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3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

Sl. No.	Name of the Author	Title of the paper	Name of the conference	Year of publication	Name of the publisher
1	Muhammad Irfan A	Experimental Analysis of Hevea Brasiliensis Methyl Ester Diesel Blend with Antioxidant Additive in a Di-diesel Engine	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
2	Muhammad Irfan A	Evaluation of Micralogae Biodiesel Blend Along with DTBP as an Ignition Enhancer on Diesel Engine attributes	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
3	R. Prabu	Mechanical Characterization of Prosopis Juliflora Fiber-reinforced Polymer Composites	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
4	J.Mohamed Yazzir,	Mechanical Characterization of Prosopis Juliflora Fiber-reinforced Polymer Composites	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
5	S.Bharath	Mechanical Characterization of Prosopis Juliflora Fiber-reinforced Polymer Composites	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
6	Anbu Raj	Mechanical Characterization of Prosopis Juliflora Fiber-Reinforced Polymer Composites	International Conference on Design, Materials, Cryogenics and Constructions	2019-2020	Springer
7	Saravanan M P	Modelling and Analysis of Dynamic Structure with macro fiber composite for energy harvesting	international Conference on Nanotechnology: Ideas, Innovation and Industries	2019-2020	Elsevier
8	Dr.A.Balakrishnan	Hydrogeochemical Studies on ground water in Palk Strait sea shore area	Dst-Serb Sponsored International Conference on Recent Trends in Green Chemistry and Material Science	2019-2020	Mohamed Sathak Engineering College

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9	Mr.S.Namachivayam	Anomaly Detection in Crowd Movement	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
10	Ms.S.Sabitha Banu	Design and Analysis of Reliable video transmission through visible light.	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
11	Mr.J.Raja	Detection of Brain Tumour using Micro strip Patch Antenna	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
12	Mrs.E.Jayanthi	Digital water metering and automatic billing generation system	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
13	Dr.E.Dhiravidachelvi	Fire Extinguisher robot	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
14	Mrs.Piriyadharshini.S	Hub And Spoke Monitoring Using Mpls	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
15	Mr.M.L.Syed Ali	Intelligent road monitoring system for safety environment	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
16	Mr.J.Raja	MI Based Wireless Under Ground Sensor Networks	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
17	Mrs.Suganthi I S	Using KNN deduction of white blood cell in leukemia and myeloma cancer diseases	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
18	Mr.M.L.Syed Ali	Vehicle accident prevention system at hairpin bends	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai

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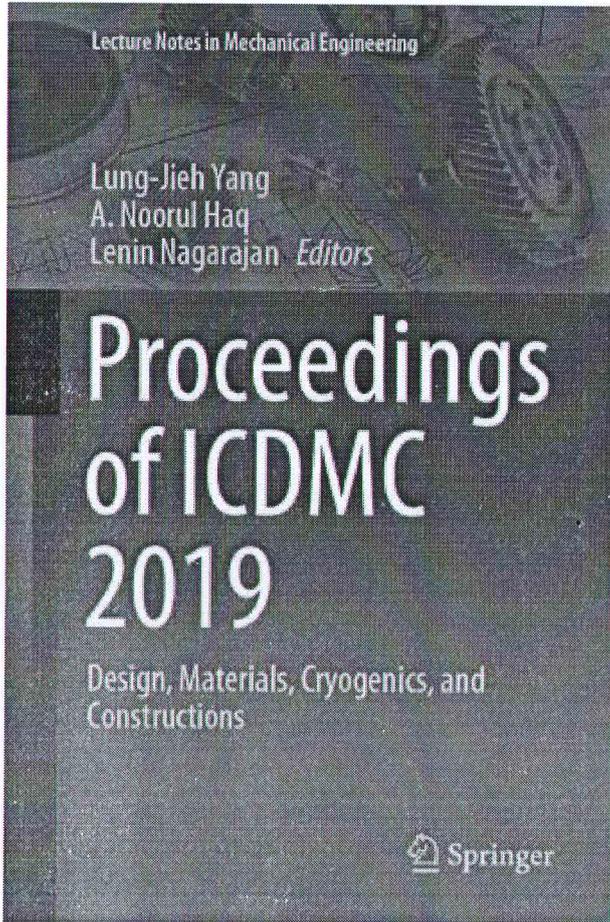
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19	Mr.S.Naveenkumar	Object recognition using perspective glass for blind / visually impaired	National conference on Signal Processing and Communication Technologies (NCSC'19)	2019-2020	Anand Institute of Higher Technology, Chennai
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Experimental Analysis of Hevea Brasiliensis Methyl Ester Diesel Blend with Antioxidant Additive in a Di-diesel Engine



A. A. Muhammad Irfan, Sivanandi Periyasamy, and A. Gurusamy

Abstract To replacing diesel fuel non-edible feedstock is a probable resource for the alternative fuel creation with taken into account of ecological and food versus fuel demand. Biodiesel is a capable replacement to diesel fuel, due to renewable, non-hazardous, transportable, widely existing, recyclable, ecological, and free from sulfur and aromatic matter. The experimental investigation was carried out, to investigate the response of Hevea brasiliensis methyl ester diesel blend with antioxidant additive in a di-diesel engine. The performance and emission characteristics were determined for the diesel engine powered with Hevea brasiliensis biodiesel blend. With an aid of ASTM standards, tert-butylhydroquinone (TBHQ) antioxidant added in biodiesel blend. The performance and emission distinctiveness were resolute for antioxidant additive added blend. The outcome of antioxidant additive on the performance and emission of diesel engine were analyzed and concluded with base fuel. The addition of antioxidant increased 8.9% average brake thermal efficiency, increased 4.98% average mechanical efficiency, and reduced 8.9% average brake specific fuel consumption. The addition of antioxidant reduced oxides of nitrogen (NO_x) emission, but increased carbon monoxide (CO), carbon dioxide (CO_2), and hydrocarbon (HC) emissions compared to Hevea brasiliensis biodiesel blend.

Keywords Hevea brasiliensis · Transesterified · Antioxidant · Tert-butylhydroquinone · Brake specific fuel consumption · Brake thermal efficiency · Emission characteristics

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Evaluation of Microalgae Biodiesel Blend Along with DTBP as an Ignition Enhancer on Diesel Engine Attributes



A. Gurusamy, V. Gnanamoorthi, P. Purushothaman, P. Mebin Samuel, and A. A. Muhammad Irfan

Abstract Biodiesel in an overall view has high oxygen content due to which it attains an attractive position to be a high-quality alternate fuel for a direct injection diesel engine. The combustion process along with the particulate matter will find a betterment when it is blended. In this work, commercially used pure diesel fuel (PD) is blended with 20% of an algae-based biodiesel, and also, di-tertiary-butyl peroxide is added in three different proportions (1, 3 and 5%). The performance and emission outcomes of all these blends under examination are studied using a diesel engine. All six parameters related to emission and performance are studied. From the results, it was seen that with the addition of DTBP in B20 blend increases the thermal efficiency and also the emission parameter values were found to be reduced, which provides a promising insight on the usage of DTBP additive in a diesel engine.

Keywords DTBP · Biodiesel · Microalgae · Performance · Emission

1 Introduction

The dwindling of the petroleum products day by day due to the increased demands and also the emission norms provide a greater threat for its successful usage. To

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Mechanical Characterization of Prosopis Juliflora Fiber-Reinforced Polymer Composites



J. Mohamed Yazzir, R. Prabu, S. Bharath, and A. Anbu Raj

Abstract Prosopis Juliflora (Kikar Wood), also known as Vilayati babul commonly known in India, is commonly available all over the country. Its branches are mainly used as wood fuel and fodder in saw dust form. The current research focuses on extracting fibers from Kikar wood by chemi-thermomechanical pulping process and using as reinforcement in Epoxy Matrix polymer composites. Several mechanical tests such as tensile test, compressive test, hardness test, and impact test were conducted to study the mechanical properties of the developed composites.

Keywords Kikar · Reinforcement · Characterization · Extraction

1 Introduction

Prosopis juliflora, also known commonly in India as Seemai Karuvel, Kabuli Kikar is spread all over India in abundance. They are mainly used as wood fuel in village parts of India and it absorbs a lot of underground water. The current research objective is to develop a natural fiber [1] from Kikar wood, after a set of treatments and to develop a natural fiber-reinforced polymer composites. And this is the first kind of research that has been done on kikar wood extracted natural fiber as fiber-reinforced polymer composites. The matrix material used is Araldite LY556 and Hardener HY990 as hardening agent in the ratio 10:1 [2]. The rule of mixtures followed for fabricating the composites is 50% fiber and 50% matrix in terms of weight. The natural fiber composite formed is of three types: Discontinuous mode, chopped stranded mat, and powdered sprinkle form by handlayup method. The fabricated composites are subjected to mechanical testing [3] and characterization such as tensile test, flexural test, impact test, and hardness and hygrothermal test according to ASTM Standards.

The impact of fiber loading and length on mechanical properties like tensile strength, flexural strength, impact strength, and hardness of composites is examined.

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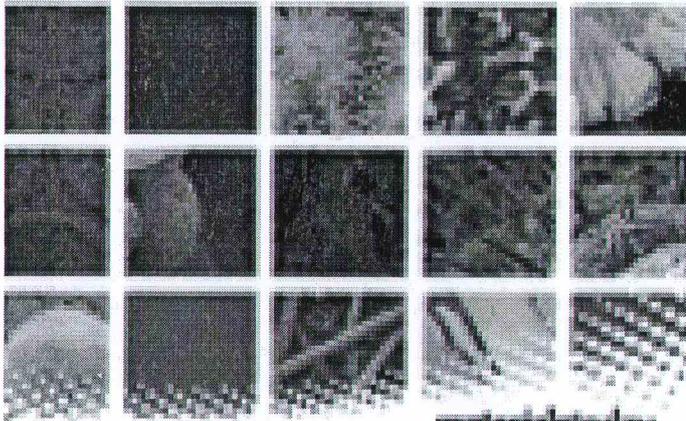
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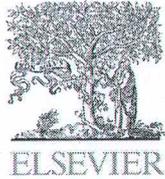
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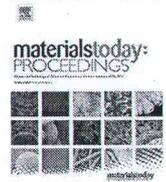
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Modeling and analysis of dynamic structure with macro fiber composite for energy harvesting

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ABSTRACT

In this investigation the modeling and analysis of dynamic structured Macro-Fiber Composite (MFC) for ambient power has been composed to unimorph and bimorph cantilever beam. The dimensions of the beam and its properties were investigated in order to tip displacement across its length with active and inactive piezoelectric layers of MFC. To optimize structure of a cantilever beam with respect to natural frequency, more effective vibration control that can be achieved with minimum control input. The results show that the dynamic model of the cantilever beam is validated with comparisons of experimental, theoretical data and analytical investigation by using ANSYS Simulation.

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1. Introduction

In the recent years, many researchers have been successfully investigated piezoelectric material for various Power harvesting, power scavenging, energy harvesting, and energy scavenging and smart health monitoring applications. The design and development of smart structured provide huge potential to optimize the dynamic shape and calibration errors in micro and macro scale. Macro-Fiber Composite (MFC) actuators have been widely ranges for actively profile control that can be used in real time for aerospace structured applications. The MFC made up of piezoelectric ceramic material (PZT) rectangular fibers sandwiched between integrated electrode Kapton films with structural epoxy.

This type of MFC utilizes the d effect and therefore actuates/senses along the length of the MFC patch. The operation of MFC as strain sensors will be discussed in subsequent sections [1]. It makes an exceptionally precise sensor and could give the beam more than 80% of vibration control at its natural frequency and also its produce blocking force, large strains and amplitude excitation independently. The damping effects of harvesting model that can act as sensor based actuator for reduction of vibration and finding the modal variables in an inflatable structure. It is also integrated into a self-sensing circuit for collocated control of Cantilever beam.

In this section, various predictions subjected to energy harvesting have been demonstrated inflatable structures with the MFC patch as a sensor and actuator. This can be applied in sensing and control of vibration, piezoelectric materials and quantified structure. Initially identification of sensing capability is done, and then study focused on the development of self sensing circuits using MFC. The developed model can be used to predict the performance of MFC by varying the temperatures (non linear) as well as electric field (linear) [2].

A Galerkin projection has been used to study the behaviour of a distributed- parameter model of piezoelectric harvesters that included both piezoelectric and geometric nonlinearities proposed model gives a fairly accurate description of the dynamics near the main resonance frequency and for moderately large amplitude of excitation, both in direct and parametric excitations. Most of the model parameters are readily available from a linear finite element analysis of the cantilever beam [3]. Sebastian Hensel et al. [4] studied the performance of strain rate using different specimen types. The test results shows that, fiber rupture arise in ratio by tensile load applied. The sequence of the string bands causes the performance reduction continuously. Developed an analytical model helps to express the residual performance of MPC.

Ghareeb et al. [5], investigated non-active piezoelectric layer of the bimorph beam of tip deflection and resonant frequency due to an external voltage and its layer properties that can be used to derived the equation of resonant frequency by using effective mass

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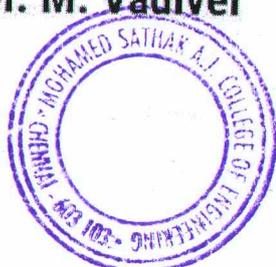
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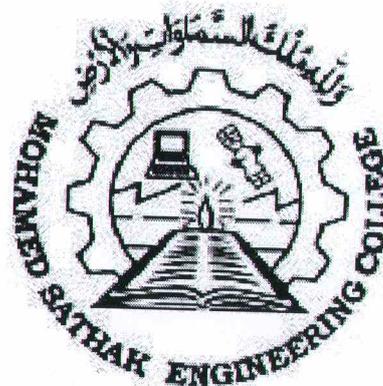
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Hydrogeochemical studies on ground water in and around Gulf of Mannar and Palk Strait Sea shore area

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Abstract:

In this present study, the hydrogeochemical characteristics of coastal aquifers were evaluated by using chemical composition (Ground water chemistry), Scatter plots and ionic ratios arrived at. The abundance of the major cations reported in the order $Na^+ > Ca^{2+} > Mg^{2+} > K^+$ and of the anions $Cl^- > HCO_3^- > CO_3^{2-} > SO_4^{2-}$ at Gulf of Mannar sea shore area, similarly the cations in the order $Mg^{2+} > Na^+ > Ca^{2+} > K^+$ and of anions $Cl^- > HCO_3^- > CO_3^{2-} > SO_4^{2-}$ at Palk strait sea shore area. Hydrogeochemical data suggests that hydrogeochemistry of the coastal aquifer is controlled by mixing fresh water with relict saline water, ion-exchange process, silicate weathering, dissolution of minerals and voparation. The hydrogeochemical facies showed that Na-Cl type of water predominates in the Gulf of Mannar and the same found to be Mg- Cl type in the Palk Strait sea shore area.

Assessment of Seawater Intrusion into shallow coastal aquifer in Ramanathapuram district, Tamilnadu, India

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PP-32

Abstract:

Improved use of groundwater is often causing intrusion of seawater. The intrusion of seawater also takes place in coastal areas. In this analysis, the distribution and the levels of intrusion in the research area (Ramanathapuram district, Tamilnadu, India) are determined. The test was done using random samples at a period of 15 days in which 30 different samples were taken in 5 different locations with a certain distance from the seashore, then chemical analysis including pH, electrical conductivity (EC), total dissolved solids (TDS), chloride, sodium, calcium, magnesium, carbonate, and bicarbonate water quality parameters were carried out. Chloride Bicarbonate Ratio was used for the calculation of the penetration rate of the seawater, and subsequently chloride and electric conductivity were defined as type and quality of water characters. The results showed that the shallow aquifer was intruded by seawater at several sample levels, which was included in the normal to high intrusion classification. The sea water intrusion was classified as freshwater to saltwater, the concentrations in chloride ranged from 159 to 6021 mg / L. The ratio of bicarbonate chloride was 0.28 to 21.46, normally above 15.5, indicating that groundwater was disturbed. As a result, in comparison to standards or other seawater intrusion indicators, Panaikulam-well 1 (PK-W1) has been affected by seawater intrusion highly.

Keywords: *Aquifer; Hydrochemical parameters; Groundwater; Indicator; Seawater intrusion.*



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ANOMALY DETECTION IN CROWD MOVEMENT

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ABSTRACT:

Crowd behavior detection is very promising area of research these days in field of computer vision and artificial intelligence. A novel framework based algorithm has been proposed in this research paper which focuses three key elements of moving crowd [i] Dynamics based appearance of the crowd [ii] Temporal – Spatial deviation based anomaly [iii] Intrinsic interaction based deviation flow change. This framework deals with micro as well as macro level anomaly detection using SIFT techniques in structured & Semi-Structured crowd. This proposed framework out performs several existing state of art techniques being used for anomaly detection.

Keywords: Computer Vision, SIFT, Anomaly Detection, Spatio-Temporal

DESIGN AND ANALYSIS OF RELIABLE VIDEO TRANSMISSION THROUGH VISIBLE LIGHT (LIFI)

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ABSTRACT:

Visible light communication (VLC) is the term given to an optical wireless communication system that conveys information by modulating light that is visible to the human eye. Continuous improvements in wireless communication systems, e.g. 3G, 4G, etc. a coming crisis is expected due to the lack of sufficient Radio Frequency (RF) resources, this limitation in bandwidth can't support the growth in demand for high data rates and the large numbers of communication systems, the extension or enrichment of wireless services and other being increased in user demand for these services, but the available RF spectrum for usage is very limited. So the new technology of Li-Fi came into picture.



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DETECTION OF BRAIN TUMOUR USING MICROSTRIP PATCH ANTENNA

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ABSTRACT

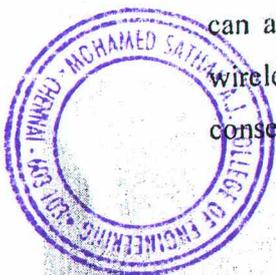
Wearable antenna are used for body wearing electronic devices such as watches due to its body wearing idea of these type devices these devices should be made upon low radiating towards the body because of tissue affection on the body here a body wearable microwave antenna is made to analyse the radiation over the body using this sensing of the radiation detected tumour affection on a particular part of the body (head) is analysed and detected in the combination of the microwave analysis.

DIGITAL WATER METERING AND AUTOMATIC BILLING GENERATION SYSTEM

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ABSTRACT:

Water is one of our most important natural resources. We drink it, use it for cooking and cleaning, and depend on it in many aspects of our lives. For this motive she must be protected and managed economically. It should not be surprising, then, that we have a need to measure the amount of water we use. In this paper we present a short history of mechanical residential water meters with moving parts such as displacement and velocity water meters. Due to this traditional water meters we cannot able to get the actual consumption of water. And also for multispecialty flats utility and toilets will be located in different places so we cannot able to get the cumulative value of consumption of each and every flat. And also due to many moving parts in traditional meter there is a lot of chances to getting failure. For solving these problems we are going to introduce a digital water meter. So that we can able to get the flow consumption of each and every inlets of the flat though the digital flow meter and also we can able to generate the accurate water consumption bill for each flats. And also, it has a special advantage of leakage detection, open tap detection and no flow detection alarm. So that we can able avoid the complete leakage of water. We can also be able to monitor the data wirelessly using webpage. And also this project will help us to do effective water conservation.



FIRE EXTINGUISHER ROBOT

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ABSTRACT:

There are a lot of precautions taken for Fire accidents, these natural/man-made disasters do occur now and then. In the event of a fire breakout, to rescue people and to put out the fire we are forced to use human resources which are not safe. With the advancement of technology especially in Robotics it is very much possible to replace humans with robots for fighting the fire. This would improve the efficiency of firefighters and would also prevent them from risking human lives. The proposed vehicle is able to detect presence of fire and extinguishing it automatically by using flame sensor and smoke sensor. It contains dc motors and motor driver to control the movement of robot. Relay circuit is used to control the pump and when it will detect fire then it will communicate with microcontroller (Arduino UNO R3). The proposed robot has a water spray which is capable of sprinkling water. The sprinkler can be move towards the required direction .At the time of moving towards the source of fire it may happen that it will come across some obstacles, then it has obstacle avoiding capability. It will provide GUI for arduino operation using android. It detects obstacles using ultrasonic sensors up to range of 80 m.

Keywords: smoke sensor, flame sensor, ultrasonic sensor, water pump, arduino UNO.

Hub and Spoke Monitoring using MPLS

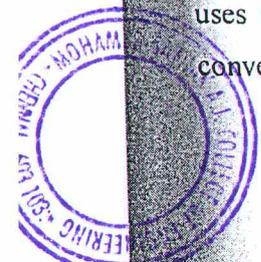
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ABSTRACT:

This paper analysis the configuration of Enhanced Interior Gateway Routing Protocol (EIGRP) using the MPLS Virtual Private Network (VPN). The VPN enables service provider to implement point-to-point link connectivity between the customer locations. In this paper, the Hub and the Spoke topology are used to send traffic thus it provides safe and encrypted connection. They optimize their performance by taking automatic routing decisions for data transmission between the sites and enhance end to end connectivity. The proposed EIGRP uses the Diffusing Update Algorithm thus it takes place 90 milliseconds to achieve the convergence time



INTELLIGENT ROAD MONITORING SYSTEM FOR SAFETY ENVIRONMENT

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ABSTRACT

One of the major problems faced by developing countries is the maintenance of the road condition. The sensor- based Pothole Detection System uses ultrasonic Sensors for detecting those potholes more accurately than before and GPS is used for plotting the location of potholes on the map, it will give an alert to the driver about potholes using the buzzer. Here we propose the design of 'Pothole detection System' which assists the driver in avoiding potholes on the roads, by giving prior warnings. Warnings can be like buzzer if it's before to alert the driver. This system uses an ultrasonic sensor to sense the potholes before. This project aims to produce a Pothole Detection and Notification System. The main components of the project are the accelerometer, Ultrasonic Sensor, GPS with Arduino Uno.

Index Terms — Arduino, GPS, Ultrasonic sensor.

MI BASED WIRELESS UNDERGROUND SENSOR NETWORKS

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ABSTRACT:

This project is to transmit and receive data through underground soil medium. It consists of inexpensive electronic components arranged systematically for transmitting data. The well established wireless signal propagation technique using electromagnetic waves do not work well in this environment due to high path loss, dynamic channel condition and large antenna size. Hence this system involves magnetic induction technique which creates constant channel condition and can accomplish the communication with small size coil. It is also harmless to worms, insects and roots that are present in the soil. Impedance matching circuit is used at both transmitter and receiver for matching the source and the load. The TTL board is used for converting the data from CMOS logic to system logic. Finally the output is viewed in the system.

Keywords: Magnetic Induction, WUSN,




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USING KNN DETECTION OF WHITE BLOOD CELLS IN LEUKEMIA AND MYELOMACANCER DISEASES

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ABSTRACT:

Automated diagnosis of white blood cells cancer diseases such as Leukemia and Myeloma is a challenging biomedical research topic. Our approach presents for the first time a new state of the art application that assists in diagnosing the white blood cells diseases. We divide these diseases into two categories, each category includes similar symptoms diseases that may confuse in diagnosing. Based on the doctor's selection, one of two approaches is implemented. Each approach is applied on one of the two diseases category by computing different features. Finally, Random Forest classifier is applied for final decision. The proposed approach aims to early discovery of white blood cells cancer, reduce the misdiagnosis cases in addition to improve the system learning methodology.

VEHICLE ACCIDENT PREVENTION SYSTEM AT HAIRPIN BENDS

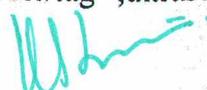
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ABSTRACT:

The rapid growth in the transport sector has resulted in an increase of the accidents every day. The accident mainly occurs due to our carelessness and breaking of traffic rules. In this paper, the main goal of the proposed system is to avert collisions between vehicles mainly occurring in hairpin bends, short corners, blind curves, etc. by providing indication and making the vehicle drivers' alert. If any problems say, overspeeding or traffic, the module will send to the control room thereby the problems can be solved. This system makes use of ultrasonic sensor, RF ID tag and other embedded systems. The proposed ultrasonic sensor is able to detect presence of vehicles and increasing the rate of depreciation of accidents or traffic caused due to non uniformity between vehicles. The proposed ultrasonic sensor detects vehicles and causes them to move in a uniform manner and maintain the traffic. This causes the traffic to reduce in such blind spots and reduces the rate of accidents as well. Using these ultrasonic sensor we also add a Radio Frequency Identification (RFID), which recognizes the vehicles and records the information of the vehicle's status and ownership using the Radio Frequency Tag on the number plate.

Keywords: Ultrasonic sensor, radio frequency identification reader/tag, ultrasonic sensor, arduino UNO.




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OBJECT RECOGNITION USING PERSPECTIVE GLASS FOR BLIND/VISUALLY IMPAIRED

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ABSTRACT:

Perspective glass is wearable pair of glass which is designed for blind people which helps them in resolving a major difficulty they face such as identifying the objects or obstacles present before them during walking. The Perspective glass consists of a raspberry pi board, 5mp camera, ultrasonic sensors, buzzer, headphone, power source. This glass is controlled by a Power button which when pushed ON, will take pictures of the surroundings with respect to the position of the person wearing it. The clarity and the resolution of the picture purely reside on the camera used. The captured information is transferred to the application software which is manually built with the help of Fire Base application. The transferred data is then analyzed with the help of library files that are interfaced to the application via Neural Network "Tensor Flow". Finally the captured image is recognized with the help of Tensor Flow, and the information regarding the object is given out as a voice output to the person via speaker/headphones. All the components are interfaced to the Raspberry pi board which act as the central processing unit .It has the overall control on this setup. In addition to that an Ultrasonic Sensor is connected to the setup which when sensing an obstacle within a particular distance of 3 meter, will produce a buzzer sound instantly giving a caution alert to the blind person. The overall setup is powered through an external power source (power bank). These Smart Glasses for Blind people is a portable device, easy to use, light weight, and user friendly. These glasses could easily guide the blind people and help them in better handling of obstacles.

Keywords— Raspberry pi, android things, Tensor Flow, Ultrasonic Sensor.



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