can compare, check profiles, and contact with the ones they want to book. Customers will go through their profile and can book the worker whose skills will meet their requirement. It will lead to complete utilization of their skills and enhance the economy. This app will be very useful during pandemic situation because workers need not go out of the house in the search of job and customers can book workers by staying at home.

Keywords: End users, Requirements, Economy, Pandemic



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Nearest Garage Locator

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Abstract:

There are three panels which are enrolled in this service, first is user who want to take service, second is the garage who provide the requested services and the Admin who control and monitor all activity taking place between user and service provider (i.e. garage). With the help of this platform user first give the vehicle registration number, after that they can select his/her willing garage notify problems and get the service (e.g. Tyre puncher, Break and clutch related, engine related etc) and estimated charges will also be generated at the time of placing order. The admin notifies the garage and send OTP to both user as well as service provider. Garage will provide the service and take the OTP in order to notify the admin, after completion of work. Toll-Free service can be used in case of emergency. User is able to give feedback to the service provider based on the performance which helps the admin to give rating to the garage.

Keywords: Locator, Service provider, Admin



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My Novel Space App For Users Using Interplanetary File System

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Abstract:

Interplanetary File System is a decentralized storage architecture that provides web3 storage API. For sharing files to IPFS we need to put files in the operating directory for generating a hash that is sha-256 - Bit (secure hashing algorithm) which will be offered by web3.storage resulting in storage of data in the filecoin network, As in the blockchain world, every user is running its node server. The IPFS is decentralized because it loads the content from thousands of peers instead of one centralized server. Every piece of data is cryptographically hashed, resulting in a safe, unique content identifier: CID. The nodes can communicate between each other and exchange files. and its unique economic model and over 15EiB of capacity allow us free storage. currently, the novel application works in a centralized model where data generated is stored and managed a centralized. A concept of decentralized, peer-to-peer computing can ensure reliability, privacy, and interoperability in data management among filecoin networks using novel applications to deploy. The InterPlanetary File system is a peer-to-peer version-controlled file system which can envision a decentralized filecoin system. This paper has demonstrated the feasibility and advantage of filecoin and web3. storage framework in a P2P decentralized storage infrastructure using IPFS through experimental evaluation using Filecoin networks. Blockchain is a decentralized data management platform that provides immutability, therefore it's a good choice to support file traceability metadata on a distributed file system like IPFS.

Keywords: IPFS based Novel text, blockchain, IPFS, File-Coin, Web3.storage.



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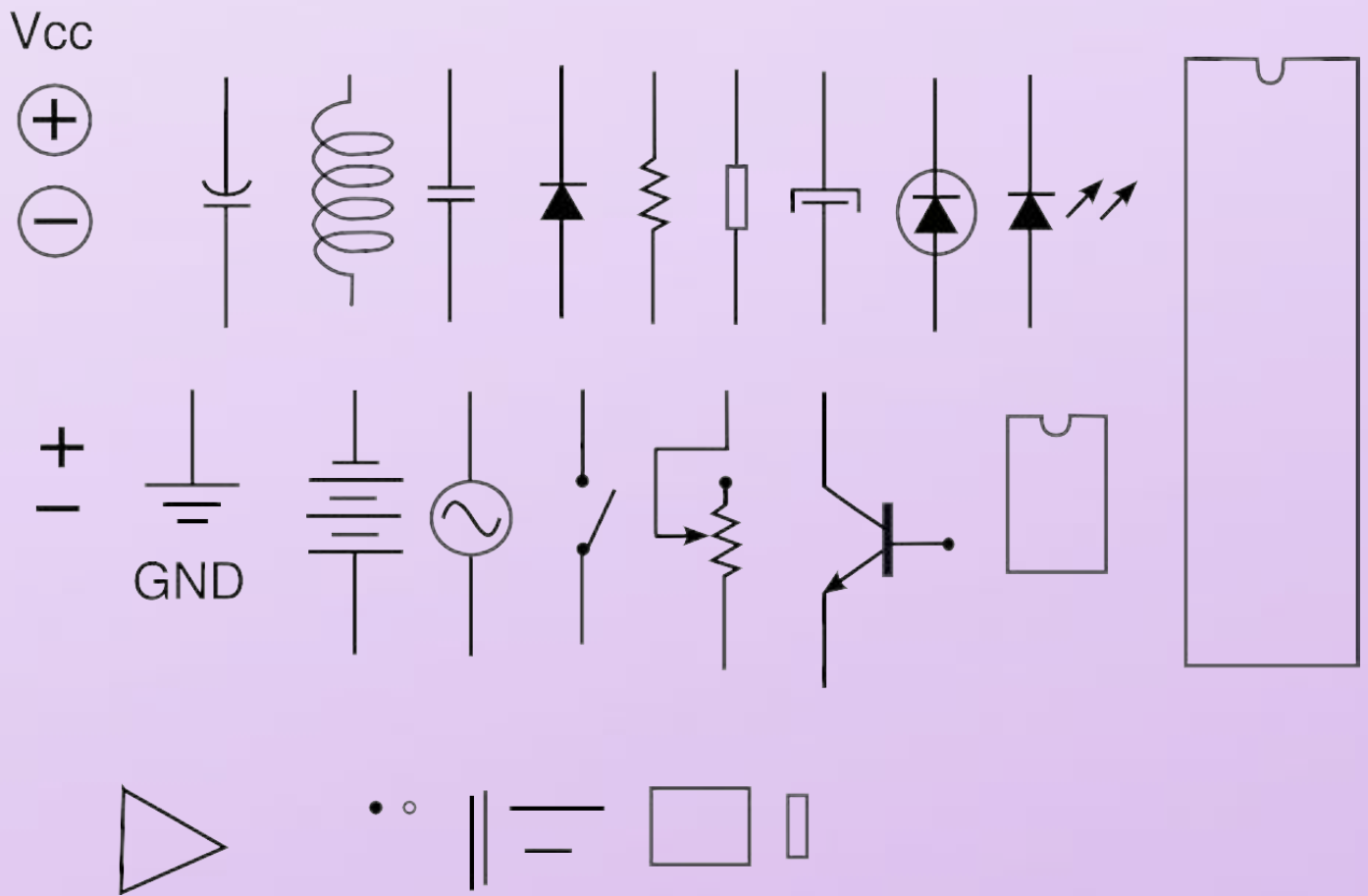
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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

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Classification and Grading of Areca Nuts using Machine Learning and Image Processing Techniques

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Abstract:

Areca nut is a tropical crop, which is popularly known as betel nut. India ranks second in producing and consuming areca nut in the world. Throughout its life cycle, it is affected by a variety of diseases, from root to fruit. The current approach for detecting the quality of areca nut is simply observation with the naked eye and farmers have to carefully analyze each and every crop periodically to detect the quality of the areca nuts. The proposed method uses CNN and SVM algorithm to detect whether the given areca nut is of bad quality or good quality. A CNN is a Deep Learning algorithm that takes input as an image, assigns learnable weights and biases to various objects in the image, and then learns from the results to distinguish one from the other. To create a model custom dataset has been used, comprising of 208 photos of good and bad quality areca nuts to train and test the model. the accuracy of 97.12% is obtained by using CNN algorithm and the accuracy of 93.68% is obtained by using SVM algorithm. For compilation of model categorical cross-entropy is used as loss function with adam as optimizer function and accuracy as metrics.

Keywords: : Areca nut, Convolution Neural Network (CNN), Support Vector Machine (SVM).



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Augmented Reality Virtual Try-On

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Abstract:

The COVID-19 global pandemic has affected the world in such a way that it has forced new systems to inhibit Augmented Reality (AR) technologies to avoid physical contact. This technology also has turned business to remote work mode. The Augmented Reality solution to help us through pandemic challenges. In this project, we examined and reviewed the existing works where we augment the face data and based on training models employed, output is displayed as a blend of virtual and real object. The proposed model will work in the following way: When a person enters beside camera's vision, camera will start capturing the live video stream of him which is nothing but a short video of specified frames. The deep learning algorithm in backend will capture the facial encodings of the person based on product which he wishes to try. Each time a new person enters into our portal, dynamic input of his face video stream is taken. Based on the product which he wishes to buy, facial encodings of that part are extracted and virtual product will be blended along with specified facial part. Final product will be a virtual try-on experience where in a person could actually visualize how his product would look when he actually wears it. The website built using HTML and CSS to develop a front-end framework.

Keywords: *Augmented Reality, Deep Learning, Front-end framework*



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Intelligent Hygiene monitoring system for public toilets

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Abstract:

In most Indian villages and slums, public sanitation remains woefully inadequate, with rampant public urination and open defecation due to public toilets being dirty, too few, or poorly maintained. The authorities expend a huge amount of money and manpower to maintain these public toilets. Nevertheless, all these efforts go in vain as there does not exist a centralized system to monitor the cleanliness of the public toilets, track the quality of cleaning by cleaners. In accordance with this, a system that provides centralized monitoring of all the toilets and provides an interface to the cleaner will be helpful in solving this problem. This project aims to present an intuitive toilet monitoring system that leverages IoT and Machine Learning. The system incorporates use of various IoT devices, a web server, and a mobile application for the cleaner. The system provides the toilet cleaner and admin with the ability to monitor various cleanliness parameters as well as visualize the future state of the toilet based on past data.

Keywords: *IoT, MQ-135 sensor, IR sensor, RFID reader, Ultrasonic sensor*



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4MT18EC061



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4MT18EC083

IE-Patha – A Location Based Hyperlocal Web Application Using Django

Chinmaya Nilakantha Naik¹, Nikethan Poojary², Gaurish Vidyadhar Naik³, Anviraj Shetty C⁴, Uday J⁵

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Abstract:

In times of need, there are insufficient resources to provide accurate information to individuals. Because most available information is not organized for easy access, someone looking for local information must search across multiple apps, which takes time. People usually look for additional information about their surroundings, such as transport modes, a grocery, or other information that is useful in everyday life. It may be at bus stations, where people frequently seek information about bus schedules and when the next bus would arrive. It could be requesting directions or product availability in surrounding stores. Online taxi/cab bookings are not available in several villages. It is not possible to save every taxi driver contact information in this circumstance. The main problem that people experience is a lack of accurate local information. Individuals must be able to access information or services that are close to them, which requires a system that organizes information based on location. Because most information is not available on the internet, more efforts need to be done, particularly in rural areas. The Aim of this project is to create a Django-based location-based hyperlocal web application that allows anyone to obtain information about nearby shops, temples, tourist sites, weather, contact information for some of the area's important service providers, and government-related beneficiary data that can be useful in everyday life.

Keywords: Django, IOT, Hyperlocal, web application



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Fake Product Detection using Blockchain Technology

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Abstract:

In recent years, counterfeit products have had a massive impact on the manufacturing industry. This affects the company's name, sales and profits. Innovation in blockchain has recently sparked interest in the course. The main topic here is currency exchange, but its application is not just limited to digital currencies. This technology has the potential to impact various sectors of the economy. Blockchain has brought high transparency and ease in processing transactions. Blockchain technology distinguishes genuine products from fake ones. Blockchain is a distributed, decentralized and digital ledger that stores transaction-related information in the form of blocks in the databases connected in chains. Blockchain technology is secure and the blocks cannot be altered or easily hacked. By using this technology, customers or users do not have to rely on third-party services for the safety of the product. In the proposed system, we will use Quick Response (QR) codes to provide a robust technique to try to stop the practice of counterfeiting. Counterfeit products can be detected using a quick-response scanner that links a QR code attached to the product to the blockchain network. Now this concept could be used to store data like product details and generated unique code for that product as blocks in the blockchain database. When the user uploads the unique code and the code is compared to the blockchain database. If the code matches the code generated during manufacture, the customer will be notified that the QR code matches. Otherwise, the customer will be notified that the QR code does not match and the product is counterfeit

.Keywords: Blockchain, Smart Contracts, Quick Response Code, SHA 256 Algorithm



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Visual Cryptography for Biometric Privacy

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Abstract:

Cryptography is basically a process for securing the data during the communication between different systems. “Biometric”, is used for authentication. To work with the biometric authentication, it collects some raw biometric data (e.g., image) and then that data is compared with the data (image) stored in the database for providing access. The attackers may use these opportunities to attack the data within the database. Therefore, the security of biometrics is of high importance. In this idea, a private image is bifurcated into two host face images such that it can be revealed only when both host images are simultaneously available; at the same time, the individual host images do not reveal the identity of the original image. In order to accomplish this, we use Visual Cryptography. VC is a process of creating shares from an image so that it would become unreadable for intruder or unauthenticated person. There are various dimensions on which Visual Cryptography Scheme (VCS) performance relay, i.e., accuracy, brightness, pixel widening, security, computer complexity, productive sharing is logical or pointless, type of secret image. This technique encrypts a private image into stocks so that it can collect a sufficient number of shares produces a private image. This project uses VC of colored images in a biometric application.

Keywords: Biometrics, Visual Cryptography, VCS, Private Face Image



Suprabha
4MT18EC089



M B Sachin
4MT18EC045



Shravan Kumar
4MT18EC079



Sooraj Shetty
4MT18EC088

Speech Emotion Analysis Using Machine Learning for Depression Recognition

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Abstract:

Depression is a psychiatric disorder which can affect individual's physical health and wellbeing. Untreated depression can disrupt a person's quality of life and results in a cascade of further symptoms. Current diagnostic approaches are confined to clinical intervention. Hence, this system is proposed to detect depression at an early stage and also to offer help while taking clinical management decisions during treatment. Speech emotion recognition is a method to identify human emotion and state of mind in an individual from speech. This system has a lot of methodologies that helps in detecting emotions and classifying speech signals using machine learning. Communication is essential for conveying our thoughts and ideas to others. Machine Learning is quickly progressing in its ability to bring more sophisticated systems into everyday use. Intelligent systems are interactive and operate with little user effort, relying primarily on voice input. The purpose of this project is to show various algorithms for detecting speech emotions in order to recognize depression using machine learning.

Keywords: SVM, LSTM, DAIC-WOZ, RAVDESS, TESS



Royson Clausit Dmello
4MT18EC066



Ashish Nayak
4MT18EC020



Sakshi S Bangera
4MT18EC070



Manjunath
4MT19EC401

Digital Mapping of Faulty Transmission Lines

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Abstract:

Power systems are the most complex systems and have great importance in modern life. To operate such systems in a stable mode, several control and protection techniques are required. The development in sensor and computer technology allows the realization of on-line monitoring systems for application to power transformers, in order to use this most expensive transmission equipment in the optimum technical and economical manner. The main objective of our project is to monitor the status of the electricity transmission line in real time, and whenever there is a fault in the line we make use of a specially designed inductor coil which is held in such a way that it lets magnetic flux through it. If there is current flow then only it creates magnetic flux and the device detects it without being in contact with the line itself. This device in combination with a logical circuit is given as an input to the IoT device. Once the power shuts down, the IoT device sends a signal to the database. The location and the condition of the power line is determined using the map which is linked to the database. In this way the power monitoring authorities are alerted.

Keywords: *IoT, Faulty Transmission Lines, Thingspeak, Arduino*



Abilash A R
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Shivani
4MT18EC076



Vishisht Padiyar M
4MT18EC102

Species Classification For Forest Survey And Monitoring

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Abstract:

To protect wildlife, it is essential to monitor them in regular intervals. Wildlife monitoring is a challenging task, without the help of technology. To remedy this, an animal classifier camera that will detect the animals in the forest is used. The system is also useful in zoological parks to monitor the wildlife. The system is capable of identifying various species. If any related species are detected it will store its data to study further. It is also possible to control the system remotely if an internet is available in the respective area. The system uses a python-based code containing pre-trained models. Live footage is provided to the Raspberry pi using pi camera. It then uses OpenCV modules to cut the images in frame and the obtained frames are compared with the pretrained modules and the label is given accordingly. It is also possible to access the system and the data stored using Rasp Controller a mobile application. The classifications have similarities and differences that reflect their differing approaches and objectives. They are most consistent for forest community types that occur in a relatively narrow range of environmental conditions, and differ most for types with wide-ranging species. This way the animals in the forest can be monitored and the animals can be protected from being extinct. It will help forest authorities for the development of sustainable forest.

Keywords: Raspberry-pi, OpenCV modules.



Tejasiwini C A
4MT18EC093



Megha Kulkarni
4MT18EC047



Yashvith Ballal R B
4MT18EC103



Jithesh k
4MT18EC035

Integrated Crop Management system

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Abstract:

Agriculture is the process of producing food, feed and many other desired products by the cultivation of certain plants and the raising of domesticated animals. The practice of agriculture is also known as farming, which is a complex activity and each segment of it impacts the overall crop production. In order to achieve successful crop production, a farmer needs to manage all segments properly. Farmers make strenuous effort to produce good quality crops but they face challenging issues of monitoring and maintaining it around the clock. The problems in the agriculture domain largely affect the food production and supply chain. The prominent target of this project is to propose an integrated crop management system that would be used to maintain the good health of crops by providing the required amount of water and nutrients. Water wastage would be reduced which is one of the major concerns in today's world. Other aspects like cost, time conservation, effectiveness and low maintenance are also aided. Therefore, after soil preparation and planting are completed, sufficient care has to be taken during its growth phase also. This project presents an intelligent automated system to identify and solve the health issues of the plant. The integrated crop maintenance system provides users to research and get online information about the crops, its growth and new tendencies.

Keywords: IoT, AI/ML, Automated irrigation



Mohamed Fazil
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Nagesh
4MT19EC049



Rohan S
4MT19EC065



Ashritha C
4MT19EC021

Web Application based Infant Health Management

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Abstract:

The neonatal period (the first 28 days of life) is the crucial period for child survival. It is a time of rapid change and development where patterns for infancy, like feeding and bonding, are developed. It is also the period when there is the most risk for post-birth complications or when birth defects or congenital conditions may first be detected. A developing baby goes through important growth throughout pregnancy, including in the final months and weeks. Therefore, improving new born survival is very important and is a priority. It is also very important to monitor the postnatal health condition of the baby and manage and store the data in order to analyse the health condition and consider the baby as healthy. There are various health parameters such as oxygen level, temperature, pulse level, respiration pattern which need to be monitored in order to ensure good health of the neonates. This project consists of a web application-based health management system for a neonatal that keeps track of the neonatal health from the day the baby is born and manages the necessary and important health related data of the baby for postnatal care.

Keywords: Neonatal, Parameters, Web application, Postnatal



Himanshu Bhatt
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Niharika
4MT18EC051



Sannidhi Rao
4MT18EC073



Sharan Kumar
4MT18EC074

Performance Enhancement of PV Systems Using Adaptive Reference PI Controller

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Abstract:

Solar Photovoltaic (PV) systems have emerged as among the most significant forms of renewable energy production in recent years. The Solar PV energy has many advantages which makes it one of the great sources for power generation. PV systems are connected to the electrical grid with the help of a DC-AC converter and a DC-AC inverter. There are several issues in integrating Photovoltaic system to the electricity grid. Grid faults are also other kind of technical challenges that show up during the unusual operating conditions. The project's major goal is to improve the grid's interoperability with PV installations. To get the desired performance, the converter as well as inverter characteristics are adjusted. The inverter is controlled by an ARPI (Adaptive Reference PI) controller, which improves system performance by allowing for Low Voltage Ride Through (LVRT). It also smooths out the oscillations in PV-generated electricity that occur due to changing environmental conditions. The converter is utilized to provide Maximum Power Point Tracking (MPPT) while the PV system is under varied environmental conditions. To assess the efficiency of the suggested method, a simulation of system performance employing the suggested ARPI is provided.

Keywords: PV systems, PI controller, MPPT



Rao Shreya Subba
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Kishan
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Vindhya
4MT18EC099

Fleet Management system

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Abstract:

In the Existing Fleet Management System, management of the whole Fleet is a tedious, frustrating and error-prone work. To make the process simple and in order to schedule vehicles as well as staff, the scheduler should know how many vehicles are there on board and available for allocation. The proposed system keeps track of the information about the Vehicle, Vehicle Maintenance, Vehicle tracking, Driver, Location and much more. This system will also keep track of the maintenance performed for different vehicles which are used for transportation. The system concentrates on vehicle booking, tracking, managing the goods and driver, fuel consumption and many more services by giving complete access to admin to manage the entire system. The system also uses blockchain technique which helps in secure transaction. The aim is to automate its existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically, the project describes how to manage efficient vehicle transportation with good performance and better services for the clients.

Keywords: Admin module, block chain, Node Js, React Js, Metamask



Chandini
4MT18EC026



Prathyaksha Shetty
4MT18EC059



Sanath Kumar
4MT18EC072



Shrinivas Ravi Karkal
4MT18EC085

Voice Based Email System for Visually Impaired

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Abstract:

The voice based email gadget that may be totally utilized by visually impaired people to access e-mail smoothly. The goal of this work is to help the visually impaired human beings to deliver and obtain voice based totally mails with the help of computer. This project specializes in the advances on locating a trendy approach that helps the visually impaired to get e-mail through voice that is represented as text. This project gives a voice to textual content and text to voice method to get right of entry to the e-mail via visually impaired. This enables the visually impaired human beings to deliver mail through voice without the use of any typing tool. It uses Python libraries technique. A voice mail system is a computer based system that allows users and subscribers to exchange messages without typing. This systems are designed to convert a caller's recorded audio message into text and then it will be sent to recipient. It is mainly useful for blind people, as every official messages are only sent through mail they cannot test the message so this application helps them a lot. A voice mail system is also called as voice bank.

Keywords: Text to Voice, Speech to Text



Ashwitha Shetty
4MT18EC023



Megha Naik
4MT18EC046



Ashmitha Nayak
4MT18EC050



Sachin
4MT18EC068

Manhole Detection and Monitoring system

Preethi Dayananda Poojary ¹, Jacintha Beena Mathias ², Samanth, T.S ³, Shreyas Hegde ⁴, Ranjith H.D ⁵

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Abstract:

The society requires better and cleaner amenities as a future goal to be called as a smart city. Smart underground infrastructure has become an important feature while implementing a smart city. A vital role in keeping the city clean and healthy has been played by drainage system monitoring. Since manual manhole monitoring is incompetent, this leads to slow handling of problems in drainage and it is time consuming to solve. Hence the manhole will be accompanied by three sensors and dc motor, Water level and MQ2 sensor which will be connected to the Arduino which is powered by power supply. The LCD on the Arduino displays the real-time readings. The information collected from the Arduino will be made available on the website by WIFI module. In this project it takes the help of various types of sensors so keep track of flow water level, temperature and gas sensors are interfaced with microcontroller Arduino Uno. When the respective sensors reach the threshold level, the indication of that respective value and sensor is being sent to the microcontroller. Arduino Uno sends the signal and location of the manhole to the municipal corporation through WIFI module and the officials could easily locate which manhole is having the problem, take appropriate steps and the death risk of manual scavengers who clean the underground drainage can be reduced.

Keywords: TArduino, GSM module, Sensors, Solar energy



Preethi Dayananda Poojary
4MT18EC060



Jacintha Beena Mathias
4MT19EC032



Samanth T.S
4MT19EC071



Shreyas Hegde
4MT19EC084

IoT based Agricultural Crop Protection

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Abstract:

Due to a scarcity of agricultural land and the loss of finite natural resources, increasing farm production has become critical. The agriculture industry is concerned about the shifting structure of farming labour. Furthermore, in most countries, agricultural labour has reduced. Because the farming workforce is dwindling, internet connectivity solutions have been applied in agricultural processes to reduce the need for physical labour. Farmers might be able to break the supply-demand gap by raising yields, earnings, and environmental preservation with Internet of Things technologies. Smart agriculture is a method that uses Internet of Things (IoT) technologies to increase agricultural production while lowering operating expenses. The Internet of Things in agriculture includes wireless access, sophisticated technology, software, and IT services. Crop monitoring is just harvesting the crop to get the best yield possible with the resources available. However, nowadays crop monitoring also includes protecting the crop against theft or damage caused by unplanned weather changes. Farmers can employ cost-effective and user-friendly technological solutions such as highly dependable sensing equipment and their interaction with mobile networks to suit their monitoring needs. Farmers are more involved in many unproductive activities nowadays, such as defending the crop from human or animal intrusion, which may result in theft or harm to the crops that the farmers have grown over time.

Keywords: *IoT, Agriculture, Crop protection*



Abhishek A G
4MT18EC002



Abhishek Krishna Naik
4MT18EC004



Aishwarya
4MT18EC012



Veerendra V Rao
4MT18EC096

Forest fire detection system based on optimized solar energy

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Abstract:

Forests are considered to be one amongst the most supreme and indispensable resource. Although the world is advancing day by day, it is not possible to sustain in a world without a balanced environment. For a balanced environment, forests play a vital role. Therefore, the aim of this project is to detect forest fires and alert the forest officials whenever there is an outbreak of fire. IOT devices along with sensors help to monitor environment parameters like smoke, temperature, humidity and flame. A forest fire detecting system is formed by interfacing Arduino UNO with a DHT sensor, a smoke sensor and a flame sensor. DHT11 sensor, smoke sensor, flame sensor and buzzer are given as input to the arduino and output of the arduino is connected to the LCD display. Whenever the environmental parameters exceed the threshold values in the sensors, fire is detected and temperature, humidity and smoke values are displayed on LCD and a buzzer is rung. When fire is detected, a caution message is sent to the concerned officials through the registered mobile number using GSM. The whole system works using solar energy as it is a vast source of energy in the forests. This solar energy is stored in the battery and used for the operation of the whole system. This system detects forest fire as early as possible and is energy efficient in a distributed environment and also efficient in performance.

Keywords: Blynk Android Application, Efficient Water Quality monitoring, Node Mcu



Shreya B Shetty
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Adarsh S Poojary
4MT18EC008



Anamika Dinesh
4MT18EC016



Rakshith K
4MT19EC402

eDonate –An Online Charity System

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Abstract:

Due to the situation of a worldwide pandemic in the recent years, and most of the world still suffering with its consequences, the gap between the rich and poor is larger than ever. Any industry that depends on local offline customers, be it servicing, manufacturing, hospitality, travel, real estate / construction, automobile has seen a slump in its growth. At the same time, the same pandemic has been a blessing in disguise for online businesses like entertainment, ed-tech, e-commerce, e-communication and information technology. In other words, any solution that can be implemented digitally has more chances of success and the results become tenfold if the problem solved is an offline problem. So, the burning question is, is it possible to create an online solution to an offline problem? or is it possible to normalize the good and bad effects of this epidemic in favour of organizations that provide service to the people such as hospitals, orphanages, old age homes, NGOs, or to individual families that have genuine needs? This is the problem we try to solve in this project. This project aims at creating an online platform that forms a bridge between donors and beneficiaries so that the needs of both the parties can be met. This is done by creating a recommendation system that matches the requirements and supplies of beneficiaries and donors respectively. If no match is found, the platform provides an alternative way for donors to donate to nearby charitable places using their location services and google maps

Keywords: Full stack development, databases, back-end routing, donation, front-end design



Brayan Saldanha
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Thanvi P Shetty
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Ankith Shetty
4MT18EC017

Recognition and extraction of required signals of interest in an audio signal

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Abstract:

Recognition and extraction of signals of an interest is basically the process called Blind Source Separation (BSS). In blind source separation (BSS) technique, Separation of the mixed independent source signals will be done. We have focused on this technique with different algorithms and processes. The proposed method is established on the clustering features of Independent Component Analysis (ICA) and Principle Component Analysis (PCA) has been implemented for the purpose of the operation. The project is done with the implementation of fastICA algorithm. The method includes the receiving of different independent source audio signals followed by mixing of those independent source audio signals to provide the dependent audio signals as output. With the proposed algorithms, separation of these dependent audio source signals will be done to get the dependent audio source signals as output. These audio signals which shows no difference or less difference on comparison with initial independent audio signals will be considered as the accurate result. The method with which the accurate results can be achieved will be considered as the successful and accurate methods and proves out as the method with the least Signal to Noise ration. In experimental validations, experimental validations demonstrate the effectiveness of the proposed method.

Keywords: BSS, ICA, PCA



Pavan Kumar
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Swasthik Narayan Bhat
4MT19EC092



Shreya K Shetty
4MT19EC082



Prajwal Diwakar
4MT19EC57

AI based image analytics for anticounterfeiting Apparels

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Abstract:

The problem is that existing technologies are ineffective at eliminating counterfeits. QR codes and holograms are commonly used but can be replicated. We've seen cases in the apparel industry where the packaging of counterfeit clothing is just as good as the real thing, and this is a serious problem for brands that offer authentic clothing. Therefore, here we propose a solution that promises to identify fakes in the market using AI and image processing algorithms. The counterfeiting practices mainly occur on premium quality products due to their low risk and large revenue benefits. The counterfeiting of accessories and clothing is rapidly morphing from a physical marketplace into e-commerce portals. Currently, counterfeiting rates of clothing and accessories are hampering the financial growth of the luxury goods and fashion industries. To overcome these counterfeiting practices, we propose an AI-based anti-counterfeiting system. This system can achieve full traceability of branded clothing production information. The end user can verify the authenticity of the product themselves by sharing the product details on the immutable framework

Keywords: Counterfeit, QR code, AI



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Rameez Sheikh
4MT18EC062



Shon Lesly Menezes
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Weather Monitoring System Using FPGA

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Abstract:

Monitoring real time weather system plays a crucial role in one's life. As we all know, agriculture plays a crucial role in India's Economy. Approximately one fourth of India's economy is accomplished from agriculture. Agriculture, hospitals and industries need to measure the temperature and relative humidity for their research, production and for diagnosis of patients etc. Humidity can affect human health because it affects our thermal comfort and also affects the growth of greenhouse gases. In this situation, an indication of weather's condition is an important aspect before sowing or reaping the crops. Hence, the monitoring of weather's condition would help farmers by the assistance of a weather monitoring system. Use of single sensor is found to be effective to measure temperature and relative Humidity. Weather is too unpredictable because the climate changes drastically. In real time weather monitoring, temperature and relative humidity can be measured using sensor which helps not only for weather forecasting but also for industrial and agricultural purpose. Our aim is to outline a low power electric circuit to be implemented in Field programmable gate array board for functional verification and performance estimation and report relative humidity and temperature

Keywords: *FPGA (field programmable gate array)*



Adithya Raj Khathi
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4MT18EC018



Likhitha
4MT18EC039



Gowtham
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LoRa RFiD Switching Wi-Fi Module

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Abstract:

The concept of Internet of Things has evolved over the past years, connecting systems to the internet to make life easier or simply to improve quality of life. This rapid development has been facilitated by the evolution of electronics miniaturization, growth in performance, wireless technologies, energy efficiency, and the development of protocols. New technologies evolving are making new scopes to provide comfort to the users and opening up a lot of opportunities to research and improve. The LPWAN technology is the new evolving area which is solving some of major problems of users such as long range transmission, low power consumption and many more. The LoRa is a LPWAN RF technology which is in its evolution stage and solving the critical problems of people. This project aims to integrate two wireless modules, LoRa and Wi-Fi to facilitate better coverage and low power usage. It is having its scope in agriculture, tourism, internet of things and more as it provides data transmission over long areas without much of error for milliWatts of power

Keywords: *LoRa, Spreading Factor, Data Rate, LoRaWAN*



Jayantha Nayak
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Manoj P
4MT19EC043

Stethoscope system for Heart disease prediction

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Abstract:

One of the major causes of death all over the world is heart disease or cardiac dysfunction. These diseases could be identified easily with the variations in the sound produced due to the heart activity. These sophisticated auscultations need important clinical experience and concentrated listening skills. Therefore, there is an unmet need for a portable system for the early detection of cardiac illnesses. The prominent target of this project is to build a prototype model of a smart digital stethoscope system to monitor patient's heart sounds and diagnose any abnormality in a real time manner. The system consists of two subsystems that communicate wirelessly using Bluetooth low energy technology: A portable digital stethoscope subsystem, and a computer based decision-making subsystem. The portable subsystem captures the heart sounds of the patient, filters and digitizes, and sends the captured heart sounds to a personal computer wirelessly to visualize the heart sounds and for further processing to make a decision if the heart sounds are normal or abnormal.

Keywords: Cardiac dysfunction, PCG, Physionet, Random forest, SVM, Ada-Boost



Shraddha J Hegde
4MT18EC078



Latheesh Shetty
4MT18EC038



Vikesh K G
4MT18EC098

Fake News Prediction Using Machine Learning

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Abstract:

Internet is pervasive, everyone gets their news from a variety of online sources. As the use of social media platforms has grown, news has travelled quickly among thousands of people in a very less time of period. The propagation has been far reaching for the fake news in repercussions, from altering election outcomes in support of specific politicians to creating prejudiced viewpoints. Furthermore, spammers use appealing news headlines to make cash through click-bait adverts. In today's world knowingly or unknowingly fake news spread throughout the world from internet. This has a great impact on the people who blindly believe whatever the internet provide. Fake news identification is a new study subject that is attracting a lot of attention. However, due to a lack of resources, such as datasets and processing and analysis procedures, it encounters several difficulties. This research uses a non-probabilistic machine learning models of computational models to address this problem. Furthermore, the scores of vectorizer, comparison of term-frequency inverse document format is done, for purpose of best vectorizer used for well known detecting fake news. In order to raise the accuracy, stop words of English is used. To predict bogus news, a Support Vector Machine (SVM), classifier is deploying. According to simulation data, a Support Vector Machine (SVM), and the TF-IDF produce the result with high accuracy.

Keywords: Fake news detection, TF-IDF, SVM, machine learning.



Pallavi
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4MT19EC005



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Smart Agriculture System to Control the Water Resources Using NodeMCU AND IoT

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Abstract:

Agriculture is the foremost basic essential and important way to produce food & it plays a major role in the economic growth runs each nation by contributing to GDP. There are many crucial issues in agriculture associated with manual method such as wastage of water for the purpose of irrigation in the field, need for non-renewable source like time, money, human resource (Labour) etc. By using IOT technology and different field sensors, it is possible to do the automation techniques in agriculture. The main purpose of automating the irrigation system is to provide adequate water for the crops, when it is required. The smart irrigation system uses an Arduino based micro controller which takes the data related with the contents of moisture percentages in the soil by using sensors. In addition, servo motor is used to control the flow of water from the water resources. A decision controller algorithm is used to turn on the motor or to turn off the motor, which supplies the water to the agriculture field. The soil content information such as moisture, humidity, temperature is sent to the controller unit and then all these data were sent to the server database for the future analysis using wireless mode of transmission.

Keywords: *IoT, Automated irrigation, Temperature, Humidity.*



M H Vidyashree
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Obstacle Avoidance and Path Planning for Autonomous vehicles using ROS

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Abstract:

The project presents an implementation of a prototype for the autonomous vehicles with the Robot Operating System (ROS). The system utilizes turtle bot 3 for the navigation purpose. The aim of this work is to integrate the obstacle avoiding algorithm with path planning techniques to create a system that is able to navigate in given static environments. The software prototyping tool used is Robot Operating System. Robot Operating System (ROS), a framework for building robot applications, allows developers to assemble a complex system by connecting existing solutions for small problems. The key feature of ROS is the way the software runs and the way it communicates, allowing user to design complex software without knowing how certain hardware works. ROS provides a way to connect a network of processes (nodes) with a central hub. Nodes can be run on multiple devices, and they connect to that hub in various ways. Doing this on a real robot will be costly and may lead to a wastage of time in setting up robot every time. Hence, we use robotic simulations for that. The most popular simulator to work with ROS is Gazebo. It has good community support; it is open source and it is easier to deploy robots on it. All these areas are new and needs revolutionary solutions

Keywords: *Turtle bot 3, ROS, Gazebo, RVi.*



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Fire Detection and Spraying Pesticides in Agriculture

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Abstract:

In India, 73% of rural people depends on the agricultures and forests. Due to forest fire issues and diseases caused by insects and pests in fields, they have faced heavy loss and it also reduces the crops productivity. In order to enhance the crop quality chemical fertilizers and pesticides are used to kill the pests and insects. According to the research of World Health Organization (WHO) about a million of people are ill affected by manually spraying the pesticides and fertilizers to the crop, to reduce these threats and huge losses to ecosystems. To overcome this problem the Unmanned Aerial Vehicle (UAV) aircrafts can be used to detect the fire at the early stage and to spray the chemical pesticides and fertilizers in order to avoid the health issues for people who are involved in spraying manually. Also, we have many developments in agriculture for increasing the production of crop using drone. The agriculture UAV drone used to expand the all areas of field which the drone will be able to cover it and the drones are highly capable, and also includes fertilizer and pesticides spraying, seed sowing, mapping etc. The market for agriculture UAV drones is expected to grow continuously by relating the technologies.

Keywords: UAV, Flame Detector Sensor, Artificial Intelligence, Smart Farming, IoT



S Karthik Prakash
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4MT18EC015

IoT Based Sustainable Ground Water Quality System For Green India

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Abstract:

The aim of this project is to come-up with the advanced technique of Water Quality Monitoring. This intended approach helped to replace the former way of manual testing by updating the sensors information over an application's platform. Here, we measured the various chemical parameters of water like pH and total dissolved solids as well as physical parameters of water like turbidity and temperature to monitor the supplied water quality. The former method included visiting the site, recording the various readings on routine basis, updating the data-sheet manually and then arriving at some conclusion on basis of data recorded by the technician. The data collected and examined through this way took a large amount of time and thus the changing technology demanded a new technique to overcome all such limitations and make this task a user-friendly one. Therefore, our proposed method worked to erase out all such manual work with help of new emerging technology of machine-user relationship wherein the data updated over any setup could be communicated to a human being at his fingertips

Keywords: Blynk Android Application, Efficient Water Quality monitoring, Node Mcu



Karkera Prajwal
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Structural damage Detection using IoT

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Abstract:

The Internet of Things (IoT) is a technology that allows us to add a device to an inert object (for example: vehicles, plant electronic systems, roofs, lighting, etc.) that can measure environmental parameters, generate associated data and transmit them through a communications network. Nowadays, it is widely being used in various sectors of daily technological advancements, like it has infiltrated numerous factors of human life in recent years, including cities, residences, universities, industrial facilities, organisations, agricultural settings, hospitals, and medical centres. Older structures always tend to have some or the other sort of internal damage in them due to their age. There are more chances of it to fail without any warning. Structural damage detection is the evaluation of structure to detect, locate and assess the damage. Each structure is often unique regarding its material, shape, and its behaviour often changes due to their age, usage or environmental factors. Structural health monitoring is the latest technique employed all over the world, especially in buildings exposed to harsh environments. Sensors are used to collect the data from the structure from which we can identify its quality. This project aims at giving a measure of the quality of the beam under test by comparing the vibrations passed through it with a particular threshold stored in the code, thus giving a measure of the quality of the accessed beam.

Keywords: : IoT, Structural Damage Detection, Structural Health Monitoring



Sahana Shetty
4MT18EC069



Sukanya
4MT19EC403



Sambhram
4MT18CV036



Krishang Shetty
4MT18CV037

MITE Students wins TIBCO Global Hackathon

Electronics & Commn Engg Students secures First Prize with USD 10,000 Prize for their project - AI Based Crop Management System

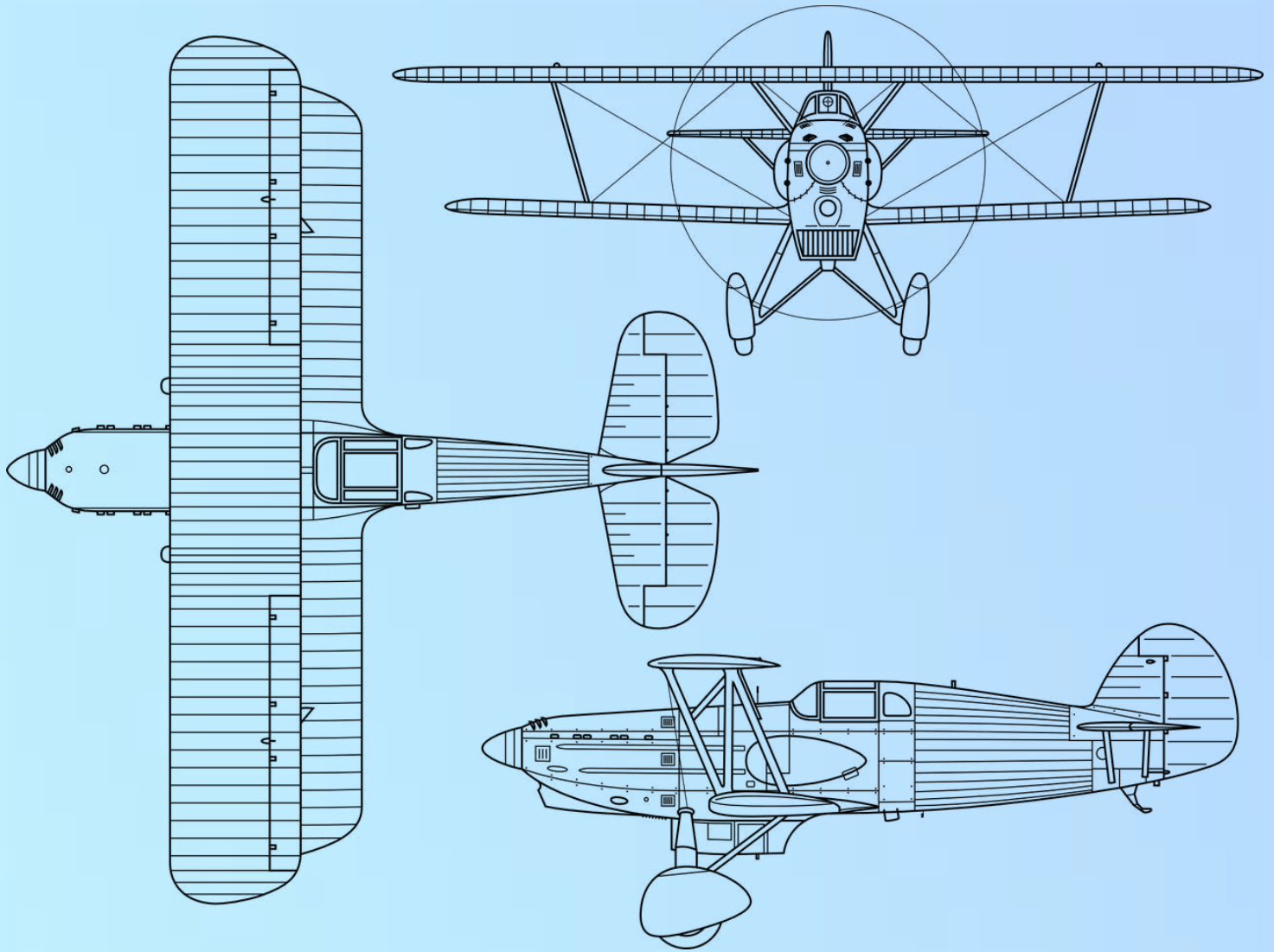


A Student Team of Electronics & Communication Engineering of Mangalore Institute of Technology & Engineering (MITE), won the **First Prize** in the 'Global TIBCO Labs IoT and Sustainability Hackathon' organized by TIBCO Labs with a **Cash Prize of US \$10,000**. The Final Year Student Team of Electronics & Communication comprising of Mr. Mohamed Fazil, Mr. Nagesha, Ms. Ashritha C, Mr. Rohan S, mentored by Mr. Ramalingam H M, Senior Assistant Professor won the prize for their Idea submitted on "AI Based Crop Management System" under the theme "Hack for Food Production" to provide the solution for smart farming. The Global Hackathon conducted between November 15th to February 7th 2022 focused on proposing projects that address one or more environmental challenges we face across the globe today, from enhancing energy efficiency and reducing global emissions to making cities "smarter," the Internet of Things (IoT) and sustainability. The Participants were required to propose innovative solutions on any one of the theme - Smart Energy, Smart Water, Food Production, Pollution, Transportation. The hackathon had a **total of 1641 teams participating** with unique ideas proposed on the various themes.

MITE secures First Prize in VTU TEQIP State Level Project Competition – Avishkar 2020.



Students of MITE secured the First Prize in the State Level Project Competition AVISHKAAR 2020, conducted by the TEQIP Cell of Visvesvaraya Technological University, Belagavi. The Project 'Medical Emergency Drone', showcased by Students of MITE won the prestigious award out of a total of 350 Teams that participated in the competition. The prototype developed by the interdisciplinary team had Mr. Lanston Pramith Fernandes and Mr. Darren Melroy Menezes of Mechanical Engg, Ms. Rashmitha of Information Sc & Engg and Ms. Nishanka K of Electronics & Commn Engg. The Team was guided by Dr C R Rajshekhar, Vice Principal & Head of Dept of Mechanical Engg.



DEPARTMENT OF AERONAUTICAL ENGINEERING

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Design and Analysis of Horizontal Small wind turbine for Electric Vehicle Charging in Coastal Areas

Abdul Rehaman Tahasildar,¹ Ashika S Naidu,² Muhammad Suhail,³ Sharun Divakar P,⁴ Ajith Kumar⁵
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Abstract:

While most of the wind energy comes from large utility –scale machines, small wind turbines can still play a role in off-grid installations or in the context of distributed production and smart energy systems. The Government of India has estimated the potential of 45000MW of wind power throughout the country in the year 2018. So far about 8748MW capacity has been installed in India. Because electricity shortage is felt most acutely, sustained energy crisis may become a humanitarian crisis. Over the years, small wind turbines have not received the same level of aerodynamic refinement of the large counterparts, resulting in a notably lower efficiency and therefore higher cost per installed kilowatt has been noted. In order to reduce this gap several studies have been conducted and results of the selected case study showed how to increase annual energy production.

The proposed work aims at developing an efficient horizontal axis small wind turbine and demonstrating its applications. Design and numerical study of the performance of small wind turbines by considering various aerodynamic configurations of the blades to make it start at minimum wind speed will be carried out. After the fabrication, experimental testing for various wind speeds will be carried out. Also, the feasibility of using an array of small wind turbines to meet the power requirements of Electric vehicle charging stations at coastal areas will be explored.

Keywords: turbine, charging station



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Muhammad Suhail
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Sharun Divakar P
4MT18AE042

Fabrication and Characterization of Jute and Hemp Fibers Reinforced with Nonmetals of PCB Based Composite Laminate

Ajeya K¹, Tanvi M Shetty², Nagaraj Nagesh Moger³, Abhishek C⁴, Ezhil Maran⁵

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Abstract:

The role of natural and manmade fibre-reinforced composite materials is growing at a faster rate in the field of engineering and technology due to their favourable properties. This work is concerned with the fabrication and experimental investigation of the mechanical properties of Jute and Hemp fibres when reinforced with the nonmetals of Printed Circuit Boards (PCBs). PCBs are used widely in electrical equipment like capacitors and transformers. The utilization of E-waste in the fabrication of another material is a partial solution to reduce the proportion of E-waste incineration or landfill. In this work, the mechanical properties like tensile strength, flexural strength, and impact strength of Jute and Hemp-based composites were evaluated when they were reinforced with nonmetals of PCBs. It was observed that when nonmetals of PCBs were added in the weight ratio of 1 wt.% and 2 wt.% with the Jute and Hemp fibres, the tensile strengths were increased by 7.29% and 10.70% respectively compared to Jute-based composites without adding PCBs. Also, 16.45%, and 32.20% respectively compared to Hemp-based composites without adding PCBs. Also, the flexural and impact strengths of the specimens with PCBs were shown the high values when compared to the specimens without PCBs. The proposed work has wide applications in the fabrication of aircraft structures like pilot's cabin doors, door shutters, interior door panels, door trims, etc.

Keywords: Natural fibres, Printed Circuit Boards, Jute, Hemp



Ajeya K
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Regenerative Electric Aircraft Taxi System

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Abstract:

Electrification is the major emerging trend in the present transportation sector. It happens not only in the automotive industry, but also spreads widely into other industries. Among them, aviation industry is another targeted field that is under rapid transition into electrification stage. In several next years there will be marketed new systems for ground manoeuvring of aircrafts. Main reason why there are going to be these new devices is maximal effort to decrease costs and environmental impacts of aviation. Aircraft ground operations are one important source of emissions in airports as taxi is conventionally performed by exploiting the inefficient idle thrust of the main jet engines. Conventional airplane transportation consumes about 2–3% of the worldwide total fossil fuels, which corresponds to 13% of the total fossil fuel usage in transportation. Especially with the surging demand from developing countries, the fuel consumption rate is expected to increase faster than ever. Our approach of solving this problem is by implementing electric motors that can be integrated in the main landing gears to enable electric drive of the aircraft to perform ground movements while the main engines are off during the taxiing process and thus increasing airplane efficiency, decreasing fuel consumption, cost reduction, reducing noise and reduced emission.

Keywords: *Electrification, Fuel Efficiency, Electric Motor, Fuel Consumption*



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4MT18AE028



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4MT18AE055



Nikhil H Prasad
4MT19AE402

Airborne Hybrid Power Generation System for Electric Vehicle Charging Station

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Abstract:

Airborne Wind and Solar Energy Converter (AWSE) is “the conversion of wind energy and solar energy into electricity using tethered flying devices” The transition toward electric vehicles is a promising strategy towards green and clean transportation. The charging infrastructure is very important to accommodate the rapid public adoption of electric mobility. In India there is a big opportunity in developing robust charging stations. Considering the energy requirements there is a need for renewable energy-based charging infrastructure. An airborne hybrid power generation system is proposed to utilize the wind and solar energy to meet the power requirements of EV charging stations. The major advantages of this type of airborne hybrid power generation system are the requirement of big towers and space can be eliminated and also small wind turbines can operate at minimum wind velocity. At high altitudes wind speed is more which can be tapped using the proposed system. Design of a lightweight generator, tethered balloon, control system for stabilizing the balloon and environmental effects on the proposed system are the major challenges to overcome. The goal of this project is to develop an airborne hybrid power generation system and characterize the power generation. An array of such systems will be used to meet the power requirement of EV Charging stations. Potential applications of the proposed system for coastal regions, workplace charging, home charging and cost effectiveness will be explored.

Keywords: *airborne, energy conservation*



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Systematic Approach in Developing IoT Enabled Wind Indicator for Agricultural Applications

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Abstract:

Agriculture always faces the risks due to various reasons. Among those climatic risks are the most important one as they are unavoidable and unexpected. Increased temperature, changed precipitation conditions and different wind patterns in the atmosphere are the major climatic factors affecting crop production. Since there is no viable end to end integrated technology solution platform available to increase overall crop yield nor well-established agriculture management system therefore to overcome this problem, a device that monitors climate changes and notes down all the weather parameters has been developed. Through this project we use the Internet of Things to perform the task of measuring and curbing the different climatic and wind parameters. The IoT devices are connected to sensors such as Arduino and Raspberry PI 3B+ that can be used by the farmers for their agriculture development. Raspberry PI 3B+ will help farmers to collect information such as wind velocity and wind direction, while Arduino will help to get temperature, pressure, amount of rainfall and humidity from the sensors. A 15ft pole will be designed and installed, containing IoT enabled anemometer, windsock, and weather sensors to obtain required parameters for agricultural purpose. The sensed values are stored in ThingSpeak cloud for future data analysis.

Keywords: IoT, Arduino, Raspberry PI 3B+, ThingSpeak



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4MT18AE006



Jerin Binoy
4MT18AE023



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4MT18AE033

IoT based drone airship for a dynamic weather monitoring

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Abstract:

The weather at place is always varying with respect to time. It changes not only with time but also with variable space parameters. More often; we assume that it behaves as usual as, we expect. Many a time we come across a situation where the unexpected changes in weather parameters have been observed beyond our expectation. So, it is better if we can forecast weather continuously to know the rainfall, drought and other changes. Weather forecasters often require huge data from upper atmosphere for more accurate weather forecasting. Atmospheric pressure, temperature, wind speed and wind direction play an important role in forecasting weather conditions more accurately. The attempt has been made to suggest a smart weather monitoring station using IoT technology by sending airship to the higher altitude for dynamic atmospheric data collection and transfer it for further processing for weather forecasting and modelling IoT. Connectivity Measures and collects the atmospheric pressure, temperature, humidity, wind direction and speed and sends the data to the ground. Study has been done by considering atmospheric temperature and light intensity in different environment.

Keywords: IoT, Whether monitoring, Airship, Temperature



Abdul thameem
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Kavyashree P
4MT18AE024

Experimental Investigation on Mechanical Properties of Bamboo and Carbon Fiber Reinforced with Epoxy Hybrid Composite for Aerospace and Automobile Application

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Abstract:

Natural fiber is a green and renewable resource which is used as reinforcement in composites in various applications. The aim of this paper work is to study the mechanical properties of bamboo/carbon hybrid composite for aerospace and automobile application. The tensile, bending and impact properties of bio-carbon composite are studied for different volume fraction of fibers. The hybrid composite laminates were fabricated by the hand lay-up method using Epoxy HSC 7600 & Hardener HSC 8210. Compared with pure bamboo Fiber reinforced composites, the tensile strength and impact strength of hybrid composite with 13% carbon fiber volume fraction, increased by 2 times and flexural strength by 30%. Carbon in bamboo fibre composites improves mechanical properties and increases the use of naturally available bamboo fiber. Sample with 40% carbon fiber can be used in the application of floor beams for upper deck and floor panels in aircrafts which requires the tensile strength of 250 Mpa. Using only 13% of carbon in the material in addition to bamboo fiber will have sufficient mechanical properties so that it can be used in automobile Dash-board, door panels.

Keywords: Natural fiber, composites, volume fraction, Hand lay-up, carbon fiber, bamboo fiber



Nikhil A P
4MT18AE034



P Deekshith
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Vinay Annappa Devadiga
4MT18AE054



Bobbe Shiva
4MT19AE401

Study And Development of Balsa Wood- Depron E-Glass Fibre Composite for Aircraft Floor Panel and Luggage Compartment

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Abstract:

The present materials records greatest usage of composites in automotive and aircraft Industry. Parts of Aircraft's are experimenting materials with respect to mechanical properties which should have more strength to weight ratio, resistance to buckling, high ultimate tensile strength, high resistance to vibration, and high fatigue. Composite materials filled the requirement for making high strength to weight ratio components. This paper aims to study the Mechanical Characterization of Balsa wood, Depron and Glass fiber. The fabricated composites is highly suitable for manufacturing of floors in aircraft's instead of carbon fiber reinforced epoxy composite. Also, it will used for luggage compartment. Using Hand Layup process, specimens were prepared and the tensile test, TemperatureTest and Flexures test has been performed as per ASTM standard. We observed 12%-17% more bending strength from this experiment which suits well for aircraft floor panel.

Keywords: IoT, Whether monitoring, Airship, Temperature



Channabasavesh N S
4MT18AE016



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4MT18AE043



Shivachaitanya B
4MT18AE045



Siddesh B S
4MT18AE048

Design and fabrication of multi utility spraying UAV

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Abstract:

There are too many technologies involved in today's agriculture, out of which spraying pesticides using drones is one of the emerging technologies. Spraying of pesticides manually causes many harmful side effects to the personnel involved in the spraying process. The exposure effects can range from mild skin irritation to birth defects, tumors, genetic changes, blood and nerve disorders, endocrine disruption, coma or death. This paved the way for utilizing drones as substitute for spraying process. As a part of project work an agri drone would be built capable of mapping an area, spraying pesticides and monitor crop production. This pesticide spraying drone reduces the time, labor cost. The final model is capable of mapping agricultural field and spray accordingly through nozzle with the help of autonomous mode operation. The UAV is tested for its endurance and theoretical calculations showed up 14.22 minutes of flight time at 16Ah battery pack and practically it was flown for about 13 minutes on full charge. This UAV is capable of eliminating 90% of pesticides by effective spraying. This type of drone can also be used to spray disinfectant liquids over buildings, water bodies and in highly populated areas by changing the flow discharge of the pump.

Keywords: *Spraying pesticides, Autonomous mode operation, Mapping*



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Manoj A M
4MT18AE027



Preetham B Gowda
4MT18AE038



Ranjan M K
4MT18AE039

Study of Effect of Carbon nanotube on Tensile, Impact and Flexural properties of Carbon fibre/epoxy reinforcement polymer

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Abstract:

Aircraft is a complex structure, but a very efficient man-made flying machine. The weight of the structure is one of the important factors in the design and development of the aircraft. This work is concerned with fabrication and experimental investigations of the mechanical properties of Carbon fibre Reinforcement Polymers (CFRP) along with Carbon Nanotubes (CNT) as additives. The usage of high-performance polymeric composites is a valuable alternative to conventional materials due to their high mechanical properties, stiffness to weight ratio and damage tolerance. The present work evaluates mechanical properties of CNT added CFRP's and compares it with the CFRP alone. Samples of carbon reinforced composites added with CNT will be fabricated by hand lay-up process and their mechanical properties such as tensile strength, flexural strength and impact strength will be investigated by the experimental study. The CNT weight of 0.5wt.%, 1 wt.%, and 2 wt.% were added to the carbon fibre reinforcement polymer. Hence, observed that the tensile strengths were increased by 27.5%, 53.25%, and 40% respectively compare to the without CNT carbon fibre specimens. The tested specimens were observed by scanning electron microscopy (SEM). The proposed work has wide applications in the aeronautical industry.

Keywords: Carbon fibre reinforcement polymer, Carbon Nanotubes (CNT), Mechanical Properties



Mohammed Usman
4MT18AE029



Prajwal A Budavi
4MT18AE036



Srinivas G S
4MT18AE049



Sarjil Pasha
4MT18AE056

Design & Computational Analysis of Parallel Flow Heat Exchanger with Effectiveness Improvement

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Abstract:

Heat exchanger performance by using rough surface and grooved tube to increase surface area for heat transfer. External grooved surface outside the tube (fins) make heat transfer faster because of more surface area. Also, Fins are used to exchange hot and cold fluid and reduce the temperature of hot fluid by transfer of heat to cold fluid. To determine the following for Parallel flow heat exchanger and Counter flow heat exchanger logarithmic mean temperature difference (LMTD), overall heat transfer coefficient – efficient and heat exchanger effectiveness (NTU method). In the present study the design and performance of double pipe heat exchanger with straight rectangular fins in the annulus side are analyzed numerically. Computational fluid dynamics (CFD) model using free open source code has been performed to study the fluid flow, heat transfer coefficient and pressure drop in the annulus side of double pipe heat exchanger for different configurations. A numerical investigation is carried out for different values of mass flow rate. The results first experimental results validated with previous papers for a simple double pipe heat exchanger. Then the CFD model results have been validated with rectangular fins. The results of rectangular fins in the annulus side causes increased rate of heat transfer and pressured drop compared to plain double pipe heat exchanger.

Keywords: Double pipe Heat exchanger, LMTD, Parallel flow, Rectangular fins, & NTU method



Sujay D
4MT18AE050



Abhiram B
4MT18AE003



Jayanth C K
4MT18AE022



Akshay Kumar P
4MT18AE009

Fabrication Of Composite From Sugarcane Bagasse And LDPE

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Abstract:

Natural fiber composites expected to be in great demand in the coming years due to increased consumer awareness to reduce the waste and environmental pollution. Bagasse fibers available in plenty as an agro-residue and bio-composites derived from such renewable resources offer potential for scale-up and value addition. Natural fibers have attracted researchers for their characteristics such as low cost, ease of availability, high strength to weight ratio, high tensile strength, low thermal expansion, bio-degradability etc... The present work focuses on the development of a polymer matrix composite using sugarcane bagasse fibers and to study its mechanical behaviour under external loads. The investigation is initiated with the use of LDPE polymers as the matrix material to review the effects of the bagasse in varying percentage weight of composites. The effects of the bagasse content will be reviewed using the mechanical testing processes like tensile testing, flexural testing, etc.

Keywords: Bagasse, LDPE, Polymer, Tensile and Flexural testing.



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4MT18AE010



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4MT18AE032



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4MT18AE041



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4MT18AE044

Vibration Based Fault Diagnosis of Rotating Disc

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

A rotating mechanical component in machineries like shaft, bearings, gears, pulleys, belt drives etc. are major components in any rotating machinery. The failure of these components leads to downtime of machines and reduction in production. Significant economic losses will be caused due to an unexpected failure of these components. Rotor imbalance is the most common cause of machine vibration. Mass imbalance leads to the generation of a centrifugal force, which must be counteracted by bearings and support structures. Hence the diagnosis of the components has to be done for the prolong use, such that the components will be in healthy state reducing the economic losses in the industrial applications. Vibration analysis techniques using accelerometer are used for detection of fault in rotating machinery. Fault detection is based on time- frequency analysis through MAT lab. The analysis is carried out by comparing Signals of defective condition with healthy condition through FFT analyzer. The validation is done successful by taking input signal from FFT analyzer to MAT lab program for calculating effective statistical parameters in defective condition for time & frequency domain analysis. Healthy and faulty vibration signals monitored from a rotor shaft test apparatus are analyzed

Keywords: Fast Fourier transform (FFT), Fault detection, Data analysis



Gaurilaxmi G Purusha
4MT18AE019



Bindhushree G
4MT18AE014



Deepak M Gowda
4MT18AE017



Lingaraj A
4MT18AE025

Fabrication and Development of Self-Healing Composite Material using Micro-Vascular Channels

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Abstract:

Composite materials play an important role in weight reduction, and hence they are used for both structural applications and components of aircrafts. To account for efficiency reductions induced by impact, existing harm models include large margins, likely to result in overweight as well as ineffective frameworks. Giving the power to recover oneself is another way to reduce impact damage sensitivity. This work focuses on the development of self-healing composite materials and the demonstration of strength recovery when a resin-filled hollow fibre is dispersed at specific intervals within a composite material. The primary goal of this research is to minimise mechanical property loss while maximising healing event efficiency. In the present work, the specimens of composite material with and without micro-vascular channels were created. The one with the channels were filled with resin and hardener mixture. And then both the specimens were subjected to flexural test to find out the loss in strength. A 5.7% and 15.25% loss in flexural strength of the self-healing composite material was found in comparison to a reference specimen. The loss being minimal, these materials can be used in wide applications. Aerospace applications of the proposed work include fuselage and aerostructures, engine blades, corrosion protection coatings, smart paints, and impact-resistant space structures.

Keywords: *Self-Healing Composite Material, Micro Vascular Channels, Flexural Test, Aerospace Applications*



Chaitra M
4MT18AE015



Goutham K B
4MT18AE020



Thakur Simran Sunil
4MT18AE052

Conceptual Bladeless Windmill

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Abstract:

As we step into the 21st century, the need for more efficient and eco-friendly energy is forever increasing. The conversion of wind energy to electricity is the main goal of this project. Since 1950, India has been researching on how to implement wind energy as a fuel source. In, 2001, the wind energy sector really kicked off when the country reached the wind energy capacity of around 1000MW. As a result, India became the 3rd largest country to use wind energy. In, this project we further take the conversion of wind energy with minimal cost factor and simplicity compared to a traditional wind mill. This device captures the energy of vorticity, which is an aerodynamically unstable condition. As the wind hits the structure, it rotates the mast in a cyclical pattern and this produces vortices. As the wind speed increases the vibration of the mast also increases and in turn increases the electricity produced. This effect is called as Vortex Shedding effect. The electricity is produced with the help of alternator and tuning system.

Keywords: wind energy capacity, wind energy conversion, minimal cost factor, vorticity, cyclical pattern, vortices, vibration, vortex shedding, alternator, tuning system



Apoorva B R
4MT17AE007



Rahul U
4MT17AE038



Suhas HM
4MT15AE051

Design And Fabrication of Tyre Pressure Monitoring System in Motorbikes

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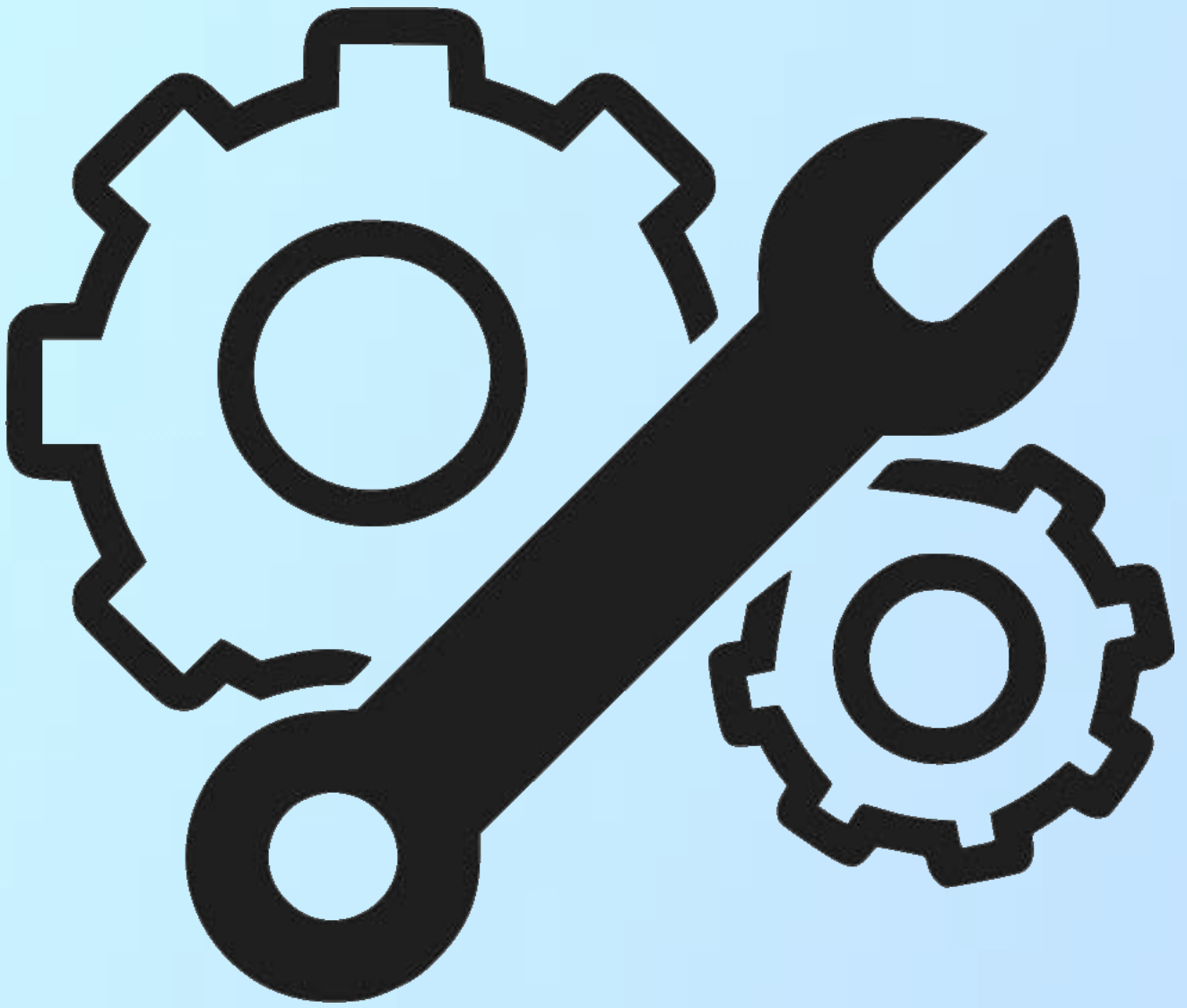
Abstract:

One in three households in India owns a two-wheeler and the annual production stands at 20 million units with over 15 million two-wheelers sold in India every year. Extreme under-inflation can lead to thermal and mechanical overload caused by overheating and subsequent, sudden destruction of the tyre itself. This kind of failure can lead to potential hazards and accidents that will endanger not only the rider but also his/her surroundings. But by considering India's population these numbers may skyrocket with a large number of people having more 2-wheelers and lesser time to manually check and the inability to regularly inspect the vehicle at a service centre, the above problems will arise more often without the riders realising. This project focuses on designing and developing a direct TPMS, which measures the air pressure that is taken directly from the tyre using pressure sensor. Once the TPMS detects a lower tyre pressure, the air is supplied to the tyre through a compressor unit (manually). To power the device, energy is chosen either through a dynamo or a standby battery. The main components is to be calibrated to ensure consistency and precision of the prototype, in reporting the pressure and supplying adequate air to the tyre. Although there are many obstacles and limitations faced, this prototype is a promising product in real world application.

Keywords: TPMS, Compressor unit, energy, prototype, real world application



Vishnu Kushal P
4MT17AE060



DEPARTMENT OF MECHANICAL ENGINEERING

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Solar Photovoltaic Cooling Technologies

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Abstract:

Solar energy is completely natural, it is considered a clean energy source. So improving the efficiency of solar panels is very necessary. A solar cell or photovoltaic cell is an electrical device that converts the energy of light directly into electricity by the photovoltaic effect, which is a physical and chemical phenomenon. The efficiency of the solar cell currently used is 13%-17%. This is because as the solar cell reaches a temperature beyond a range of 25-35 degrees C it stops producing electricity. This setup ensures that the temperature of the solar cell is between the above-mentioned temperature range and this will in turn help to produce the electricity for a longer duration of time. This will in turn increase the efficiency of the system. In this work, a self-cleaning and self-cooling PV system with feedback control was designed, constructed, and operated. This consists of synthetic coolant which will spray onto to Glass casing which will be on top of the solar panel. The coolant will spray onto the glass plate which in turn reduces the temperature of the panel. This will help to maintain the temperature and produce electricity for a longer duration of time. Usually, as the solar panel goes beyond the temperature range it stops producing electricity due to which the efficiency is reduced our setup keeps it an optimum range for the solar cell to produce electricity for a longer duration of time which in turn increases the efficiency of the cell.

Keywords: Photovoltaic cell, Cooling technologies, PV efficiency improvement, cleaning system.



Ashwin K
4MT18ME024



Sudhanshu
4MT18ME126



Sumith S
4MT18ME131



Shashank K
4MT18ME110

Development of Wild Animal Ward Off System: Crop Saver

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Abstract:

Agriculture is facing many problems and one of the main problems is the destruction of crops by wild animals. Every year on an average 30-40% of the yield is lost by farmers. Traditional methods like fencing and scarecrows are not effective. In many cases, the animal gets injured by these repellent methods. The wild animal ward-off system not only solves farmers' problems but also protects animals while resolving the biggest issue of human-animal conflict. The current work aims to protect the crop from the attack of wild animals and thus, minimize the probable economic loss to the farmer. The system is designed to detect intrusion around the field by sensing the animal intrusion and activating the camera for image detection through sensors. The camera captures the image of the intruder and classifies then using image processing. The surveillance video is available to the farmer 24X7. Based on the type of the intruder, a suitable ward-off mechanism is activated. Ward off mechanisms like loud noise generator (cracker sound, siren), bright flashlight, rotten egg spray, etc. are employed. The system sends a notification to farm owners using the Wild Animal Ward off System Appin, then the smartphone whenever animal intrusion takes place. If the detected object is a human, then the trigger will not be activated. This system can record the video and store it in a storage unit which can be accessed for surveys, the study of animal behavior, and future purposes.

Keywords: Animal Ward off, Crop saver, Intrusion



Mohammed Yaseen
4MT18ME067



Loyal Aaron Noronha
4MT18ME052



Rithvik S Shetty
4MT18ME100



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4MT18ME053

Fuel Fraud Detection Device

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Abstract:

As the number of vehicles on the road increases the amount of fuel utilized at gas stations also increases. Many fuel stations today tamper with the fuel gauge so that the amount entered is displayed, but the amount of fuel filled to the vehicle's tank is considerably less than the stated value. Gas stations benefit handsomely as a result of this, while gasoline consumers are duped and deceived at the same time and users are dissatisfied with the quantity. In India, most automobiles feature analog fuel meters that do not offer real-time information. In this work, while refueling the vehicle's fuel tank, fuel is injected inside the fuel tank through the turbine flow meter and which measures the quantity of fuel with the help of a microcontroller. The later microcontroller sends the obtained data to the Arduino to display the price and quantity of fuel poured into the fuel tank. This equipment provides 98 % accuracy in the amount of fuel filled and the amount of money that should pay during the refilling process. The precise amount and cost of the fuel filled will be displayed on the dashboard of the vehicle and also communicated to the owner's smartphone, where it can be checked via an App. With the help of the App, the price can modify on daily basis.

Keywords: Fuel fraud detection, Flow meter, Digital indicator, Fuel station



Radhvik Poonja
4MT17ME096



Ranjith K
4MT18ME095



Shreeraksha P
4MT18ME120



Navaneeth M Gowda
4MT18ME076

Design and Development of Portable/Collapsible Structure for Indoor Hydroponic Farming

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Abstract:

This paper presents a view of the design and development of a Portable/collapsible structure for indoor hydroponic farming that can be used to minimize large space consumption and is easy to grow inside the home or inner environment. Hydroponics Farming is beneficial in Urban areas and hence getting popular so fast due to its Indoor Farming capability and reduced consumption of large spaces and its water recycling ability to reduce water consumption and save water. 2-inch standard PVC Pipes are used as the main components to build the structure. The water flow rate is based on different parameters like bends and slopes. The aim of this study is to build a portable/collapsible structure by taking into consideration of old hydroponic farming structures. In this digital world, all the developing country's growth has improved elastically with the impact of farmers and their innovative farming processes. The Portable/Collapsible is an excellent alternative for garden enthusiasts to indulge in their favorite activity given a small space and budget. It is a convenient and transferable structure that can be set up. The study will focus on the Design and Development of a Portable structure for hydroponic system temperature reduction array bound by each of the cooling technologies for Plant Growth.

Keywords: *Hydroponics, Raising Crops and Water Recycling*



Karthik Prabhu
4MT18ME047



Mohammed Raiyan Khan
4MT18ME066



Mohammed Adnan
4MT18ME065



Mohammed Salman Fakki
4MT18ME059

A Comparison between Mechanical Properties of 3D Printed Specimens using Recycled PLA and ABS

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Abstract:

The current research was focused on a further insight into the mechanical properties of 3D parts printed with recycled plastic filaments like polylactic acid (PLA) & Acrylonitrile Butadiene Styrene (ABS). The first set of specimens was printed with recycled PLA filament and ABS mechanically tested. Such specimens were then ground up and re-extruded into filament using a homemade extruder. The re-extruded filament was employed to manufacture a new set of specimens which were also analysed. The obtained results suggested that 3D printed with recycled PLA & ABS may be a viable option. The desktop 3D printing is a quickly emergent additive manufacturing process due to its capacity to build complex geometry functional parts. Polymer filament is used as a raw material for building various functional parts. 3D printing process parameters influence the mechanical properties of a built part. The present study investigates the effect of process parameters like layer thickness and layer speed on the mechanical properties of recycled PLA and ABS manufactured with a low cost 3D printer. With respect to the layer speed and layer thickness, it is found recycled PLA has better tensile & flexural properties compared with recycled ABS.

Keywords: 3D printing, flexural & Tensile characterization



Suman Yadav
4MT18ME129



Vikas K H
4MT18ME134



V Kishan Kumar
4MT17ME155



Shetty Dhananjay
4MT18ME116

Experimental Investigation on Effect of various fillers on Delamination in Composite Material during Drilling Fabricated by Hand Layup Technique

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Abstract:

Filler materials are the inert materials which are used in glass fiber reinforced polymer (GFRP) composites for modifying the chemical and physical properties of the matrix polymers to reduce material costs, to improve processability, to improve product performance or to simply act as extenders or matrix diluents. The present work focused on fabrication of Glass Epoxy composite with cenosphere and aluminum powder used as filler material. The Filler material was varied in % composition by 3%, 6% and 9% in the total volume. Effect of fillers on delamination in composite material during drilling fabricated by hand layup technique. The tests showed the composite with cenosphere and aluminum filler material exhibits reduced delamination.

Keywords: Composite Material, Filler materials, Delamination.



Amir
4MT17ME022



Akshaye Vijayan
4MT17ME019



Keerthan Kumar Shetty
4MT16ME056



Anurag M V
4MT17ME025

Low Cost Corn Cob Water Purifier in Rural Areas

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Abstract:

The corn cob water purifier is essentially made for the purification of contaminated water in rural areas. The purifier treats the grey water using corn cob and activated corn cob which checks whether it is suitable for reuse applications like washing, watering, irrigation, etc. For the water filtration body structure, there are different levels of filtration process using corn cobs, grinded corn cobs, charcoal, geotextile cloth and gravel. This structure is arranged layer by layer for absorbing mainly solid, suspended and gasoline wastewater etc. Maximum adsorption of gasoline waste is seen in the powdered corn cob layer & suspended particles are collected by the section of corn cob pieces. As the sources of grey water includes sinks, showers, washing machines or dishwashers and grey water contain fewer pathogens than domestic wastewater. Quantities of pollutants ranging from detergents to gasoline to salts and heavy metals is adsorbed by the corncob. The testing of the water purified is done to check BOD, COD, pH of water, turbidity, hardness, etc., before and after treatment. The results will be noted and a brief observation is made.

Keywords: *Corn cobs, Activated corn cob charcoal, Geotextile cloth filter, Gravel, Fine sand.*



Sidharth Sekhar
4MT18ME122



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Upparkar
4MT19ME401



Hrishikesh Raj
4MT18ME041



Shamil G V
4MT18ME109

Development and Fabrication of Centre Pivot Irrigation System

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Santhosh Acharya⁵

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Abstract:

Irrigation has been the backbone of human civilization since man has started agriculture. As the generation evolved, man developed many methods of irrigation to supply water to the land. Irrigation is a basic determinant of agriculture because it increases the agricultural production. The current irrigation methods increase the work load on the farmer and water is not effectively supplied to the crop. This may lead to over-irrigation or under-irrigation and effects the yielding of the crop. A centre pivot irrigation system is a movable pipe structure that rotates around a central pivot point connected to a water supply. Centre pivot irrigation systems are the most used sprinkler irrigation systems in the world because of their high efficiency, high uniformity, ability to water rough terrain, and inexpensive capital, maintenance, and management expenses. This system smartly irrigates the field by supplying water evenly to the crop without involvement of the farmer. It includes various features like moisture and rain sensing facilities through moisture sensor, and rain drop sensor respectively. In this project, the description of various electronic sensors using Arduino is the primary topic of the centre pivot irrigation system. Sensors such as the Rain sensor and the Moisture sensor are employed in this project, and their major role is to control the water supply.

Keywords: Centre pivot, Rain & Moisture Sensor, Automated irrigation, Arduino



Prajwal G Nagmule
4MT18ME085



Murugharajendra B
Malagi
4MT18ME072



Vivek S Tamse
4MT18ME138



Shetty Adarsh Seetarama
4MT18ME115

Development of Waste Plastic Bottle Collecting Machine that Rewards the Recycler with Monetary Benefits

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⁵Dr. Neelakantha V Londe

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⁵Professor, Department of Mechanical Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The major contribution to the waste generated is plastic which is thrown away after its usage. It is aimed to build a machine smart bin for collecting plastic bottles with reward features. The technology used for identifying plastic bottles is image processing. Once the number of bottles is identified, depositors can claim the points by entering a unique id and the accumulated points can be used to generate a promo code. The user and authority can keep track of their details by maintaining an account in the application software developed. Once the machine at a specified location is filled, this could be notified to the authority via messaging through the application.

Keywords: Plastic, waste, smart-bin, image processing.



Akash Shankar Poojari
4MT18ME009



Ajith S
4MT18ME007



Harshith Poojari
4MT18ME039



Poudan Kumar
4MT18ME083

Design and Fabrication of Air Purifier Using High-Efficiency Particulate Air Filter (HEPA)

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Abstract:

The basic needs of life are fresh air, clean water, food, and shelter. Fresh air around human habitation is essential for a healthy life. As a result of unscientific urbanization, air pollution raised to the highest level in most of the cities of the world of rapid industrialization and an increase in internal combustion engines in power generation as well as in automobiles. The essential need of the hour is getting fresh air to lead a good life even inside the home even when the air conditioning system is not used. Indoor pollution is also a cause of worry. An ordinary air filter does not remove the dirt effectively, leaving some dust back in the room.

This project focus on the design and fabrication of such a system for improving the air purification using a combination of conventional and advanced air filtering concepts which involves High- an Efficiency Particulate Air (HEPA) filter along with a Negative ionizer, prefilter, and cold catalyst, carbon filter, anti-bacterial filter, Ultraviolet light. The air quality before and after filtering using a HEPA filter is compared and analyzed. It is observed that the use of HEPA enhances the Air quality to a remarkable level.

Keywords: HEPA, Air Quality, Air Filter



Pavan Kumar J
4MT18ME082



Abhishek S Patil
4MT18ME004



Srinidhi N
4MT18ME125

Optimization of Battery Thermal System for Electric Vehicle using Simulation

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Abstract:

The BTMS is one of the important systems of an electric vehicle that has a direct influence on its performance. In this regard, this paper proposes a CFD model that increases the accuracy of data obtained by analysis of the temperature inside battery packs. The proper model design and development of a battery pack leads to an increase in the life of the battery cells and the energetic efficiency of the electric vehicle in good specific road traffic conditions. The research methodology of the thermal phenomenon in the battery pack, is based on an efficient co-simulation concept consisting of steady-state CFD simulations and researched analysis model for the thermal behaviour of a lithium-ion (Li-ion) cylindrical battery and applied in a battery pack's forced air-cooling thermal management system & liquid cooling system. Comparing both results obtained, we can say that liquid coolant systems have higher heat conductivity and heat capacity i.e. The ability to store heat in the form of energy in its bonds than air. Therefore, battery performance is greatly boosted, and SOC can be also maintained for a longer period.

Keywords: Matlab, Electric vehicle, Lithium-ion battery, CFD, Air cooling



Gagan Gunakar
4MT18ME036



Girish
4MT18ME037



Hasheel Ismail
4MT18ME040



Megha
4MT18ME056

Design and Optimisation of Vehicle Chassis for Harsh Road Conditions

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Abstract:

The chassis, one of the most important sections of a vehicle, is the structural backbone of commercial vehicles. According to a ground-breaking study, chassis are subjected to high loads, which can lead to undesirable behaviour such as cracks or severe failure. Furthermore, although not particularly explored, research has shown an interest in the influence of certain materials on chassis behaviour when receiving stress. Based on the findings of these studies, it is possible to conclude that more chassis research is needed to generate data for future consideration in the evaluation and development of vehicle chassis designs. The primary function of the chassis is to support the components and payload that are mounted on it. When building a big truck chassis, many factors were taken into account, including material selection, strength, stiffness, and weight. This study focuses on the static and dynamic properties of a utility vehicle prototype ladder frame chassis. The chassis was created using the modeling software Autodesk Fusion 360, and the analysis was also carried out using Autodesk Fusion 360. To complete the chassis meshing, the auto meshing feature will be used.

Keywords: *Ladder frame chassis, Step up Chassis, Stress analysis, Displacement testing, Structural analysis.*



Nandan
4MT18ME074



Reuben George O
4MT18ME097



Shashank S K
4MT18ME112



Irwin D Souza
4MT18ME044

Refurbishment of IC Engine vehicle to Electric vehicleAdweith Menon,¹ Mithun Naik,² Nithesh,³ Sidharth K S,⁴ Swaroop G⁵^{1,2,3,4} Department of Mechanical Engineering,⁵ Assistant Professor, Department of Mechanical Engineering,

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Abstract:

India has large two-wheelers for personal and private transportation and these two-wheeled vehicles are driven by IC engines. Many of our cities and towns suffer from severe air pollution caused partly by the large number of 2 and 3-wheelers with inefficient and polluting engines. Also, a few million vehicles are scrapped every year due to the condemned IC engines which go for the least price value. Rather, if we have a technology to recycle those vehicles for the next 10 to 15 years that would enable the users to reuse their vehicles and decrease the massive manufacturing process and the import/export of brand new vehicles produces a far greater impact on carbon footprint than running an older vehicle for many years. The technology is the conversion process of an internal combustion engine to an electric vehicle powered by batteries comprises many steps from choosing the vehicle, sizing a motor, and the type of batteries. By using an existing vehicle with this conversion technology, you are not only extending the life cycle of that unit but saving the huge energy input of recycling, new parts production, and new manufacturing. In our project we are going to fabricate an electric vehicle using a lithium-ion battery and with a BLDC motor.

Keywords: Refurbishment, I.C Engine, Electric Vehicle, Motor, Battery, pollution, simulation, design, construction, fabricate, recharging, analysis, MATLAB, Range, Speed

Adweith Menon
4MT18ME006Mithun Naik
4MT18ME058Nithesh
4MT18ME078Sidharth K S
4MT18ME121

Design and fabrication of desktop 3D printer

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Additive manufacturing, often referred to as 3D printing, has the potential to vastly accelerate innovation, compress supply chains, minimize materials and energy usage, and reduce waste. Originally developed at the Massachusetts Institute of Technology in 1993. 3D printing technology forms the basis of Z Corporation's prototyping process. 3DP technology creates 3D physical prototypes by solidifying layers of deposited powder using a liquid binder. By definition, 3DP is an extremely versatile and rapid process accommodating geometry of varying complexity in hundreds of different applications and supporting many types of materials. Z Corp. pioneered the commercial use of 3DP technology, developing 3D printers that leading manufacturers use to produce early concept models and product prototypes. Utilizing 3DP technology, Z Corp. has developed 3D printers that operate at unprecedented speeds, extremely low costs, and within a broad range of applications. This paper describes the core technology and its related applications. Additive manufacturing, often referred to as 3D printing, is a new way of making products and components from a digital model. Like an office printer that puts 2D digital files on a piece of paper, a 3D printer creates components by depositing thin layers of material one after another, only where required, using a digital blueprint until the exact component has been created.

Keywords: Robotics, 3D Printing



Chandan P
4MT19ME402



Avanish M Kumar
4MT17ME027



Anish V
4MT18ME019



Sheik Mohammad Arif
4MT18ME114

Automatic Brake Failure Detector and Acceleration Locking System

Arjun E,¹ Hrithik Sanil,² Mohammed Mahroof H,³ Sanjal Rajeev,⁴ Mamatha K M⁵
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Abstract:

Nowadays, Machines are widely controlled by control systems. To meet the need of exploding population economic an effective control of machines is necessary. The aim is to design and develop a control system based on an automatic brake failure detector and acceleration locking system using IR Sensor and the control unit. The automatic brake failure detector and acceleration locking system consists of an IR sensor circuit, a control unit, and the wheel and the brake arrangement. The sensor is used to detect the brake failure; the control signal is used to ignition the coil so that the vehicle is stopped. The main theme of this project is to monitor the brake system at every moment and if there is any brake failure the acceleration is locked automatically, i.e. the driver cannot accelerate the vehicle furthermore. An IR sensor is placed on the brake kit assembly. The sensor is connected to the control unit. Hence, when the brake fails, the control unit sends a signal to the ignition coil so that vehicle is stopped.

Keywords: Brake, Acceleration locking, IR sensor, Failure detector



Arjun E
4MT18ME021



Hrithik Sanil
4MT18ME042



Mohammed Mahroof H
4MT18ME065



Sanjal Rajeev
4MT18ME055

Generation of Electricity Using Railway Track

Tarun D Shetty¹, D P Anish², Chinthan Shetty³, Akash Shetty⁴, Mamatha K M⁵

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Generating power with an energy harvesting system that runs on the railway track for power applications our country currently requires a nonconventional energy system. The energy obtained from railway tracks is one type of non-conventional energy because no fuel is required as an input to generate the output in the form of electrical power, which is accomplished through the use of a basic gear drive mechanism. The flap, rack and pinion, gears, freewheel, flywheel, DC generator, and battery are all carried by these mechanisms. The main goal of this setup is to harvest a huge amount of energy from railway tracks that can be utilized to power track-side facilities with power ratings of 8 to 10 watts or more. This project shows how energy can be tapped and used at a commonly used railway track. On railway tracks, a large amount of energy is wasted during trains passing through the track due to the dissipation of heat and friction when trains are moving through the track.

Keywords: Energy, Energy Harvesting, Non-conventional Method, Rail Road



Tarun D Shetty
4MT18ME133



D P Anish
4MT18ME031



Chinthan Shetty
4MT18ME028



Akash Shetty
4MT18ME010

Assessment of Wear behavior of Aluminum Composites

Niranjan Kamath¹, Kaushik M Hegde², Prahallad Chowta³, Irfan⁴, Dr. Vignesh Nayak U⁵

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Aluminum alloys have extensive application in industries. The range of physical properties that can be imparted to them is remarkable. The need for high-strength aluminum composites is growing quickly with the aim of reducing the weight of automobiles. A limitation of aluminum alloy is its lower wear resistance. As aluminum is widely accessible, improving this quality in the alloy allows it to be used more efficiently. The present study investigates the tribological properties of four Aluminum composites as-cast alloy samples. The composites were Al-5wt% MoS₂, Al-1wt% RHA, Al-1% MoS₂ + 1% RHA and Al-0.5wt% Al₂O₃. Wear tests were conducted using a pin-on-disc wear testing machine. Hardness measurements were obtained. It was found that the 1wt% RHA has the highest hardness value of 71 HV. The operational parameters that were varied were normal load, speed, and sliding distance. This project presents the results of wear tests and the variables that influence the experimental evaluation of wear characteristics.

Keywords: Aluminum, Composites, Reinforcement, Wear, Casting.



Niranjan Kamath
4MT17ME077



Kaushik M Hegde
4MT18ME049



Prahlad Chowta
4MT18ME084



Irfan
4MT18ME043

Design and Fabrication of Tyre Pressure Monitoring System in Motorbikes

Sarang¹ and Dr. Vignesh Nayak Ullal²

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

One in three households in India owns a two-wheeler and the annual production stands at 20 million units with over 15 million two-wheelers sold in India every year. Extreme under-inflation can lead to thermal and mechanical overload caused by overheating and subsequent, sudden destruction of the tyre itself. This kind of failure can lead to potential hazards and accidents that will endanger not only the rider but also his/her surroundings. But by considering India's population these numbers may skyrocket with a large number of people having more 2-wheelers and lesser time to manually check and the inability to regularly inspect the vehicle at a service centre, the above problems will arise more often without the riders realising. This project focuses on designing and developing a direct TPMS, which measures the air pressure that is taken directly from the tyre using pressure sensor. Once the TPMS detects a lower tyre pressure, the air is supplied to the tyre through a compressor unit (manually). To power the device, energy is chosen either through a dynamo or a standby battery. The main components are to be calibrated to ensure consistency and precision of the prototype, in reporting the pressure and supplying adequate air to the tyre. Although there are many obstacles and limitations faced, this prototype is a promising product in a real-world application.

Keywords: *TPMS, Compressor unit, Energy, Prototype, Real world application*



Sarang
4MT17ME126

Fabrication of Eco-friendly Engineering Materials for Construction

Sreerag V¹, Krishna N², Arjun M³, Raihan K K⁴, Dr. Vignesh Nayak Ullal⁵

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⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Rice Husk Ash (RHA) is an agricultural waste that is being obtained from the milling process of paddy. South India has an abundance availability of RHA. Presently it is disposed off as agricultural waste and is also used as a fuel for boilers through incineration. Modern construction materials make use of cement. Production of cement involves a significant expenditure of resources and also causes environmental pollution. The current work focuses on assessing the properties of RHA and its subsequent utilization as an eco-friendly construction material. A key challenge in the development of aggregate material is binding it together. In the current investigation egg, egg white, sand, clay (Bentonite), and flour were used as the binder. Compaction followed by sun-drying was carried out to assess the binding ability of the RHA. Tests for absorption of water, XRD to analyze constituent of RHA, Float time, and compressive test to obtain break strength and density measurements of the prepared model were conducted. The results that RHA bound using egg white and maida flour was better in terms of resisting fracture during the drop test and had the least water absorption value.

Keywords: RHA, Egg, Maida, Compressive strength, Water absorption



Sreerag V
4MT17ME124



Krishna N
4MT18ME050



Arjun M
4MT18ME022



Raihan K K
4MT17ME106

Highway Divider Based Air Filtration System Powered By Vertical Axis Wind Turbine

Sushanth Nayak¹, Charan², Sumanth S Devadiga³, Ruthvik A Bangera⁴, Madhusudhan B⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵ Assistant Professor, Department of Mechanical Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The main aim of the project is to improve the quality of air in highly polluted cities where the air is polluted due to high gas emissions due to a large number of vehicles. The status of air quality in India is poor. Up to 54% of Indians live in cities that do not meet NAAQS standards for fine particulate matter and neither city meets WHO standards. The whole world, including India, is worried about the deteriorating air quality which is affecting every form of life. So, the aim is to design a system that can control air pollution by using the energy generated. When the vehicle passes on the highway it produces a considerable amount of air due to its speed. This air impacts tangentially the blade of the vertical axis wind turbine, and it rotates the turbine in a single direction. The generator is connected to the shaft of the vertical axis wind turbine to generate electricity. The electrical output of the vertical axis turbine is stored in a battery. This stored energy can be further used for air filtration.

Keywords: Vertical Axis Wind Turbine, Air Filtration, Air Pollution



Sushanth Nayak
4MT18ME132



Charan
4MT18ME027



Sumanth S Devadiga
4MT18ME130



Ruthvik A Bangera
4MT18ME103

Design and Fabrication of Single Window Automated Ration Vending

Snehal Shet¹, Mohammed Gouse Inthiyaz², Mohammad Sahad³, Supritha S⁴, Madhusudhan⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Assistant Professor, Department of Mechanical Engineering,

Mangalore Institute of Technology & Engineering-BadagaMijar, Moodabidri

Abstract:

In India, approximately 1.21 billion (29.8%) people live below the poverty line and they are dependent on a monthly supply of commodities from the ration shop. But the present ration distribution system has a lot of irregularities and many fraudulent activities are taking place in this sector. The commodities that the government provides to the ration shops are not reaching the people who deserve it and are falling into the wrong hands. To solve all these problems, automatic ration vending machines came into the picture. While building these vending machines researchers have carefully combined all the recent technologies and made sure that the system is convenient, systematic, and corruption-free. The most common technologies used here are RFID, biometrics, and GSM technologies.

Keywords: *IoT, Ration machines, RFID, biometrics, GSM vending*



Snehal Shet
4MT18ME123



Mohammed Gouse
4MT19ME406



Mohammad Sahad
4MT19ME405



Supritha S
4MT19ME407

Segregation of Different Grades of Plastic for Recycling

Revin Sonal¹, Mohammed Furqan², Rakshith Shetty³, Ashish Ajri⁴, Madhusudhan B⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Assistant Professor, Department of Mechanical Engineering,
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Abstract:

Plastic as a synthetic polymer substitute for natural materials has become an essential aspect of our lives. Plastic waste is a silent threat to the environment and its disposal is a serious issue for waste managers. Now a day society does not have any alternative to plastic products like plastic bottles, plastic sheets, etc. In spite of all efforts made to limit its use but unfortunately, its utility is increasing day by day. Improper disposal of used plastics has led to increasing litter, which is contaminating the environment, harming wildlife, and wasting valuable resources. The sorting of plastics is a very essential step in different waste management techniques. There are different types of sorting techniques like Dry sorting, Air sorting, IR & X-Ray sorting, Electrostatic sorting, Wet sorting, Melting sorting, and Hydrocyclon sorting. Manual sorting is suitable when plastic components are present in large amounts but it is a labor-intensive process. Our project makes use of the sorting technique by thermal adhesion quality of the plastic. This sorting technique is suitable for sorting plastic based on its grade. To be able to use this method, it is essential that the softening temperatures of the plastics are significantly different. This technique consists of a heated conveyor belt. Sorting takes place by the selective thermal adhesion of the softened particles to the rolls or belt with a low operating cost.

Keywords: Plastic Segregation, Recycling, Heating



Revin Sonal
4MT18ME098



Mohammed Furqan
4MT18ME062



Rakshith Shetty
4MT18ME118



Ashish Ajri
4MT19ME400

Smart and Saftey Device for Gas Stove

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⁵Senior Assistant Professor, Department of Mechanical Engineering,
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Abstract:

A gas stove is a stove that is fuelled by combustible gas such as syngas, natural gas, propane, butane, liquefied petroleum gas, or other flammable gas. Natural gas stoves can explode when the gas builds up without being “lit”. The best way to prevent that is to make sure the gas “lights up” into a flame and if it doesn't, turn the gas off. However, if you allow gas to build up in the stove and then try to light it the gas will explode. The smart stove safety device is a mechatronics system used to turn off the gas stove when leakage of natural gas is detected. The smart safety device attaches directly to existing knobs and turns off the gas stove when it detects gas leakage. Our device also provides a feature that gives Enhanced safety with the intelligent timer control which cuts off the gas supply when the pre-set time is up. The device also has a system that monitors the vicinity in front of the gas stove and if there is no motion in the vicinity for a long time the device will cut off the gas supply. The ability of IoT to provide sensor information as well as enable device-to-device communication is driving a broad set of applications. The proposed device has an IoT system through which you can check the status of the gas stove and control the timer system through a smartphone. The main aim of this project is to reduce risks in the kitchen and make gas stoves much more convenient to use.

Keywords: Gas stove, IoT, Saftey, Mechatronics



Muhammed Saad
4MT18ME071



Kaif Yusuf
4MT17ME053



Shaikh Mahammed Danyal
4MT17ME129



Mohammed Fazil Ali C
4MT18ME061

Design and Development of Electric Wheelchair Bike

Ashwin¹, Deekshith², Dhanush Shetty³, Suhas⁴, Sridhar D R⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The mobility of physically challenged or disabled people is a major social concern. A wheelchair is a seated mobility device that moves around on wheels. The machinery is propelled either manually or by various automated systems which can reduce manual power for its movement. People who have trouble or are unable to walk due to disease, accident, or disability use wheelchairs. Electric energized chairs can be used indoors, outdoors, or even both. Hence the main objective of this project is to design and fabricate an Electric-Wheelchair-Bike to help physically disabled people to enhance their physical activity and improve their quality of life. This project presents the design and fabrication of the Electric-Wheelchair-Bike model, this can be used as an Electric Wheelchair inside the house to move around and can be converted into an electric scooter simply by connecting a drive front body with a locking mechanism to use it outside to travel on road. This model is driven by EV technology and consists of an Electric motor and battery, this is eco-friendly and more efficient, allowing disabled people to travel wherever they want without the assistance of another person. As a result, this project will demonstrate that it can be an exclusive solution for severely disabled people to have independent movement.

Keywords: *Wheel Chair, Physical disability, Electric battery, Electric scooter*



Ashwin
4MT18ME023



Deekshith
4MT18ME033



Dhanush Shetty
4MT18ME034



Suhas S
4MT18ME127

Design and Development of Low-Cost Water Purifier using Cationic Protein from *Moringa Oleifera* Extract

Abhishe A Shetty¹, Shashank Raju Poojary², Harsha A Devadiga³, Devaraj B⁴, Sridhar D R⁵

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⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Using "greener" wastewater treatment technologies has grown in popularity because they are more ecologically friendly as well as provide a range of potential benefits, such as cost reductions, minimized by-product creation, and enhanced biodegradability. In most developing countries, the high construction costs of traditional water treatment plants and distribution systems make it difficult to deliver clean and enough water to all families, especially in rural communities. It is not feasible to deploy RO technology for filtration in rural locations where energy may not be available continually, and it is also prohibitively expensive for the population. The goal of this study is to combine the low-cost technologies of slow sand filtering with a popular plant-based coagulant *moringa oleifera* to treat local surface and groundwater on a home scale. The cost analysis shows that it is a good alternative to traditional techniques and that it may be implemented on a broad scale by communities or individual households.

Keywords: Water filter, *Moringa Oleifera*, Charcoal, Sand, Pebbles



Abhishek A Shetty
4MT18ME003



Shashank Raju Poojary
4MT18ME111



Harsha A Devadiga
4MT18ME038



Devaraj B
4MT19ME403

Design and Fabrication of Semi-automatic Paper Recycling Machine

Bhaskara Gowda,¹ Yashin Mohammed,² Sourav Dinesh,³ Shashikant⁴

^{1,2,3}Department of Mechanical Engineering,

⁴Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

In any big institution, especially educational institutions like schools or colleges, the generation of a large quantity of waste papers is quite apparent. And effective use of recycled paper is also possible (craft papers, registers, etc). So, instead of disposing of the waste papers into the trash, recycling them makes sense. This not only helps the institute in cost-saving but will also ensure its contribution toward protecting the environment. Designing an automatically operated small-scaled paper recycling plant, which can be used in schools and colleges, ensures that a cheap and non-complex method of production of paper products is guaranteed. A paper produced is a garment paper used in the process of packing clothes. By this method, a small-scale business will generate between students and the garment industry. Accordingly, the design of the machine unit has been prepared with all necessary component specifications.

Keywords: Design, Fabrication, Recycling, Garment, Small-scale



Bhaskar Gowda
4MT18ME025



Yashin Mohammed P
4MT17ME168



Shreeraksha P
4MT17ME145

IOT-Based Dual Renewable Energy Conversion System

Prajwal S Salian,¹ Jithesh,² Vinith Shetty,³ Yashwanth R,⁴ Shashikant⁵

^{1,2,3,4} Department of Mechanical Engineering,

⁵ Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Wind and solar energy are freely available on the earth and are environmentally friendly. The purposed project is an “IoT-based dual renewable energy conversion system”. Here this project is based on two systems, which include Vertical Axis Wind Turbine (VAWT) and Solar Energy. It was observed that VAWT plays a very important role in the present situation of the energy crisis. Wind energy has been identified as a promising renewable option, and also the full life cycle accounting shows VAWTs are advantageous on a cost basis or materials basis as compared to horizontal axis wind turbines (HAWTs). And coming to the solar energy, most of the locations projected by the government on solar radiation data in the country are hot and dry regions. Though at these locations the radiation appeared to be higher, the energy yield of these points is less due to the heating issue of the solar panels. Also, it requires land for the installation of solar panels. To overcome these problems an innovative idea has come in front of the installation of solar power plants on the water that is canal tops, water bodies, lakes, dam backwater, and reservoirs, which generally belong to the government. Therefore, in our project, we are making use of a floating solar PV system and VAWT, by combining these two technologies in one place the production of higher power can be achieved, and using IoT technology in this system makes the operation of the system easier.

Keywords: Renewable energy, Ewind turbine, Vertical-axis wind turbine, Solar photovoltaics



Prajwal S Salian
4MT18ME086



Jithesh
4MT18ME045



Vinith Shetty
4MT18ME136



Yashwanth R
4MT18ME090

Design and Fabrication of Square Hole Drilling Machine

Akshay¹, Manoj Amin², Namrath R H³, Akash S⁴, Shashikant⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The mechanical design and simulation of a square hole generating tool based on the Reuleaux Triangle are discussed in this work. The major goal of this article is to look at how a circular motion can be turned into a square motion using only a mechanical connection, with the goal of building a special tool that drills exact square holes as an application. Reuleaux Triangle is a geometrical construction that achieves the stated goal. Furthermore, in order for this geometry to work with a rotating drive (such as a drill press), the Reuleaux triangle must be forced to rotate inside a square, which necessitates the use of a square template to constrain the Reuleaux triangle as well as a special coupling to account for the fact that the center of rotation moves. The drive end of this improvement can be used in a regular drill press, while the other end, when constrained to stay inside the ambient square, produces a precisely square locus that can be made into a working square-hole drill. The developed design had a success rate of 98.7%, which means it removed roughly 98.7% of the desired square's area. The produced design in this paper was created on wood, which is great for soft surfaces, but hard surfaces can also be employed if harder materials are used.

Keywords: Square hole, Drilling, Reuleauxtriangle



Akshay A
4MT18ME011



Amin Manoj
4MT18ME016



Namrath R H
4MT18ME073



Akash S
4MT18ME008

Semi-Automatic Areca Nut Collecting Machine

Joswyn Rajat Menezes¹, Aniruddh Puranik², Royston Corda³, Pruthvi⁴, Mohan Kumar⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Associate Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Areca nut is a major economical crop that is grown in India and many other Asian countries. In India, areca nut is largely grown in the States mainly in Karnataka and Kerala. It is harvested when it is fully ripened. After harvesting, it is sundried for about 45 to 60 days by trading them in a single layer on level ground. After the nuts are dried up, nuts should be bagged and moved to the shortage area. The collecting and bagging of the nuts is a time-consuming process and the non-availability of laborers is a major challenge in the timely bagging of the nuts. Even though machines are available for different types of areca nut farming work, there is no machine currently available for the collection and bagging of nuts. So this project is aimed at developing a machine that can collect Areca nuts directly from the ground to the gunny bag. After the bag is filled the trolley can also be used to move the bags to store rooms. The machine can be operated by a single person so that farmer himself can use it. In addition, since the machine doesn't use any power units, it can be used anytime. The major mechanism in the machine is the rotary mechanism that grabs the areca nuts from the ground. A chain-driven Conveyer having U-shaped cups attached to it carries the collected areca nuts up into the bags by elevator mechanism.

Keywords: *Areca nut, Machine, Rotary Mechanism*



Joswyn Rajat Menezes
4MT18ME046



Aniruddh Puranik
4MT18ME018



Royston Corda
4MT18ME101



Pruthvi
4MT18ME089

A study on Corrosion Resistance Improvement of Mild Steel by Hot-Dip Coating of Aluminium and Zinc

Alfaz Muneer¹, Mahee Hussain², Sujith³, Shamanth Shetty⁴, Mohan Kumar⁵

^{1,2,3,4} Department of Mechanical Engineering,

⁵ Associate Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Mild steel is a type of carbon steel with a low amount of carbon – it is actually also known as “low carbon steel.” Although ranges vary depending on the source, the amount of carbon typically found in mild steel is 0.05% to 0.25% by weight, whereas higher carbon steels are typically described as having a carbon content from 0.30% to 2.0%. If any more carbon than that is added, the steel would be classified as cast iron. The main problem with the use of mild steel in the industry is its resistance to corrosion, especially in acidic solutions. This case led to raising the cost of maintenance of equipment that used mild steel and as a result increased costs for the company. The current work deals with the improvement of corrosion resistance of mild steel by coating aluminium and zinc. Aluminium and Zinc are coated on a Mild steel substrate using the hot-dip method. The hardness property of the material is studied before and after exposing the material to a corrosion medium.

Keywords: Fuel fraud detection, Flow meter, Digital indicator, Fuel station



Alfaz Muneer
4MT17ME014



Mahee Hussain
4MT18ME054



Sujith
4MT18ME128



Shamanth Shetty
4MT18ME171

Fabrication of Semi-Automatic Water Cleaning System for Rivers and Lakes

Vikit Hegde¹, Razaan Kukkadi², S.Mohith³, Shazeb Shafi⁴, Vikranth Kannanth M S⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The entire system is powered by a 24 V dc supply. Controlled by rf transmitter and receiver of the range 2.5 km. This system can travel in any kind of water body with its special floating technology. In the front of the system, a loading conveyer has been provided which collects the waste and loads it to the collecting cabin. The collecting cabin can store up to 50 kg of waste which can be easily attached or removed from the main body. The propelling blades connected to a 12 v motor drive help in both moving and removing water weed. It is a Semi-Automatic system that helps in cleaning the water surfaces. It consists of a floating base provided by a driving motor connected with two different drive propellers. In the front of the machine, there is a collector which collects plastic and a loader chain that loads the plastic to the boat. Then the boat is driven with the help of a high-powered brushless motor. The main objective of our project is to minimize the problem of wastage in rivers, lakes, and sea due to the plastic, electronic items, thermocol, metal, etc, which causes a huge amount of water pollution which affects aquatic animals as well as human life.

Keywords: Rf Transmitter, Semi-Automatic System



Vikit Hegde
4MT18ME135



Razaan Kukkadi
4MT18ME096



S. Mohith
4MT18ME104



Shazeb Shafi
4MT18ME113

Eco-Friendly Production of Electricity Using Vortex Turbine

Mohammed Azar¹, Rakesh R. Kotian², Rakshith N³, Sagar⁴, Kalina T⁵

^{1,2,3,4}Department of Mechanical Engineering,

⁵Assistant Professor, Department of Mechanical Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The only solution, for the given rated stream of water, is to switch towards renewable supplies. A Whirlpool turbine is a power dozen of homes and hence provides energy continuously (i.e., 24 hours a day, seven days a week). Among the hydro-power plants, vortex turbines plants are most referred since they require lower heads and smaller flow rates to generate electricity. It is a combination of feasibility and easy installation. However, there are some problems which come in contact while implementing the power generation unit. Some of these problems faced are high water head, large flow of water, high manufacturing as well as installation cost, and its operation and maintenance. To overcome the above-mentioned problems, the simple whirlpool turbine has been developed using minimum water head, water flow, portable design of basin with PVC for its robustness and flexibility with grid connection system. In the present work it is reported that a generation system with the whirlpool motion of water inside the basin moves the turbine 24/7. Besides, this prototype will utilize in the canal systems for effective power generation as it can be installed at small places like the remote areas.

Keywords: Whirlpool Turbine, Low water head, Power generation, Remote area



Mohammed Azar
4MT18ME060



Rakesh R Kotian
4MT18ME092



Rakshith N
4MT18ME093



Sagar
4MT18ME105

Development of Eco Composite From Waste Plastic –Feathers For Plywood Replacement Applications

Fawaz MH¹, Sayed Mohammed Asfan², Ruhail MH³, Saiban Ashfaque khoka⁴, Shivaramu H T⁵
^{1,2,3,4} Department of Mechanical Engineering,

⁵Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Plywood is widely used in the world and it is made up of three or more thin layers of wood that are joined or bonded together with an adhesive. The layers of wood are oriented in such a way that it reduces the shrinkage and gets higher strength. The majority of the plywood is pressed into large, flat sheets which are used in building construction, whereas other forms are used for furniture, boats, and for automotive. But to make all this required more amount wood and this comes from trees like oak, teak, pine, and redwood. This increases the cost of production and many trees are cut down for making furniture and other plywood-related things. To avoid cutting down trees and reduce the cost of production the composite was fabricated. The chicken feathers were wasted after the birds die, instead of throwing them or letting them decompose into the soil can use to make a composite material. Also, use waste plastic to fabricate composite which was thrown and also it doesn't even get dissolve in the soil.

Keywords: Plastic, Chicken feathers, Plywood, Waste Plastic material, Composites



Sayed Mohammed Asfan
4MT18ME108



Ruhail MH
4MT18ME102



Saiban Ashfaque Khoka
4MT18ME106



Fawaz MH
4MT18ME035

Electric Dryer For Arecanut

Mohammad Badish¹, Nithin Noronha², Prashant Lachyan³, Ranjan R Shetty⁴, Vikranth Kannanth⁵

^{1,2,3,4} Department of Mechanical Engineering,

⁵ Senior Assistant Professor, Department of Mechanical Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Areca nut is considered to be the major commercial crop grown in large areas. The drying of boiled areca nut is considered a major problem during the rainy season, due to cloudy weather (lack of continuous sunlight). The natural method of drying and existing dryer is found ineffective due to prolonged drying time leading to poor quality control. The main objective is to reduce the time and produce hygienic and quality dried crops. Dried areca nut is widely used as a component of the betel leaf chewed in India. The areca nut processing industries are currently drying the nuts after boiling nuts by open sun drying for 5 to 6 days. The moisture content of processed areca nut is reduced from 40 to 11% during drying operation for safe storage and to maintain food quality. The results showed the system to have a capacity to increase air temperature by 15-80°C above. The dried areca nut was of higher quality in terms of flavor and color compared to open sundried product, besides saving time.

Keywords: Electric drier, Areca nut



Mohammad Badish
4MT18ME070



Nithin Noronha
4MT18ME080



Prashant Lachyan
4MT18ME087



Ranjan R Shetty
4MT18ME094

Fabrication and Mechanical Characterization of Composites using Hemp and Glass as a Reinforcement Material Polyester Resin Matrix Material and Cenosphere as Filler Material for Engineering Applications

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Abstract:

The recent approach toward biodegradable, ecological, and recyclable materials has resulted in a drastic shift from a man-made/synthetic to a natural fiber. Thus, the usage of natural fibers such as hemp fibers as reinforcement in composite materials has expanded in recent years. Hemp fibers are produced from the stem, which makes them stiff and these are the properties required for composite material reinforcement. These fibers offer mechanical properties similar to glass fibers. The diversity in their qualities, on the other hand, is their main flaw. Hemp fiber combined with thermoplastic, thermoset, and natural matrices has excellent mechanical characteristics. Several hemp fiber surface treatments, which were employed to increase fiber and matrix interfacial bonding, significantly improved the mechanical properties of the resultant material.

Keywords: *Biodegradable, Ecological, Recyclable, Natural fibre, Hemp fiber*



Abhirami subhag
4MT18ME002



Anugrah valasaraj
4MT18ME020



Shobith
4MT18ME119



Nithesha Kumar
4MT18ME079

MITE Hybrid Car wins 'Overall Champions at ISIE Hybrid Vehicle Challenge 2019



The Hybrid Car designed by Students of MITE won the 'Overall Champions Award' at the ISIE Formula Imperial

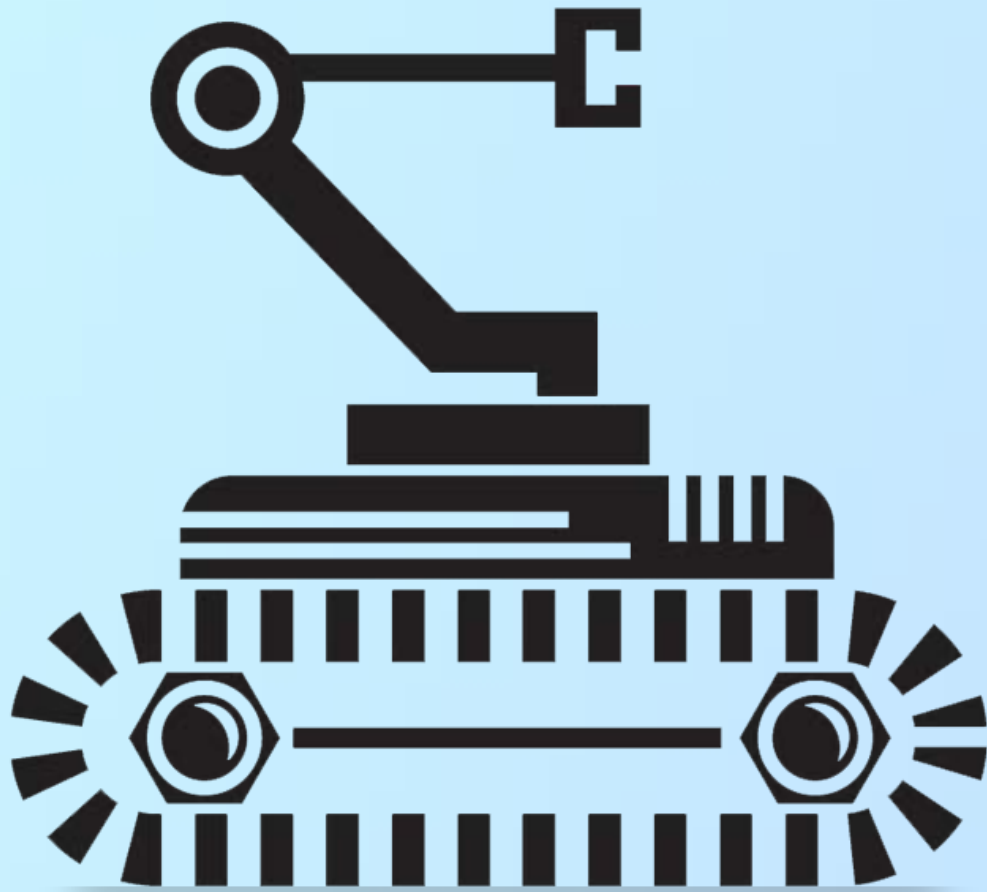
Hybrid Vehicle Challenge 2019. Imperial Society of Innovative Engineers (ISIE), supported by Ministry of New and Renewable Energy (MNRE) organizes the National level event "Formula Imperial -HVC" annually. The objective of the challenge is to design and fabricate a Hybrid Vehicle, so as to provide an opportunity to Engineering students to demonstrate and prove their creativity and Engineering skills. In additionm The Team also won other Five awards - People's Choice Award, Best Acceleration, Best Cross Pad, Best Driver, Best Endurance.

MITE Students wins 'Platinum Award' at KPIT Sparkle 2017

KPIT Sparkle: Prestigious Annual National Design and Innovation Contest conducted annually by KPIT



- 2021 : Project 'Alternate Fuel' was selected for the Grand Finale of KPIT Sparkle 2021
- 2019 : Two Student Projects were selected for the Finals of KPIT Sparkle 2019.
- 2018 : Three Student Projects were selected for the Finals of KPIT Sparkle 2018.
- 2017 : Students of Mechanical Engineering of MITE won the Platinum Award at the Prestigious Annual National Design and Innovation Contest conducted annually by KPIT - KPIT Sparkle. The Team won a cash Prize of Rs. 10 Lakhs for their Project "Frictionless Gear Transmission Using Polymagnets". The Team was one amongst the 35 Top Finalists in India amongst 1500 Teams who had submitted their Ideas. Another Project Team of Electronics and Communication Engineering was also selected for the Top 35 who participated in the Finals.
- 2016 : Electronics & Communication Engineering Student Project 'Artificial Bio fuel generating Plant' was selected for the Finals of 'KPIT Sparkle 2016'. The students were given 'Most Promising Innovators' Award.



DEPARTMENT OF MECHATRONICS ENGINEERING

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Automated Hydroponic System by IoT

Ananthakrishna M S ¹, Gurjao Vicksan Jacinto ², Sujay K N ³, Prajwala Pujari ⁴, Chennakeshava R ⁵

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⁵Senior Assistant Professor, Department of Mechatronics Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Today, India aspires to be healthy, and this desire motivates people to eat better foods. Pesticide contamination is common among the vegetables available in metropolitan India. Instead, we're destroying our health and the land we're supposed to be nurturing. Organic Due to its infeasibility, farming is not a viable solution. Exorbitant costs Hydroponics in combination with our custom-designed system offers a unique approach of growing that enhances all parts of the plant as a result, sustainable agriculture provides an alternative to Agriculture that is organic. We designed a hydroponic system that provides a faster rate of growth in a regulated environment. Our hydroponic system's main role is to monitor and manage parameters with the use of actuators in the system in order to grow plants and exotic foods at a quicker rate while eliminating the need for the strenuous tasks commonly connected with farming. Apart from that, one of the key goals of this project is to use remote monitoring and management of the artificial environment to eliminate reliance on the natural habitat and provide year-round supply of all plants and vegetables. The experiment demonstrates that properly monitored and regulated hydroponic systems provide faster rates of development while also reducing human reliance.

Keywords: *Hydroponics, Raspberry pi, IOT based farming, Automated irrigation*



Ananthakrishna M S
4MT18MT401



Gurjao Vicksan Jacinto
4MT17MT020



Sujay K N
4MT18MT405



Prajwala Pujari
4MT17MT406

Production of Hybrid Composite Using Waste Glass Particles to Analyze Its Mechanical Characteristics and Frequency Response

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Abstract:

Great number of broken waste glasses littering the environment as led to the need for new applications, with the development of new materials such as low-cost composite materials from a powder technology route, an attempt towards environmental preservation. The study is about the comparison with conventional composites regarding mechanical behaviour and application performance. Several reinforcement materials are incorporated into a fibre matrix to improve the mechanical properties and reduce the cost of the obtained composites. In this work, recycled high-density waste glass powder composites were prepared using compression moulding techniques. The process involves production of new class of hybrid composites by the method of Fabrication using natural fiber-Ramie and powdered glass particles thus creating a composite of 300x300x5mm composite as per ASTM standards. The resulted composite is made to test (Tensile, Flexural and Fast Fourier Transform) to analyse its strength and frequency response and validating through ANSYS.

Keywords: Waste Glass Particle, Natural Fibre Reinforcement, Frequency Response, ANSYS.



Puneeth Rao More
4MT18MT025



Pramod V Moolya
4MT18MT024



Shetty Karthik
4MT18MT034



Alan Fernandez
4MT18MT002

Design and Development of First Aid Simulation with Virtual Reality

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Abstract:

Virtual Reality (VR) is a three-dimensional computer-generated environment which can be experienced by a person through exploration and interaction. The 3D virtual environment which is created by computer is perceived through a device known as VR headset. The users can move around in the virtual world. They can perceive it from different angles, reach into it, grab it and reshape it. VR is achieved through the combination of hardware, software along with sensory synchronicity. Basically, it makes a user to experience sense of presence and feel that they are present in that particular environment. VR applications for training and education purposes help to simulate hazardous or expensive scenarios. VR creates a realistic world which enables users to explore places, learn through visual experience, experiment with an artificial environment more easily and with comfort with no physical dangers involved. Through this project work an approach is being worked out to develop a virtual 3D environment to meet the needs for virtual learning. This also includes development of different case scenarios depicting the requirement for first aid treatment and also to demonstrate the different methods required for successful first aid treatment with 3D simulation.

Keywords: Virtual Reality, 3D environment, Simulation, Scenarios, HMD (Head Mounted Device)



Shiva Shankar D S
4MT18MT035



Shivaprasad K M
4MT18MT036



Sammed Shetti
4MT18MT029



Anagha N G
4MT18MT003

Detection of anxiety and analysis of mental state of psychiatric patients

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Abstract:

Electromyography (EMG) techniques are used to measure muscle response or electrical activity in response to nerve stimuli. This is based on the fact that each time a muscle contracts, it propagates through adjacent tissues and bones, producing a burst of electrical activity that can be recorded from adjacent areas of the skin. Anxiety is a state of mind characterized by physical changes such as tense feelings, anxious thoughts, and an increase in blood pressure. Due to sweating, there is a change in the electrical properties of the Skin. Skin conductance (SC) is measured by applying a small constant voltage. GSR (Galvanic Skin Response) is often referred to as Electro-Dermal Activity (EDA) or Skin conductance. Psychiatric patients cannot express certain emotions with their faces or body language. Therefore, this project focuses on the development of devices with integrated sensors (Galvanic skin response or GSR sensor, pulse sensor, Electromyography or EMG sensor) that can measure emotional and mental states based on skin conductance and pulse. The data collected will be used to analyze psychopaths using machine learning. The plot is created that represents anxiety or the percentage of occurrence of anxiety is predicted.

Keywords: *Electro-Dermal activity, Skin conductance, Anxiety, Galvanic Skin Response.*



Thanmay M
4MT18MT039



Abu Suhel A
4MT19MT400



Shashikant B
4MT18MT033



Gururaj S Nekar
4MT19MT402

Swarm Robotics for Mine Detection and Surveillance

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Abstract:

Thousands of landmines remain buried beneath the earth's surface across the world, posing a hazard to human lives and the economies of various countries. Because the detection rate must be reliable, human-based mine detection has become a global concern. It causes mistakes in this case, and the precision level isn't up to par. In this project, we look into detecting mines while exploring unfamiliar terrain with a team of robots. The objective is to reduce overall exploration time while detecting mines in a terrain. Two techniques to robot cooperation are presented. To assist robots in covering the total area in the shortest amount of time, stigmergy, an indirect communication system inspired by biology, is utilized. As a result, the robot may concurrently examine different areas of its surroundings. In addition, a novel coordination protocol dubbed Ant-based Task and Robot Coordination (ATRC) is presented for quickly recruiting robots and performing the mine detection. A technique for modelling and designing three rover-like bots that function under Swarm Intelligence is being developed as part of this project. It is a robot-assisted mine detection method that is safer, more accurate, and faster than the manual method

Keywords: *Swarm Robotics, Mine Detection, Ant-based Task and Robot Coordination(ATRC).*



Dhanush
4MT18MT006



Karthik B
4MT18MT012



Nishith B Poojari
4MT18MT022



Vijesh N K
4MT18MT041

Robotic Surveillance For Pandemic Using Lidar

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Abstract:

Mobile Robot is a machine which is able to perform locomotive tasks. Mobile robotics is a vast field in large scale industries and commercial sectors. Mapping the surroundings is a pivotal problem in mobile robotics. Robot manipulators have evolved from the traditional structure of being bolted down to the assembly line to being mounted on a mobile platform. The flexibility is greatly improved now with the ability to move around and perform the required tasks wherever it is mostly effective. As robotic technology continues to advance, robots are becoming capable of performing ever more complex tasks. Robotic workers never get tired, do not need to be paid and can be made to perform even the most dangerous tasks without concern. The Tasks won't produce any errors in the system if right components are used in the robot. This can minimize the false detection and error in accuracy and continuity. The invention provides a wheel type movable monitoring robot in a wireless network as media. A camera is carried on the robot to collect video information, and a developed upper computer master control program is used for controlling moving of the robot through the wireless network to collect relevant video information; meanwhile, abundant sensors on the robot can collect and return information of site conditions, and the movable monitoring robot can be applied to movable monitoring or seismic hazard search and rescue and other special work. The Purpose of this project was to combine several existing technologies and hardware controllers, into a system that can perform the job of a security and surveillance at the maximum efficiency

Keywords: Mapping, surveillance



Samiksha N
4MT18MT028



Nagashree pai
4MT18MT012



Muhammed Munaim
4MT18MT016



Sadaf Mohammed
4MT18MT027

Automatic Poultry Farming System Using IoT

*Edwin Sebastian¹, Mohammed Sohail², Muhammed Muzammil P³, Sharafath Shahzu
Mohammed⁴, Chennakeshava R⁵*

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri*

Abstract:

The Chicken poultry industry is an important industry for sustainable food supply in our country. The development of an automatic poultry management system can be very useful to the growth of the poultry industry. In the existing system, the chickens need a presence of manpower to manually give them food and water to the chickens maintaining the farm. The use of the proposed system can replace the worker for feeding the chicken and maintaining the farm. Thus, overcoming the labor problems in the industry and introducing an automatic process in the poultry industry. The Proposed system can be applicable in Poultry Farm and agriculture sectors. This project aims at building a prototype that can be able to food feed, water feed and clean the chicken cage automatically and maintains the hygiene of the farm.

In this project, the user can manage the poultry well faster, and more efficiently. It is composed of automated devices like Arduino Boards, timer Modules, and Loadcells to feed the poultry. The automated Poultry management system is more efficient than the manual process of poultry feeding. Thus, the project lessens the time to feed and maintain the poultry and makes the poultry more productive.

Keywords: *Poultry, Automation, Water feeder, Arduino UNO, timer module, and load cell.*



*Edwin Sebastian
4MT18MT007*



*Mohammed Sohail
K 4MT18MT015*



*Muhammed Muzammil P
4MT18MT017*



*Sharafath Shahzu Mohammed
4MT18MT032*

Implementation of Internet of Things for Development of a Smart Colony

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri*

Abstract:

The quick and substantial growth of the housing industry demands the need to integrate technology into one's day to day life. As the need to improve the quality-of-life increases, the products used for the same also increases. This results in cluttering of devices and it becomes a tedious task to control and monitor all of them. This project aims to develop an automated system which enables the users to have access and control over day-to-day appliances that would otherwise go unchecked. To accomplish our goal, we use a system of sensors and actuators which are operated by a microcontroller which in-turn will monitor the sensor data and send it to the cloud with the help of Internet of Things. This system can also automate certain appliances for specific applications as per the user's need. This project focuses on the development of a colony but it has the scope to extend to an entire society. The colony residents can access their relevant data through the IoT platform ranging from their home data to colony alerts.

Keywords: *IoT, Home Automation, Microcontroller*



Manuel C A Raposo
4MT19MT404



Bhavesh Sharma
4MT18MT005



Nitin Kadian
4MT18MT023



Royston Parambil
4MT18MT026

Cloud Based Maternal Women Health Monitoring System

Sandesh S Puranik¹, Anup S Gouraj², Sandesh Shetty³, Arun Naik⁴, Shravana Karantha P⁵
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⁵ Assistant Professor, Department of Mechatronics Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Pregnancy is a unique moment in a woman's life when she becomes aware of her lifestyle choices and how they affect the foetus. Good quality maternity care is necessary to detect problems in the early days and stabilize the health condition of both mother and unborn baby health and well-being. Many researches have proposed maternal health observing systems so far. They are, however, either specialized to a specified health concern or conserved to questionnaires and short term data gathering methods. Furthermore, long-term research has not been conducted to examine the requirements and obstacles. Maternal health demands a robust structure that allows pregnant women to be monitored continuously. We offer a controller-based system for maternal health monitoring throughout pregnancy and the postpartum period in this work. The system is made up of a number of data collectors that follow the mother's health.

Keywords: *Foetus's health, acute pregnancy problem, prenatal check-up*



Sandesh S Puranik
4MT19MT405



Anup S Gouraj
4MT19MT401



Sandesh Shetty
4MT18MTEC030



Arun Uday Naik
4MT18MT004

Precision agriculture Unmanned aerial vehicle for artificial pollination of flowers

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⁵*Senior Assistant Professor, Department of Mechatronics Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri*

Abstract:

A pollination is an act of transferring pollen grains from the male anther of a flower to the female stigma. The goal of every living organism, including plants, is to create offspring for the next generation. One of the ways that plants can produce offspring is by making seeds. Seeds contain the genetic information to produce a new plant. Wild honey bees, Bumble bees, Butterflies, and Moths are some of the good pollinators. With adequate pollination, wildflowers Reproduce and produce enough seeds for dispersal and propagation. Maintain genetic diversity within a population. Develop adequate fruits to entice seed dispersers.

Pesticides, land clearing, and climate change have caused serious declines in the number of many of these living creatures. Here we show that chemically functionalized soap bubbles exhibit effective and convenient delivery of pollen grains to the targeted flowers by drones. Thanks to the bubble's stickiness, softness, high flexibility, and enhancement of pollen activity. Drone along with soap bubble maker is built, and that working model is displayed. Through this project work an approach is being worked out to model a prototype, low-cost drone with soap bubble maker.

Keywords: *Pollination, drones, pollen grains, soap bubbles, pesticides, land clearing, stigma.*



Sumukha B
4MT18MT038



Sudarshan Salian
4MT18MT037



Irfad Hussain
4MT18MT010



Varshith
4MT18MT040

Hydroxy Gas Assistance For Internal Combustion Engine

Ghanashyam Bailur¹, Yash S Jogi², Likhith M J³, Nihal⁴, Shravana Karanth⁵

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Abstract:

This project is all about designing an efficient Hydrogen-Hydrogen-Oxygen (HHO) generator, that produces Hydroxy gas which can be used to increase the fuel efficiency in an internal combustion engine. In a combustion engine, high pressure products of combustion expand through a turbine or a piston in order to generate power. In this scenario, the high-pressure products act as a working fluid. Currently there are three types of combustion engines in practice; Spark ignition engine, Diesel engine and Turbine engine. In these engines the fuel burning process seems to be very primitive. Hence, unburned fuel remains after the burning process. This causes the air pollution which is one of the biggest challenges that researches face in the automobile industry. HHO generator is an efficient approach that used to increase the fuel efficiency in a combustion engine by increasing the energy produced per mole of fuel during the ignition process. As a result, the amount of unburned fuel in a combustion engine was reduced. The proposed approach is based on an ordinary HHO generator. Although people use HHO generators in practice a very little research has been carried out in implementing an efficient system. In this research we mainly focused on finding an efficient configuration of an ordinary HHO generator that is efficient than an ordinary system. Here the generator was tested under several conditions in order to determine a convenient design for an efficient HHO generator. An efficient/optimal system is supposed to produce a large volume of Hydroxy gas using a very little power.

Keywords: Hydrogen-Hydrogen-Oxygen, generator, efficiency, combustion, piston.



Ghanashyam Bailur
4MT18MT008



Yash S Jogi
4MT18MT043



Likhith M J
4MT17MT024



Nihal
4MT18MT019

Central AGV Navigation System using Real-Time Image Processing

Nikhil S¹, Vishwas Vashishta², Mohdwasemm Jinabade³, Hrisheeksha Sheetigar⁴, Ashwini TP⁵

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Automation is the key to long-term success because a well-maintained automated system will consistently deliver the output required while keeping the same level of precision throughout the process. In addition, operating expenses are lower in all industries as compared to labour costs because an automated system is a one-time investment whereas workers must be paid on a regular basis, and labour job precision is undoubtedly lower than an automated system because there are no human errors. The AGV Navigation System is a navigation system for the AGV that employs real-time image processing for AGV control. It is a low-cost central navigation system that is extremely helpful when applied on a big scale because the installation costs are considerably reduced. Central AGV Navigation System provides us an efficient solution for controlling a set of AGVs, which doesn't have any sensors installed and the images obtained are processed using Python (OpenCV) to avoid collisions between the AGVs. Thus, providing us a cost efficient method of developing an AGV and controlling it via Camera.

Keywords: Image Processing, OpenCV, AGV, Sorting System, Shortest path, Real-Time Image Processing.



Nikhil S
4MT18MT021



Vishwas Vashishta
4MT18MT042



Mohdwasemm Jinabade
4MT19MT403



Hrisheeksha Sheetigar
4MT18MT009

ELECTRIC PROPULSION SYSTEM FOR NEAR SPACE APPLICATION

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^{1,2,3} Department of Mechatronics Engineering,

⁴ Dean Academics, Mangalore Institute of Technology & Engineering

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Electrohydrodynamics (EHD), especially in corona discharge-based systems, has been a long-studied phenomenon. The theoretical foundations of the thrust mechanism and the experimentation process are discussed in this report. The majority of the efforts have gone into designing, building and testing EHD proof of concept demonstrators for the possibility of near-space applications. A series of prototypes elucidate the potential for EHD to yield high thrust-to-weight ratio fliers, starting with wire-aluminium foil craft and progressing to rapidly prototyped- 3D printed working models. EHD thrusters generate thrust by using two or more electrodes to ionize the ambient fluid and accelerate it in an electric field. In this report, EHD thrusters of single and multi-stage configurations were tested. Thrust variation under the influence of external magnetic field is studied. Detailed investigation showed that the external magnetic field pattern and the magnetic property of the emitter electrode significantly affect the thrust. Electric and magnetic acceleration mechanisms were also examined. The outcome of this research project has laid a way to design an EHD thruster with optimum performance. Ion thruster, which works by ionizing the neutral propellant by electron bombardment and then accelerating it using an electric field, was built using self-built electron guns and 3D printed structure. However, due to a lack of sensitive thrust measuring equipment, the working of the thruster could not be validated.

ECE || Final Abstracts Electrohydrodynamics(EHD), Ion Thrusters, Electron Guns



*Pawan R Shetty
4MT17MT057*



*Kishore Kumar S
4MT17MT023*



*Parthasaradhi I R
4MT16MT028*

Speech And Gesture Wheel Chair For Physically Challenged People

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^{1,2,3} *Department of Mechatronics Engineering,*

³ *Head of Department, Department of Mechatronics Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri*

Abstract:

A sector of physically challenged people finds it very difficult to use traditional wheelchairs. Researchers have been working on computer-controlled chairs which utilize sensors and quick control algorithms to minimize the level of human intervention. This paper is based on a design that aids the voice activation system for physically disabled people by incorporating manual operation. Arduino microcontroller and voice recognition have been used to support the movement of the wheel chair. The wheelchair does not respond to an incorrect speech command. Depending on the direction given through voice and gesture, the Arduino control the wheelchair directions. Ultrasonic sensors are used to detect obstacles. Accelerometer is used to detect the fall of the wheelchair. The pill box is placed on the chair so that the user gets the information about the medicine at right time. The prototype is designed in such a way that it can be used independently and efficiently with less effort. It saves time, reduces cost and energy of the users.

Keywords: *Wheel chair, Gesture Control, Speech Control*



*Shivaraju L N
4MT19MT406*



*Yashas J H
4MT19MT407*



DEPARTMENT OF CIVIL ENGINEERING

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Experimental investigation on behaviour of Geopolymer Concrete and Validation using Artificial Neural Network

Bharghavi S R¹, Mohammad Musthafa K S², Nidhish Shetty³, Paul Daniel⁴, Ganesh Mogaveer⁵

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Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Cost of the construction is increasing day by day due to the increase in cost of materials and also labour. Hence it is not affordable for a common man to fulfil his needs due to tremendous increase in cost of construction. Cost of geopolymer concrete blocks is much cheaper than the conventional blocks and also sustainable, environmentally friendly and much stronger than the conventional blocks. The overall purpose of this work is to reduce the cost of construction, and also to reduce environmental pollution. Artificial Neural Network is used to improve prediction accuracy of the model with less dependency on experimental data. The basic steps used in MATLAB are reported along with different ANN trainings. The purpose of the training is to minimize mean square error. ANN model can be used easily for prediction of output parameters which helps in optimum selection of machining parameters for the purpose of process planning and optimization of machining parameters. In the present work an attempt has been made to replace the cement completely by fly ash and GGBS thereby reducing the cost of construction and also sustainability in construction can be achieved. An attempt has also been made to study the selected durability parameters and also attempted to validate the result by using ANN technique.

Keywords: *Compression Strength, Split Tensile Strength, Flexural Strength*



Bharghavi S R
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Mohammad Musthafa K S
4MT18CV021



Nidhish Shetty
4MT19CV404



Paul Daniel
4MT16CV064

Experimental Investigation On Paver Block With A Reinforcement Layer

Prathi Hegde¹, Maithra D Naik², Gopi V³, Shrinith S K⁴, Anusha Jain⁵

^{1,2,3,4} Department of Civil Engineering,

⁵ Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

This investigation highlights the effects of GGBS and geosynthetic reinforcement in interlocking concrete concrete paver blocks, which is a recent advancement in the field of reinforced concrete pavement design. Interlocking concrete paver blocks are ideal for laying on footpaths for easy laying better look and finish. As a civil Engineer it is our duty to provide the facility with minimum cost and maximum output. These blocks also improves the aesthetic view of the area Interlocking Concrete paver blocks prepared for M40 grade and the experimental investigation like compressive strength, split tensile and flexural strength test are carried out. GGBS is added in different percentages (0%, 10%, 20%, and 30%) in the Interlocking concrete paver blocks. The compressive strength, flexural strength test and split tensile of was tested at 28 days. The paver block with the addition of geosynthetic fiber shows better strength performance compared to conventional pavement. It is a problem solving technique for providing pavement in areas where conventional types of construction are less durable due to environmental constraints. Concrete block will be brittle but with addition of reinforcement it becomes Ductile. Hence in order to improve the strength of blocks we focused on studying the reinforcement behavior

Keywords: *Geosynthetic, Compressive strength, Spilt tensile strength, Flexural strength*



Prathi Hegde
4MT18CV030



Maithra D Naik
4MT18CV019



Gopi V
4MT18CV014



Shrinith S K
4MT18CV038

Sustainable Concrete by Partial Replacement of Cement with Corn Powder

Athul sanil,¹ Melwyn Lenoyd Dsouza², Ranjan S³, Sumanth⁴, Sagar S⁵

^{1,2,3,4} Department of Civil Engineering,

⁵ Senior Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

High demand of natural resources due to rapid urbanization and the disposal problem of agricultural wastes in developed countries have created opportunities for use of agro-waste in the construction industry. In this Present work we focus on the usage of corn cob powder in preparation of concrete as partial replacement to cement. In Construction industry, concrete is most important and widely used material. The properties of fresh and hardened concrete, their durability when admixed with agro-wastes are studied in the present work. The concrete is mainly the mixture of cement, sand, coarse aggregates and water in a mix proportion. With utilization of this waste as supplementary and replacement materials there is considerable energy conservation and reduction in the consumption of cement which aids in the reduction of release of carbon dioxide in the environment. The partial replacement of cement by Corn cob powder by varying percentages are 0%, 2%, 4%, 6%, 8%, 10%, to study the behaviour of fresh properties and hardened properties of replaced Corn cob powder concrete, in comparison with normal conventional concrete.

Keywords: Corn cob powder, Compressive strength, Spilt tensile strength



Athul Sanil
4MT18CV007



Melwyn Lenoyd Dsouza
4MT18CV020



Ranjan S
4MT18CV032



Sumanth
4MT18CV040

Experimental investigations of flexural strength of wooden beamsAkhil Ramdas K P¹, Muhammed Aathil K², Nithinchandra C³, Umesh S S⁴^{1,2,3} Department of Civil Engineering,⁴ Senior Associate Professor, Department of Civil Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Several research have been carried out on the determination of bending and tensile properties of timber from compression test, The timber specimens used for this project are Teak wood, Mango wood, Jackfruit wood, Element wood, Aquasia wood. Flexural Strength, Compressive Strength and Tensile Strength test were performed each specimen samples. This paper attempts to address an important particles issue that is encountered in strengthening of beams with different type and different thickness of wooden blocks. A correlation analysis on each specimen sample was performed to determine the relationship bending and tensile properties of timber from compression test using Microsoft Excel. Wood has several unique, independent mechanical properties. Physical and mechanical properties of wood have a large number of values determined by the influences of an extended number of factors. These timber properties do vary from species to species and even within species due to environmental conditions during growth. The four point bend tests are commonly used to determine the flexural strength of a specimen. However, because of its cellular structure and the way in which these cells are organized strength of the wood product depends mainly on the direction of any loading.

Keywords: *Grade of wood, Four point load test , Strengthening*

Akhil Ramdas K P
4MT18CV006



Muhammed Aathil K
4MT18CV026



Nithinchandra C
4MT18CV028

Comparative Study of Netravathi and Phalguni River Sand Quality for Construction Purposes; In Lined with Coastal Regulatory Zone

Suraj H S¹, Charan S Acharya², Umar sauhan³, Kishan Shetty⁴, Jayaprakash M C⁵

^{1,2,3,4}Department of Civil Engineering,

⁵ Senior Assistant Professor, Department of Civil Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Sand is a common technical material used in building. Sand deposition in rivers is the most common source of sand; nevertheless, due to rapid increase in development activities, there has been tremendous pressure on rivers, which operate as a treasure for the construction industry. Due to a multitude of seismically active faults/lineaments and their vicinity to the Mulki– Pulicat Lake axis, the Netravati and Gulpura (Phalguni) (N–G) river basins are tectonically active. The river channels' gradient has steadily decreased (after *10 km from their source), forcing the rivers to flow slowly in meandering and zigzagging patterns. The geological and tectonic parameters of river basins determine the nature and intensity of meanders. Between the years, there were significant modifications in river channels

Keywords: Coastal Regulatory Zone , Sand Quality, Construction, Green tribunal act.



Suraj H S
4MT18CV041



Charan Acharya
4MT18CV009



Umar Sauhan
4MT16CV087



Kishan Shetty
4MT18CV018

Application of Soft Computing Techniques in Crop Information System Using Geospatial Data

Ritika S Shetty¹, Ujwal B S², Rahul R³, Mohammed Sahil⁴, Anusha Jain⁵

^{1,2,3,4} Department of Civil Engineering,

⁵ Assistant Professor, Department of Civil Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Modern agriculture needs to have high production efficiency combined with a high quality of obtained products. To meet these requirements, advanced methods of data analysis are frequently used. Artificial neural networks (ANNs) and Adaptive Neuro-Fuzzy Inference System (ANFIS) are some of the most popular tools of this kind. They are widely used in solving various classification and prediction tasks in the broadly defined field of agriculture. Geospatial data is used to collect information that describes objects, events, or other features within a location on the surface of the earth. Belagavi is one of the highest crop producing districts in Karnataka and has a vast area of agricultural land suitable for a variety of crops making it an appropriate location for our study. The crop information system has been determined using the Artificial Neural Network (ANN) with the feed-forward back propagation network (FFBP) and Adaptive Neuro-Fuzzy Inference System (ANFIS) with the help of geospatial data and MATLAB software. The input data considered for the ANN modeling is the Temperature, Diurnal temperature, Range, Precipitation, Vapor Pressure and Area of the Belgaum districts; and cultivated area for each crop is examined according to the criteria. Following the appropriate formatting and preprocessing of the datasets, the finished version of our data includes a total of 400 Kharif Season (July–October) data sets from 1997 to 2018. Several ANNs were created, and the ANN model with 5 inputs, 70% training, 30% validation and testing, 4 Hidden Neurons, and 1 output structure generated the best results.

Keywords: Artificial Neural Technique, Geospatial Data, Crop Information, Adaptive Neuro-Fuzzy Inference System



Ritika S Shetty
4MT18CV034



Ujwal B S
4MT18CV043



Rahul R
4MT18CV31



Mohammed Sahil
4MT18CV024

Experimental Investigation of Concrete by using Limestone fines as replacing to Cement

¹ Disha, ² Keshav katti, ³ Akshay kumar, ⁴ Ajat kumar, ⁵ Sagar S

^{1,2,3,4} Department of Civil Engineering,
⁵ Senior Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Now days admixtures are part of the concrete either Mineral admixtures or Chemical admixtures, the present work make an attempt lime powdered dust as alternative admixture material in the concrete. In this Present work we focus on the usage of Lime powdered dust in preparation of concrete as Partial replacement to Cement. In Construction industry, Concrete is most important and widely used material. The properties of fresh and hardened concrete, their durability when admixed with Lime powdered dust are studied in the present work. The concrete is mainly the mixture of cement, sand, coarse aggregates and water in a mix proportion. In this Present work, lime powdered dust is used as cement replacement material. With utilization of this waste as supplementary and replacement materials there is considerable energy conservation and reduction in the consumption of cement which aids in the reduction of release of carbon dioxide in the Environment. The Mix Design of Concrete as per the IS 10262:2019. The Partial replacement of Cement by lime powdered dust by varying percentages are 5%, 10%, 15%, 20% & to study the behaviour of Fresh Properties and Hardened Properties of replaced Lime powdered dust concrete, in Comparison with Normal Conventional Concrete

Keywords: Limestone Powder, Compression Strength, Split Tensile Strength.



Disha
4MT18CV012



Keshav Katti
4MT18CV016



Akshay Kumar
4MT19CV400



Ajat Kumar
4MT18CV005

Design and Analysis of Circular Water Tank with Rigid Base resting on Ground

Charvi,¹ Danihal Shivakumar², Sanjay V D³, Abhishek B S⁴, Pratiksha G⁵

^{1,2,3,4}Department of Civil Engineering,

⁵Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

In some locations, water tank is a structure used to store water for giving water to households for drinking, for the industry as a cooler, and irrigational water for agricultural production. Water tanks are categorized based on their shape and structural location. Water tanks come in a variety of capacities, depending on the demands of a municipal organization. Water covers approximately 71% of the earth's surface. IS codes are used to apply dead and live loads. A water tank on the ground is a water storage container. It was discovered that the cost of limit state design is lower. The circular water tank is more cost-effective than the square tank. The theory behind the design of this work is presented in a circular water tank with a circular wall designed as a liquid retention construction. To resist lateral stresses, the water tank is modeled and studied using dynamic analysis, and the design is done manually using the working stress method. Staad pro software is used for the design. This study provides numerous design requirements that influence the structure's strength and support condition for safe tank construction. The focus of this case study is on liquid retaining structures that are composed of reinforced concrete and sit on the ground.

Keywords: Water, Circular Tank., STAAD Pro, analysis, Design as per IS code: IS-3370:2009, IS-456:2000.



Charvi
4MT18CV010



Danihal Shivakumar
4MT18CV011



Sanjay V D
4MT19CV014



Abhishek B S
4MT18CV003

Application of Multiple Regression Analysis to predict the value of Residential Building and Comparative Study with Conventional approaches

Shafail Ahamed¹, Charan², Yogish M Suvarna³, Mohammed Rifan KP⁴, Dheeraj V Shetty⁵, Prathiksha G⁶
^{1,2,3,4} Department of Civil Engineering,

^{5,6} Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Valuation is an art of estimating meaningful present worth of any commodity or property based on experience, logical approach, relevant statistical data and common sense at a stated time. It only attempts at suggesting the fair prices. Valuation is not an arbitrary process. It is based on certain facts and only after a judicious processing of such facts and indications, we can suggest value or fair price of the property. Valuation is an art which has found various use indifferent sectors. Valuation is an art of estimating meaningful present worth of any commodity or property based but it is seldom restricted to the boundaries of engineers and architects when it comes to property valuation. In this study, the market value of a residential building situated in Indrali, Udupi, Karnataka State, India is predicted using Multiple Regression Analysis (MRA) based on the factors which have an effect on the value of the property. This value is then compared with the values obtained by the conventional approaches of valuation like Land and Building method, Rental Income Approach, Composite Rate method and by detailed estimation approach. The property under valuation has a plinth area of 2069 square feet standing on a free hold land of 2177.85 square feet. The advantage of MRA is that it uses statistical modelling and reduces the chance of human bias and error.

Keywords: Land and Building method, Rental, Composite Rate, Multiple Regression Analysis.



Shafail Ahamed
4MT18CV036



Charan
4MT19CV401



Yogish Suvarna
4MT19CV408



Mohammed Rifan
4MT18CV023

Fibre Reinforced Concrete using Natural Fibre as Sustainable and Renewable resourceSachin Goli Harikant¹, Affan Ashraf Shaikh², A Suraj Rao³, Sonal R Agari⁴, Megha Mayuri⁵^{1,2,3,4}

Department of Civil Engineering,

⁵Assistant Professor, Department of Civil Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The usefulness of fiber reinforced concrete (FRC) in various civil engineering applications is indisputable. Fiber reinforced concrete has so far been successfully used in slabs on grade, architectural panels, precast products, offshore structures, structures in seismic regions, thin and thick repairs, crash barriers, footings, hydraulic structures and many other applications. Fiber Reinforced Concrete (FRC) is gaining attention as an effective way to improve the performance of concrete. Fibers are currently being specified in tunnelling, bridge decks, pavements, loading docks, thin unbonded overlays, concrete pads, and concrete slabs. These applications of fiber reinforced concrete are becoming increasingly popular and are exhibiting excellent performance. Fiber-reinforced concrete (FRC) is concrete containing fibrous material which increases its structural integrity. It contains short discrete fibers that are uniformly distributed and randomly oriented. Fibers include steel fibers, glass fibers, synthetic fibers and natural fibers. This study presents understanding strength of fibre reinforced concrete. Mechanical properties and durability of fiber reinforced concrete

Keywords: Fibre Reinforced Concrete, tensile strength, compressive strength



Sachin Goli Harikant
4MT19CV406



Affan Ashraf Shaikh
4MT18CV004



A Suraj Rao
4MT18CV001



Sonal R Agari
4MT18CV039

Experimental Investigation on Paver Block by the Partial replacement of Fine Aggregates with Plastic Waste

Glency Roshni Dsouza¹, Mohammed Alfaz², Rajath Narayan Harikanthra³, Mohammed Salim⁴, Suraj Shet⁵
^{1,2,3,4} Department of Civil Engineering,

⁵Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Due to population growth, usages of plastic materials are increasing day by day, most of the plastic materials are dumped as landfill and they are not effectively reused in most of the applications. Plastic is a non-biodegradable material. The amount of plastic waste in municipal solid waste is extending quickly step by step. Plastic is produced using hydrocarbons found in various sources like oil, coal and some different minerals. At the period of scarcity, plastic is seen as helpful yet after its utilization, it is essentially discarded, making a wide range of perils Plastic is of various kinds, for example, High Thickness Poly-ethylene (HDPE), Low thickness poly-ethylene (LDPE), and so forth. At present nearly 56 lakhs tons of waste plastic is produced in India per year, but the degradation rate of plastic waste is very slow process. Hence this project is helpful introducing plastic waste in a useful way. Furthermore, the overuse of natural sand in construction has various undesirable social and ecological consequences and to combat this in some areas of India the mining and the use of the natural sand has been banned by the government because of which the cost of sand has been increased immensely. Therefore, the aim of this project is to replace some amount of sand with plastic waste and to reduce the cost of paver block when compared to the conventional concrete paver blocks.

Keywords: *Compression Strength, Spilt Tensile Strength, Flexural Strength*



Glency Roshni Dsouza
4MT18CV013



Mohammed Alfaz
4MT18CV022



Rajath Narayan Harikanthra
4MT1CV405



Mohammed Salim
4MT18CV025

IoT based Sustainable Ground Water Supply System for Green IndiaRhithika Sreenivas¹, Vaishnavi G², Karkera Prajwal³, ChidanandM T⁴Jayaprakash M C⁵, Sri Krishna Shastri⁶^{1,2}Department of Civil Engineering,^{3,4}Department of Electronics & Communication Engineering,⁵Senior Assistant Professor, Department of Civil Engineering,⁶Associate Professor, Department of Electronics & Communication Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri**Abstract:**

Based on the surveys conducted water management has become very difficult and the issues are arising frequently because of insufficient supply of water resources and degradation in water quality. So we have to effectively utilize our water resources efficiently by real time monitoring of water quality parameter to differentiate the quality of the water. Some areas in a city will have stable supply of water resources while compared to other cities based on the supply channel. This is due to some problems in the distribution line such as defects or cracks in pipeline caused by over pressure or low water pressure where in water cannot reach consumers located on a high-ground areas or far away from the pumping stations or water tank. All of these issues concerning water distribution arise because on lack of real time monitoring of these water resource and also because of complex manual testing procedures and time taken by it. Today, cities are now transforming rapidly and people rather concern themselves about their comfort regarding the issue. As they participate for economic advancement and our standing regarding their contribution in saving these natural resources, water has become a priority in their checklists. Creating water sustainability requires a multidisciplinary approach. It also requires awareness and state of the art facilities to be given by the national authorities which can give a significant boost to these movements regarding water management.

Keywords: *IoT, Waterquality, monitoring, pH, detection.*



Rhithika Sreenivas
4MT18CV033



Vaishnavi G
4MT18CV044



Karkera Prajwal
4MT17EC034



Chidanand M T
4MT17EC019

Structural damage Detection using IoT

¹ Sambhram , ² Krishang Shetty , ³ Sahana Shetty, ⁴ Sukanya Naik ,
⁵ Akshaya Krishna N , ⁶ Deekshita Nayak

^{1,2} Department of Civil Engineering,

^{3,4} Department of Electronics & Communication Engineering,

⁵ Assistant Professor, Department of Civil Engineering,

⁶ Senior Assistant Professor, Department of Electronics & Communication Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

The Internet of Things (IoT) is a technology that allows us to add a device to an inert object (for eg: vehicles, plant electronic systems, etc.) that can measure environmental parameters, generate data, transmit them through a communications network. Nowadays, it is being used in various sectors of daily technological advancements, like it has infiltrated numerous factors of human life in recent years, including cities, residences, universities, etc. Older structures always tend to have some or the other sort of internal damage in them due to their age. There are more chances of it to fail without any warning. Structural damage detection is the evaluation of structure to detect, locate and assess the damage. Each structure is often unique regarding its material, shape, and its behaviour often changes due to their age, usage or environmental factors. Structural health monitoring is the latest technique employed all over the world, especially in buildings exposed to harsh environments. Sensors are used to collect the data from the structure from which we can identify its quality. This project aims at giving a measure of the quality of the beam under test by comparing the vibrations passed through it with a particular threshold stored in the code, thus giving a measure of its quality.

Keywords: IoT, Structural Damage Detection, Structural Health Monitoring.



Sambhram
4MT18CV036



Krishang Shetty
4MT18CV037



Sahana Shetty
4MT18EC069



Sukanya Naik
4MT19EC403

Experimental investigations of flexural behaviour of RCC beam using steel fibres

Bharath Raj¹, Chethan Raj², Madhusudhan³, Dharmaraj⁴, Umesh S S⁵

^{1,2,3,4}Department of Civil Engineering,

⁵Senior Associate Professor, Department of Civil Engineering,

Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Several research have been carried out on reinforced concrete beams strengthened with fiber reinforced polymer composites if you works as been focused on strengthening of rectangular beam with different type and different thickness of fiber reinforced polymer. This paper attempts to address an important particle issue that is encountered in strengthening of beams with different type and different thickness of fiber reinforcement polymer laminate. This paper also proposes a simple method of applying reinforced polymer for strengthening the beam with different fiber reinforced polymer types with different thickness. Although conventional reinforced concrete is the most globally used building material however, its detrimental structural characteristics such as brittle failure mechanism in tension need to be improved. Discrete and short steel fibers can be added into the concrete mix to improve its brittleness. The effects of addition of optimum percentage of steel fibers on flexural behavior of RC beams have been investigated in this paper. Ultimate flexural strength, stiffness and ductility compared to that of conventional RC beams with no steel fibers furthermore, the addition of steel fibers has more effects on the RC beams with higher compressive strength compared to lower concrete grade.

Keywords: Fiber reinforced concrete, Glass fiber reinforced polymer



K J Bharath Raj
4MT18CV409



Chethan Raj
4MT19CV402



Madhusudhan.P
4MT15CV050



Dharmaraj
4MT16CV029

Utilization of Natural Fibre in production of Self Compacting Concrete with addition of Kem Suplast PCL110

Rakshan Hegde¹, Anudeep Kunder², Swapna SA³, Prathiksha G⁴

^{1,2} Department of Civil Engineering,
^{3,4} Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

Concrete is strong in compression and weak in tension. So the reinforcement will be provided to withstand tension. Majorly steel is used as the reinforcement. Many of the researches are in progress to find a substitute to this material. Many investigations proposed artificial fibres. In this project the naturally available fibre named coconut fibre is taken as a substitute material to the reinforcement and studied the properties. Inclusion of fibre reinforcement in concrete can enhance many of the mechanical characteristics of the basic materials such as fracture toughness, flexural strength and resistance to fatigue, impact, thermal shock and spalling. In recent years, a great deal of interest has been created worldwide on the potential applications of natural fibre reinforced cement (NFC) based composites. In the present work, it is aimed to investigate the strength and durability with coconuts fibre reinforcement. From the results it shows that, coconut fibre reinforced concrete has improved the characteristics of workability, strength of concrete. The study focuses on the compressive strength, split tensile strength, performance of the blended concrete containing coconut fibre. In this project study natural fibre reinforced concrete strength parameters are compared with normal concrete by varying percentages of coconut fibre 0.5%, 2.5%, 3%, by total weight of concrete for M30 grade of concrete design by using IS10262-2009. Concrete cubes and cylinder are tested at the age of 7, 14, and 28 days of curing.

Keywords: Workability, Compressive strength, Split tensile strength, Coconut fibre.



Anudeep Kunder
4MT17CV015



Rakshan Hegde
4MT18CV414

Design of Prototype Ground Water Recharge Soak Pit

Ajay Ture¹, Yuvaraj C H², Mohammed Lamis³, Abhishek Durgakeri⁴, Akshaya Krishna⁵
^{1,2,3,4} Department of Civil Engineering,

⁵ Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri

Abstract:

A soak pit also known as a soak away or leach pit, is a covered, porous-walled chamber that allows water to slowly soak into the ground. Pre-settled effluent from a collection and storage/treatment or (semi) centralized treatment technology is discharged to the underground chamber from which it infiltrates into the surrounding soil. A soak pit is essentially a hole designed with the purpose of allowing this excess waste water to infiltrate into the ground. These could be used for the discharge of domestic waste water from the campus. Ground water is one of the precious natural resources that need to be protected from the deterioration. Seepage of campus waste and extensive pumping has caused serious qualitative and quantitative problems in the aquifers. At some places where there are no waste drains, industrial effluent is discharged directly into the ground water, through an excavation in the soil serving as a soak pit, causing direct pollution of groundwater. The effluent water percolates into the surrounding soil. An industrial effluent with high amount of chemical content has spread vertically and laterally and contaminates the groundwater, which is the major source of domestic water supply. In this project we are going to make a prototype of a soak pit using a drum which could replaces a pit.

Keywords: Soak pit, waste water, ground water.



Ajay Ture
4MT17CV006



Yuvaraj C H
4MT18CV418



Mohammed Lamis
4MT17CV053



Abhishek Durgakeri
4MT18CV400

Experimental Investigations on Concrete blocks by Partial replacement of Fine aggregate with Waste Tyre Crumbs

Sriraj Samaga¹, Hemanth Shetty², Guruprasad G³, Rajesh⁴, Suraj Shet⁵
^{1,2,3,4} Department of Civil Engineering,

⁵ Assistant Professor, Department of Civil Engineering,
Mangalore Institute of Technology & Engineering-Badaga Mijar, Moodabidri.

Abstract:

Construction Industry plays a vital role in developing the economic growth of a country. Due to the rapid consumption of conventional raw materials such as sand and aggregates has resulted in non-availability of materials at the required time. This has made mankind to choose an alternative material such as “Waste Tyre Crumbs” in construction projects. Disposal of waste tyre rubber has become a major environmental issue in all parts of the world representing a very serious threat to the ecology. One of the possible solutions for the use of scrap tyre rubber is to incorporate it into concrete, to replace some of the natural aggregate. An estimated 1000 million tyres reach the end of their useful lives every year and 5000 million more are expected to be discarded in a regular basis by the year 2030. In this survey, the potential application of waste tyre rubber are being arranged and discussed. In this project we are going to cast the modified concrete blocks with fine aggregate replaced by Waste Tyre Crumbs and compare their compressive strength with Conventional Concrete Blocks. This project deals with finding a Alternative material to be used in concrete in order to minimize the use of Natural sand consumption and it also deals with finding out a most effective and efficient way to recycle waste used tyres.

Keywords: *Compressive strength, Waste Tyre Crumbs.*



Sriraj Samaga
4MT16CV083



Hemanth Shetty
4MT15CV037



Guruprasad G
4MT15CV033



Rajesh
4MT16CV070

MITE secures All India Third Position in Guvi's RPA-SKILL-A-THON conducted by UiPath

MITE Recognized as Top performing partner Institution in the All India #RPACChamp 2019.



MITE is recognized as Top Performing Academic Partner Institution in the All India RPA SKILL-A-THON 2020 conducted by GUVI & UiPath. A total of 2612 participants from MITE got certified on RPA awareness, and stood All India 3rd in overall Institute Ranking. Also, MITE was the Top performing Academic Partner Institution in the first UiPath Academic challenge 2019. The event saw 20,000+ students across India, explore the power of UiPath Robot's simplifying daily tasks. This challenge lays a strong foundation to drive UiPath's vision of a Robot for every student in the coming months.

MITE Students win Second Prize in State Level Anveshana 2022

Students team from Department of Civil Engineering of MITE won the Second Prize at ANVESHANA 2022, State level Project Championship organized by the Agastya International Foundation in association with Synopsys. The project entitled 'Eco-friendly interlock blocks' by Ms Glency Roshni D'Souza, Mohammed Alfaz, Rajat Naryan, Mohammad Salim of 7th Semester Civil Engineering, MITE with High School Students Shrinidhi and Niranjana from Government high school Neerkere, Moodabidri won the II Place. The winning Team also received a cash prize of Rs. 25,000/-. A Mechanical Engineering project 'Fuel fraud detection device' and a Civil Engineering Project 'ICPB with reinforcement layer' bagged the consolation prize.



2020: The 9th series of the Anveshana - 2020 witnessed a team from Civil Engineering and another from Mechanical Engineering Department of MITE win the 6th and 9th prize respectively at the state level. The project 'Remote operated arecanut plucking machine' by Pramith shetty and Venkatesh guided by Mr. Bhanuprakash of the department of Mechanical Engg won the 6th place. The project 'Sea sand concrete for Green India' by C.K. Harshitha and Chaitra Taranath which was guided by Dr. Jayprakash M.C. of the Department of Civil Engg bagged the 9th place.

MITE continues the winning streak at Unisys innovation program

UNISYS Innovation program is an Annual National Project Contest conducted by UNISYS which is designed to foster innovation among students and create a talent pipeline for UNISYS and the IT Industry at large.

MITE Students won the 2nd Prize at Unisys innovation Program year 13



2022 : Students of Electronics and Communication Engineering won the Second Prize at 2022 UNISYS innovation program. The Team won the Second Prize with a Cash Prize of Rs 1.25 Lakhs for their Project "OP Monitoring System – Video Analytics (Beyond Vision)".

2021 : One Project of ECE was selected as Top six Finalist

Won the 3rd Prize at Unisys Cloud 20/20 year10



2019 : Students of Electronics and Communication Engineering won the Third Prize at 2019 UNISYS Cloud 20/20 Annual National Project Contest. The Team won the Third Prize with a Cash Prize of Rs 1Lakhsfor their Project "Smart Telematics".

2018 : Two Student projects of Electronics and Communication Engineering were selected for the semi Finals at UNISYS Cloud 20/20 Ver 9

Won the 2nd Prize at Unisys Cloud 20/20 Ver 8 in 2017



2017 : Students of Electronics and Communication Engineering of won the 2nd Prize at UNISYS Cloud 20/20. The Team won the Second Prize with a Cash Prize of Rs 1.25 Lakhs for their Project "Co-Di-Ra Messenger".

2016 : Electronics & Communication Engineering Student Project - 'Triplet Li-fi' won the Third Prize with a cash Prize of Rs. 1 Lakh in the prestigious Annual 7th Edition of UNISYS Cloud 20/20. MITE was the only team from Karnataka to win this prize

2015 : MITE Student Project was selected for the Finals of the Unisys Cloud 20/20 ver 6. The Project was one amongst All India selected Top 6 Projects for the Finals.

AWARDS AND ACHIEVEMENTS

MITE is awarded the 'Best Performing College of the Year' at KSCST State Level Annual Student Project Program 2020

Also, Four Projects awarded 'Best Project of the year 2020'

The 'Best Performing College of the Year 2020' of the 43rd series of the Student Project Program of Karnataka State Council for Science and Technology (KSCST) was bestowed to MITE on September 20, 2020. The event is supported by the Department of Science & Technology of State Government through KSCST.



2020-21 : One Project of Dept of Mechatronics Engineering were adjudged as 'Best Project of the Year'.

2019-20 : Four Student Projects of MITE from the Department of Computer Sc & Engineering, Electronics & Communication Engg, Aeronautical Engineering, and Mechanical Engg Departments were selected as the Best Project of the Year.

2018-19 : Two Projects of Dept of Mechanical Engineering, and Dept of Mechatronics Engineering were adjudged as 'Best Project of the Year'.

2017-18 : One Student Project of Department of Mechanical Engineering of MITE was adjudged as 'Best Project of the Year'.

MITE bags max. no. of Student Project Sponsorship (SPP)

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