



Technology Innovative Educational and Multidisciplinary Skill in 21 Century Research (NCTIEMR)

Sponsered by All India Council For Technical Education (AICTE)



Editors Dr.I.Satyanarayana,

Dr.D.Lakshmaiah, Prof.R.Yadagiri Rao





Institute of Engineering & Technology Institution, Recognized under 2(f) of UGC Act 1956. Approved by AICTE, New Delhi. Affiliated to JNTUH, Hyderabad.







National Conference

on

28th- 30th March 2022

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Editors

Dr.I.Satyanarayana, Dr.D.Lakshmaiah,

Prof.R.Yadagiri Rao









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Editors Dr. I. Satyanarayana Dr. D. Lakshmaiah Prof. R. Yadagiri Rao



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R. Venkat Rao Conference Chairman NCTIEMR 2022 Sri Indu Group of Institutions

As the Chairman of the organizing committee of The First National E Conference on Technology Innovative educational and Multidisciplinary skill in 22 century research (NCTIEMR), I would like to cordially invite all interested academicians, researchers and engineers in the multi disciplines of Engineering to attend and/or present at this conference. The topics cover research in the area 5G Wireless Technologies, Advanced Communication Systems, Multi Antenna communication Techniques, VLSI and Embedded Design, Image Processing & Applications, CAD/CAM/CIM/CAPP, Manufacturing processes, Industrial Automation, IC Engines, Surface Coatings, Materials Joining, Robotics, Welding Technology, Role of human-computer interaction, AI and robotics, Software engineering and programming, High-performance computing, Computer science, biotechnology, Machine learning and neuron networks, Engineering, Water Resource Engineering, Geotechnical Engineering. Originally, this conference is intended to boost the publication of Faculty of all Engineering and non engineering staff as well as becoming a platform for newcomers to learn some experience in presenting technical papers at Conference. However, this conference is also open to all postgraduate students, staff and researchers throughout India to share their research findings. Thus, the conference is not limited to SIIET staff and students only. It will be a good research findings forum and is expected to be an annual event in the future. The conference will be held from 28-30 March 2022 at the Faculty of Engineering, Sri Indu Institute of Engineering and Technology

So please mark your calendar, prepare your submissions, visit this website, and keep in touch for updates. I hope you all will have good deliberations during the conference and wish you all success in your research. Looking forward to your participation in NCTIEMR 2022.



Secretary R.Anup Chakravarthy Sri Indu Group

I am extremely delighted to know that SIIET is organizing the National Conference on Technology Innovative Education and Multidisciplinary Skill in 21st Century Research," held from 28th to 30th March, 2022 in Hyderabad.

I am sure that this conference will provide a red carpet for all researchers, technocrats and academicians to share knowledge and experience amongst all. Undoubtedly such an event would give birth to innovation in engineering resulting in advancement of technology and identifying a road map for the future. It is a matter of immense pleasure that SIIET is conducting such conferences every year for the last 4 years and the selected papers have been published in a reputed international journal that helps in disseminating the research and information in engineering field.

The conference has been designed and planned to deliver the most recent advancements in the field of engineering. The conference also provides a perfect platform for academicians to upgrade their knowledge in engineering domain. The success of the conference depends ultimately on the many people have worked together. A glimpse of academics is hereby presented in this souvenir taking care to measure the glory and luster of all the talks in the conference. The souvenir would give a chance to read, enjoy and cherish the excellent academics and thoughts of renowned speakers and researchers.

Lastly and importantly, I take the privilege to welcome all the delegates for these special events and wish them to have fun-filled, academically rich and collaborative experience.



President J.Devi Prasad

It gives me an immense pleasure and privilege to welcome you all for the "National Conference on Technology Innovative Education and Multidisciplinary Skill in 21st Century Research," held from 28th to 30th March, 2022. SIIET has the pride to organize this conference. The prime objective of the conference is to provide a platform to the researchers, scholars and technocrats to share their expertise, exchange their views and discuss their achievements in the field of engineering. It is my longstanding dream and desire to encourage the free interchange of information on a common platform about recent advances in engineering stream amongst the scientific and engineering communities.

With ever expanding knowledge and overload of information, guidance from the experts is required to choose and deliver the best. We are fortunate to have a renowned galaxy of national speakers who have the expertise to create superlative knowledge bank for this event. The endeavor of the conference will be to have an amalgamation of various specialists at a common forum to bring about exchange of innovative ideas.

My heartfelt congratulations to all the creative minds for having chosen this platform to present their research findings. We are sure that this conference would offer numerous exciting talks on cutting edge innovations and technologies for the research community.

I wish all the delegates who have organized and participated in this conference a bright, academic and professional future.



Director of Academics A Rama Krishna Rao

We are all aware that unless an educational system is well administered and administered towards research, it would become obsolete and irrelevant to the changing national needs and international order. As Vivekananda defines it, "Education is the life-building, man-making, character-making, assimilation of ideas". Very happy to know that during the past four decades, there has been a phenomenal expansion of technical education facilities in the country. The growing body of scientific and technical knowledge and its repeated obsolescence call for more frequent occupational updating. Education has to be provided to all, at the same time the quality of education has to be maintained, irrespective of the quantitative expansion of study.

Education must be conceived as an interdisciplinary concept as a factor of multi-dimen-sional development, of which, man is both the end and the instrument. Education so conceived helps in continual growth of personality, steady development of character and qualitative improvement of life.

If continuous, objective and scientific methods are adopted, the quality of education will improve. With the objective of developing the quality of education and better methods of evaluation, I am very happy to learn that SIIT&E is organising an AICTE Sponsored 3-days National E - Conference on Technology Innovative Educational and Multidisciplinary Skill in 21 Century Research (NCTIEMR) from 28-03-2022 to 30-03-2022 and I wish the Conference a grand success.



Conference Adviser R.Yadagiri Rao SIIET.

The world is moving at a faster pace and new technologies are coming every day and week. We need to be proactive and enthusiastic in learning about these cutting edge tools and research. New technology is bringing opportunities along with the requirement of new set-off skills and new challenges. This phase of rapid evolution provides endless opportunities to learn experience and share. SIIET is built on such a view in heart.

SIIET is built on a solid foundation of experience and excellence with a vision to provide holistic development of students that comes through the staff who have already a lot of accomplishment. It is my everlasting dream and desire to encourage a free interchange of information on a common platform about the recent and productive advances in all engineering communities. This "National Conference on Technology Innovative Education and Multidisciplinary Skill in 21st Centaury Research". Held from 28th to 30th March, 2022 will cover all the areas related to science, technology and applications of Engineering. Special emphasis will be levied on inviting eminent scientists and engineers of various fields with different backgrounds from all over the world to discuss the recent advances in all emerging areas of engineering and share their experiences especially in design, development, testing and applications.

Further, the tremendous response from various researchers and academicians from India and overseas received in terms of the quality of the research paper shows that modernization is seated here and it is an actual standard from industries and educational institutions.

I am sanguine to say that the delegates and participants will relish with the novel concepts presented in this conference to strengthen their research work towards their next best higher levels. I convey my peerless wishes to this conference and hope that this conference will lay new milestones in the minds of researches with novel thoughts.



Principal Dr. I. Satyanarayana SIIET

National E Conference on Technology Innovative educational and Multidisciplinary skill in 21st century research (NCTIEMR online mode) is a progressive realization of the fundamental concepts that are taught in the early days of childhood or in adolescent days. In the process of realization of those concepts a few people make a very big leap and a few take ordinary steps/leaps in their progress.

However, every realization, every progress creates new avenues for the goals to be cleared in one's life. Because life is a kind of journey without a clear road map. Each of us have to search our own routes to reach our own destination with the already available indicators on this road that we are heading to.

This transformation or metamorphosis or what we call paradigm shifts can occur in every sphere/ field of life or in every subject that we learn from basics.

In computer science, Mechanical, electronics and communication, civil, Humanities, we see this evolution of transformation of technologies which are captivating the minds of the creative learners to reach their unreachable goals. Research and technology that are evolving through these subjects are the important parameter that helps the humanity not only to realize their goals but also help them to be proactive in designing new things for the next generation learners.

I appreciate the convenors, organizers, staff and student fraternity for initiating this seminar on "National E Conference on Technology Innovative educational and Multidisciplinary skill in 21st century research (NCTIEMR)" to activate the Frontal Lobes of the Brain of the participants which are responsible for creativity, planning, research and thinking from which a major change can be brought forth through this revolutionary innovative paradigm shift.



Convener Dr.Dayadi Lakshmaiah

It gives me honor, stupendous pleasure and privilege to welcome all the creative participants to the "National Conference on Technology Innovative Education and Multidisciplinary Skill in 21st Century Research" from 28th to 30th March, 2022, that is being hosted by SIIET.

In order to build a stronger future we must know how to identify and embrace opportunities. Through the annual conferences, time and again we make an effort to expose ourselves to the opportunities to diversify our scope of improvement in all fields.

Moving in today's scenario we all may notice the dependency on technology and its uses in every field of our life. As our current life is becoming more complicated and there will be more hectic schedule of the work the role of engineering to reduce the pressure of work through its latest technologies.

I strongly hope that this conference will open novel windows in the flourishing areas of existing problem. We intend to take this event ahead as an annual feature, the motive not only is to generate discussions on contemporary issues, but also to propel the culture of academic exchange, which is the only way to achieve excellence in this field. I strongly believe that this conference will unfold new landscape in the subject of new technologies.

I wish all the participants and the crew for hosting it to a great success.

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Investigation of Discharge and Charge Characteristics of a NIMH Battery

Kalagotla Chenchireddy¹, Khatravath Santhosh², Khammampati R Sreejyothi³

A Battery Management System (BMS) is a system that manages a rechargeable battery (cell or battery pack), protecting a battery from operating beyond its safe limits and monitoring its state of charge (SoC) and Its health status (SoH). BMS has been an essential part of Hybrid Electric Vehicle (HEV) and Electric Vehicle (EV) .BMS provides system and user safety with monitoring function. In the present work, the design and simulation of BMS for electric vehicle are presented. The entire BMS model and all other BMS building blocks are implemented in the MATLAB R2015a Simulink Toolkit.Key words: Battery, state-of-charge (SOC), battery management system (BMS).

Keywords: Battery Management System (BMS), state of charge (SoC), battery

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Implementation of Health Monitoring System Using IOT Dr.S.Kannan¹, S.Naresh²

With an improvement in technology and miniaturization of sensors, there have been attempts to utilize the new technology in various areas to improve the quality of human life. Design a remote healthcare system that comprises of three main parts. 1. Detection of patient's vitals using sensors, second for sending data to cloud storage and the last part was providing the detected data for remote viewing.2. Remote viewing of the data enables a doctor or guardian to monitor a patient's health progress away from hospital premises. 3. IoT concepts have been widely used to interconnect the available medical resources to provide healthcare service to the patients. An IoT architecture customized for healthcare applications. In the Remote Health Monitoring System architecture collects the sensor data through ARDUINO microcontroller and relays it to the cloud where it is processed and analyzed for remote viewing. Feedback actions based on the analyzed data can be sent back to the doctor or guardian through Email and/or SMS alerts in case of any emergencies.

Keywords: IoT, Zig Bee, ARDUINO, ECG, LCD, GSM Technology

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Prediction of Ultra Sound Image Based Metabolic Associated Fatty Liver Disease Using Machine Learning A.Sindhuja¹, Dr.K.Seetharam²

Hepatic steatosis synonymous by means of fatty liver be a disease to results from excess fat in the liver. It's common to have little amount of fat in the liver, except too much can pull into a health problem. It is such a disease, which might direct to loss of human life, if not cured on premature stage. To identify such a disease extremely precise and consistent method is required such as ultrasound imaging. Diverse CAD frameworks have been anticipated, to classify the images as normal and fatty liver ultrasound images. Classifying the images with the help of the CAD systems developed till date is not initiate to be up to the mark. The sensitivity and accuracy measurements values still require development. Although a lot of research has been passed out in this region, it is the theme of immense significance owing to rising prevalence of fatty liver across the world. In restorative imaging and diagnostic radiology, CAD have ruined up a prominent among the most significant research area. It introduces the pattern recognition software that examine suspicious features on the image as well as help the radiologists to work out on the problem. Over the past years, successful research has been made on classifying liver ultrasound images. This paper presents the new trend in Ultrasound-based categorization of various liver diseases through Computer Aided Diagnosis systems and the existing challenges and upcoming directions to progress the diagnostic precision.

Keywords: FLD, Ultrasound Image Bayesian classifier , Neural-Network Based Classifier, Support Vector Machine (SVM)

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A Review of Image Compression Techniques R. Likitha¹, G. Anusha²

Present days spread of images in computer, mobile and internet are essential. To save an image, large quantities of digital data are required. Due to the problem of limited bandwidth, there is need to compress the image before transmission. To make clear of this problem several image compression techniques have been developed in image processing. This study presents a survey on recent Image Compression Techniques.

Keywords: Image Compression, Lossy and Lossless Compression, Huffman encoding, Fractal Coding.

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An Intelligent Walking Stick for Visually Challenged People Upendra Sapati¹, B.Ashwini²

In this high-tech technology has made it possible that everyone can live a comfortable life. But somehow the visually challenged people need to depend upon others in their daily life which ultimately makes them less confident in an unfamiliar environment. But now a day the explosion of innovative technology provides many opportunities for them to live confidently without feeling as a burden. So in this Project An Intelligent Walking Stick is designed and implemented to guide visually challenged people to reach their destination place safely without facing any difficulties and without depending on any one. The main aim of this project is to detect nearby obstacle and notify the user about the direction of that obstacle, thereby helping the person to move freely by using a reliable stick. This model consists of ARDUINO Uno 3 Ultrasonic Sensors, Battery, Toggle Switch, Buzzer and Vibrating Motor. The ARDUINO is programmed in such a way that on switching on the ARDUINO, it sends a signal on the Trigger pin of all the three Ultrasonic sensors. These ultrasonic sensors will send an Ultrasonic wave using the transmitter of the Ultrasonic sensor. These ultrasonic waves travel through air and on colliding with an obstacle, gets reflected back. These reflected waves travel and enters into the circuit through the receiver of the ultrasonic sensor. When an obstacle is detected, both Buzzer and Vibrating motor activates to alert the person. Programming is done in such a manner, that the ARDUINO will play the buzzer with different delay for obstacles located on the left side and right side and no delay for the straight one. It ensures the task of moving of a blind person is made easy and comfortable It can be used both indoor and outdoor. The manufacturing cost of this system is very low and very affordable compared to the systems available in the market.

Keywords: Ultrasonic Senso, Piezo-Electric Buzze, Intelligent walking stick, Arduino Uno

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Advanced Autometic Railway Gate with Voice Alerting System

M. Navaneetha¹, T. Bhavani²

It control the unmanned rail gate without human intervention using embedded platform. Today often we see news papers very often about the railway accidents happening at un- attend railway gates. Present project is designed to avoid such accidents if implemented in spirit.

It utilizes two powerful IR transmitter and two receivers, one pair of transmitter and receiver is fixed at upside (from the train comes) at a level higher than human being in exact alignment and similarly other pair is fixed at down side of the train track sensor activation time is so adjusted by manipulative the time taken at a certain speed to cross at least one partition of standard minimum size of the Indian railway, normally 5 seconds.

Keywords: IR transmitter, IR receiver

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A Low-Power 10-bit 250MS/S Binary Weighted Current Steering Dac for High Speed Communication Systems E.Srinivas¹, G.Swathi²

In this paper, High performance Low power 10-Bit, 250 MS/s Binary weighted Current steering DAC is presented. With the advent of high performance (in terms of speed, power and area) digital circuits, the need for data converters with high accuracy and speed for various kinds of applications, has attracted the attention of scientists and technologists all over the world. Constant efforts are being put in to miniaturize the data converters from the point of low power and less area. This proposed Digital to Analog Converter (DAC) is designed using 180nm CMOS Technology for High Speed Communication Systems. The architecture follows Binary weighted current steering technique. This technique is used because; it has a high conversion rate and good linearity. The proposed circuit uses binary-weighted current steering architecture rather than segmentation because this structure achieves a high Spurious-Free Dynamic Range (SFDR) at the high clock frequency. Current steering does not require a buffer because it uses a load resistor directly for the current. The Digital to Analog Converter is designed in 0.18µm CMOS process with supply voltage of 1.8v. The power consumption achieved is 19.79µm & Best SFDR(dB)@Fin(MHz) is 68@11.23.

Keywords: ~ Op-amp, current steering, Binary-Weighted, Low power digital-analog converter, SFDR, Resolution

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Raspberry PI Based Advanced Object Identification Using Tensor Flow Algorithm M.Bhavana¹, B.Jyothirmai²

Vision is one of the most important senses and it has many roles. The people who are blind face a lot of difficulties in their daily life. They need external support through their navigation. Our society improved day by day through advanced technologies. In this project, we introduce a real-time object in their route by object detection method and near and dear one's recognition through face detection and recognition method. Here we design a smart glass that is helpful to blinds in their day to day life. Selfdetermination is the building methodology in achieving thoughts, intentions in life. Unsighted persons find themselves vindicate to go out individually. There are millions of blind people in this world who are always in need of helping hands. But coming to the point of Blind people, no matter what advanced technology you give them, they may not operate because they don't have the ability to see and use the devices. Not only devices, they need to depend on others completely for every small task. In order to fulfill the above missing parts of the blind people, we proposed a device embedded with advanced technology which will make the person to do their own work rather than being dependent on others. Object detection is a major aspect in many fields. An there is much advancement in it after the introduction of deep learning.

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Keywords: ARDUINO UNO, ultrasonic sensors, RF remote

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IOT Based Smart Helmet for Road Accident Detection G.Bhargavi¹, K.Rajender²

This paper presents review on the accident detection techniques and fire detection in vehicles. Now-a-days lots of accidents happen on highways due to increase in traffic and also due to rash driving of the drivers. And in many situations the family members or the ambulance and police authority were not informed in time. These results in delaying the help reached to the person suffered due to accident. Road accidents constitute the major part of the accident. Most of the times we may not be able to find accident location because we don't know where accident will happen.

The purpose of the paper is to find the vehicle where it is and locate the vehicle by means of GPS and sends a data to user using GSM system which is placed inside of vehicle system. We have additionally added a temperature sensor will detect whether the fire has occurred and MEMS sensor will detect the motion of the driver. Our project real time vehicle tracking and accident detection is designed to avoid such situations. Time vehicle tracking and accident detections are designed to avoid such situations.

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Keywords: GSM, GPS System, MEMS Sensors, Tracking.

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Smart Collision Avoidance System in Autonomous Driving Vehicles

Suresh Alavala¹, P.Krishna Rao²

Currently, the number of disaster is so elevated and doubtful. Disaster cause break, severe damage and loss. These disaster are grounds by wait of the driver to beat the brake. Precautionary compute such as humanizing visibility, auto headlights, windshield wipers etc. were arrange to decrease the chance of receiving into an disaster. Now we are at the point of actively pass up disaster as well as provided that maximum shield to the motor vehicle resident and even pedestrians. Hence we make an try to offer a new robotic vehicle accident escaping scheme. It is planned to expand a new scheme that can resolve this difficulty where drivers may not brake physically but the motor vehicle can stop robotically due to barrier by using sensors. Thus, we focuses on the expansion of a sensor stand embedded scheme that can help the drivers to shun any class of smash on the highway in order to keep the valuable lives and also to stop the economic thrashing.

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Key Words : AURDINO Uno, Ultrasonic Sensor, Navigation, robotics

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Design and Implementation of Smart Driver Drowsy Detection System using Arduino M.Nikhil Sitharam¹, Y.Raju²

Vehicle accidents are rapidly increasing in many countries. Among many other factors, drowsiness and fatigue are playing a major role in these accidents and systems which can monitor it are currently being developed.1 in 4 vehicle accidents are caused by drowsy driving. Drowsy driving can be as small as a brief state of unconsciousness when the driver is not paying full attention to the road. Due to the relevance of this problem, we believe it is important to develop a solution for drowsiness detection, especially in the early stage stop prevent accidents. Drowsiness in the work place specially while working with heavy machinery may result in serious injuries similar to those that occur while driving drowsily.

Our solution to this problem is to build a detection system that identifies key attributes of drowsiness and triggers an alert when someone is drowsy before it is too late. Drowsiness detection is a safety technology that can prevent accidents that are caused by drivers who fell asleep while driving. The goal of our project is to develop a smart drowsy driver detection system using ARDUINO with the water sprinkling feature included in it.

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Key words: ARDUINO, Sensors, RF ID, Microcontroller.

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UVC Based Advanced Hospital Sanitization Robot Using Android Application

Revathi Maheshwaram¹, Swathi Muppavaram²

Mainly Artificial Intelligence in the long run will direct to robotics. The majority of neural networking, natural language processing, image recognition, speech recognition/synthesis research aims at ultimately incorporating their technology into the essence of robotics - the construction of a effusive humanoid robot.

The grassland of robotics has been around almost as long as Artificial Intelligence - but the field has made miniature progress. This is only expected, since the field not only attempts to overcome intelligence, but also the body that embodies it - a difficult task. Robotics, although is not pretty much humanoid robots; but also regarding their commercial applications in manufacturing, safety and hundreds of other fields.

It is only comparatively just that robots have ongoing to utilize a degree of Artificial Intelligence in their effort - numerous robots required human operators, or specific guidance during their missions. Gradually, robots are fetching more and more independent Robotics is an extremely captivating field that benefit most people. Robot is a system that contain sensors, control systems, manipulators, power supplies and software all functioning together to perform a task. Robot must have Sensing, Movement. This deals with one of the application of vehicles. In this one moving object is developed such that it is moved as per commands given by the voice recognition module and that command is received by microcontroller using wireless communication. This is equipped with DC motor, Voice Recognition module, ZigBee module, Micro controller along with the Power supply unit. Vehicle finds it applications in the real time.

Key Words: Zig Bee, Micro Controller, Wireless Communication, Voice Recognition

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OLD People Alzheimer's Assistant Annepureddy Sneha¹, A.Sindhuja²

A smart watch with fall and location recognition, reminders and more, designed to help you or your loved one with Alzheimer's. It is a type of dementia that causes problems with memory, thinking and performance. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily responsibilities. To address this concern to build an IOT Device which is connected to near and dear, family members, Emergency Services to produce voice alerts and also distribute the medicine well before the time. This device will help to carry on the regular routine without anyone's help.

The Scope of the paper is mainly for fall recognition of the person and displays the location if he is in falling situation and also displays the daily routines. It is mainly useful for Old people without taking any one's help. If the person falls, then immediately the alert message will be generated to family members, care takers and Emergency services. The development had smart watch which will displays the Time , Date and Daily routines that means take medicines, take food ,water etc.. at specified time schedule. The cost of this watch is not expensive.

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Keywords: Alzheimer's, Internet Of Things(IOT), Raspberry PI, Node RED

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Implementation of Vehicle Road Safety Monitoring and Alerting System

M. Rajesh¹, Theddu Naresh²

The new vehicle's accomplishment has been perennially, upgraded and the study results relating to the safety of car driving have also been continuously reported and illustrated, it is trying to find a balance point between the development of vehicle speed limit and the protection of the driver's safety. In the current study and development of various products, no matter it is in the administration. Of vision system, radar detection or the tracing and control it is always asking the driver to watch or handle the possible issues after the occurrence of accidents. In this we try to develop a system to provide the prior to accident information to the vehicle control unit

Key Words: Robotics, ARDUINO, IR Sensor, Radar, Micro controllers.

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Advanced Weather Monitoring System Using IOT Ch.Suresh¹, T.Swetha²

By a substantial swap over the atmosphere incessantly, it is immensely damaging towards the individuals in need who are maintained during the accident - disposed of areas. In part of region individuals existed nay informed as to the outcome as concerns approaching notably during its localities, everybody is informed regarding the central warmth together with dampness about the metropolis in the spell dampness and warmth differs as to incompatible elevations as well as substitutes with respect to smaller intervals. The existed network is an extremely more affordable and well-organized mechanism as long as supervising and tracking the climate, along with it addresses statistics with regard to the fogs therefore that it can be clear, in any place throughout the internet. The temperature, dampness, and force play a crucial role in dissimilar sectors such as farming, commercial, and operational sectors. Atmosphere prediction is mandatory for the extension and add-on s of such commercial activity.

The Internet of Things (IoT) is the applied science handed down in growing the advanced technique, whereby it's a systematic and latest technique for linking the sensors to the cloud whereby it can accumulate real-time sensor data and bridge the whole world of Object in a system. At this moment materials like to be e-gadgets, sensors, and automatic electronic equipment. This set-up supply is accompanied by managing and surveilling the climate conditions like weather condition, force, smog, Relative dampness level, and numerous supplementary gases with sensors and transmits the particulars to the cloud and then map the sensor data in pictorial form.

Keywords: Internet of Things (IoT), Warmth, Dampness, Temperature.

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Design of Voice Based Doctor Prescription and Tablet Reminder of Aged People B.Praveen¹, K.Srikanth²

When it comes to the reminding of the pill, the whole thing fails to remember. Here the normal ways are required to decrease the efforts of human for remembering the timings of medication, for this we use Medicine Intake Reminder system and simple reminder using ARDUINO. This system brings to mind me around one or two or three times for a day. Here time slots are selected by using push buttons. By using RTC the required slot is selected and giving intimation to the user. Here the selected time slot is matching with real time the buzzer starts buzzing and the LED also indicates. For stopping the Buzzer Stop button is used. This procedure is proceeding remaining time slots. Now a days the main problem is Reminding of Medicine. Hence this device used for everyone and everywhere and it is user convincible, Portable. This device is fatherly clarified in the upcoming points of report.

KEYWORDS: RTC DS3231, ARDUINO, IOT, I2C

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Implementation of Smart Metro Train to Shuttle Between Stations M. Rajesh¹, G.Nirmala²

: This project is designed to display the technology used in metro train movement. This proposed system is an routine train and it eliminates the need of any driver. In this project Adriano has been used as CPU. Whenever the train arrive at the position it stops regularly as sense by an IR sensor. Then the exit is opens routinely so that the passengers can go inside the train. The door then closes after a set time set in the ARDUINO by the program. It is also prepared with a passenger including section, which counts the number of passenger present in the train. The passenger counts are display on a LCD module interfaced to the arduino. The train incorporates a signal to alert the passenger before closing the exit. Further the project can be higher by making this system more superior by display the status of the train over an LCD screen. The voice element IC is used for the audio statement of station.

Keywords: Microcontroller, Analog to Digital converter, Interfacing, metro-train

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GSM Based Heart Attack Detection System Using Heart Beat Sensor

Suchitra Rana¹, V.Srinivas ²

Cardiovascular disease is one of the major causes of death in many countries which accounts for about 14 million deaths worldwide. In recent days, the Life style of people has been changed and becoming independent. In the fast running world, the demand for personalized non- hospital based care also been increased. From the statistical analysis, it is recommended to prevent the death rate of cardiovascular disease by periodically monitoring the patient's heart. Recent trends in wireless technologies are the key elements which help patients suffering from heart disease to know about their health condition regularly and to have proper medications prescribed by the doctors. In this paper, the heart beat monitoring system using GSM technology has been discussed. This system can be used in hospitals and also in patient's remote location to provide continuous monitoring of their heart rate. In this system, heart beat sensor continuously monitors the patient's heart beat and in case of any abnormalities the system will send message to the doctor or relatives of the concerned person. To perform these operations, the system uses heart beat sensor, GSM module and to control all these devices Arduino is used.

Keywords: GSM Technology, Embedded System, ECG, P89V51RD2 Micro Controller.

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Python Based Advanced Drowsy Driver Detection Using Machine Learning Algorithm M. Rajesh¹, Venu²

Driver fatigue is one of the major causes of accidents in the world. Detecting the drowsiness of the driver is one of the surest ways of measuring driver fatigue. In this project we aim to develop a prototype drowsiness detection system. This system works by monitoring the eyes of the driver and sounding an alarm when he/she is drowsy.

The system so designed is a non-intrusive real-time monitoring system. The priority is on improving the safety of the driver without being obtrusive. In this project the eye blink of the driver is detected. If the drivers eyes remain closed for more than a certain period of time, the driver is said to be drowsy and an alarm is sounded. The programming for this is done in OpenCV using the Haar Cascade library for the detection of facial features.

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Keywords: Open CV, Machine Learning, MATLAB, Image Acquisition

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Underground Cable Fault Detection Using IoT and Thing Speak

T. Ashwini¹, T. Ashiesh ²

Under Ground Cables are prone to a wide variety of faults due to underground conditions, wear-tear. Also detecting faults source is difficult and entire line is to be Dug in order to check entire line and fix faults .so here we propose an cable fault detection over IOT that detects the exact fault position over IOT that makes repairing work very easy. The repairmen know exactly which part has fault and only that area is to be dug to detect the fault source. This saves a lot of time, money and efforts and also allows to service underground cables faster.

Keywords: underground, cable fault location, Nodemcu, thing speak

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Design and Implementation of Non-Subsample Counterlet Transform for Biomedical Video Compression Dilshad Shaik¹, Alekhya Sannayala²

Numeral based Non-subsample counter let convert (NSCT) diminishes the complexity of the conversion process kernel in biomedical video compression by giving out the necessity for floating number arithmetic. Yet, the dynamic scope of INSCT is huge and in this manner, equipment cost is more. In this script, an innovative change operation kernel for biomedical video compression is projected which utilizes a novel set of complex and real- esteemed -NSCT coefficients. The projected NSCT decreases the equipment cost, area utilize and transmission time by diminishing the complication with go-between information period. Be that as it may, it keeps up coding implementation like that of the INSCT. additional, tools doing well information stream model of 2D-NSCT production.

Keywords: IC design, biomedical video Compression, NSCT, hardware design, Digital Circuits

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Implementation of lot Based Smart Flood Monitoring and Alerting System Gudimella Sairam¹, Ganesh Muluka²

Flood is an unavoidable natural disaster in Maharashtra, India, causing heavy flow of traffic and can also cause severe damage to properties and lives. For this reason, we created a flood detection system to monitor rising water in residential areas. Using ultrasonic sensor we created flood level sensing device which is attached to Node MCU controller to process the sensor's analog signal into a

sensing device which is attached to Node MCC controller to process the sensor's analog signal into a usable digital value of distance. The user can get real-time information on monitoring flooded roads over SMS based service. Flood height is determined by subtracting the sensor's height with respect to the floor minus the sensed distance between the sensor and the flood water. Updates on the height of the water level will be texted to the rescue team (Local Government Unit) and to the residents and can the locals can also view level of the flood in the interface of the system. The level of the flood will be divided into four. The flood sensor and microcontroller will be powered by a solar power for the benefit of continuous operation of water flood height detection and network data transmission. The Arduino Flood Detector System is developed to be one of the fastest method to monitor flood that will help motorists or road user to avoid problem when flood occurred.

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Key Words: Microcontroller, Sensor, Internet of things, Node MCU.

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Predictive Analysis Using Whale-Based Deep Belief Networkfor Sentimental Analysis on Online Platforms Dr. S VenkataAchuta Rao¹, Dr. G. Narayana², Mr.U. Naresh

Sentiment Analysis (SA) is the process that refers to the extraction of feedback from languages and linguistic data. The inception of Sentimental analysis identification levels of feedback, reviews, and opinions. Social networks are also accessible as mobile social applications, while specific networks are optimized for mobile internet browsing. Data and text mining techniques are emphasized to focus on enhancing the learner's ability. Comments, reviews, feedback, and discussion forum contents are used to perform the analysis. Sentiment Analysis (SA) otherwise, opinion mining is a part of education data mining, used by many researchers to express their ideas. The given technique involves three phases, such as preprocessing, feature extraction, and classification. The extracted features are finally classified using the proposed WDBN classifier. The extracted features are finally classified using the WDBN classifier. WDBN is a novel classifier designed by combining WOA and DBN for the classification of online course reviews. With the effective feature extraction process and with the classifier, the classification performance of the WDBN technique can be improved.

Keywords: Sentiment analysis, Artificial Intelligence, Feature extraction, Whale-based Deep Belief Network, Supervised learning algorithm, online platforms, Data mining.

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A Case Study for Block Chain in Healthcare System : "Medrec" Prototype for Electronic Health Records and Medical Research Data Using Block Chain Technology Vasavi Chithanuru¹, E.Rupa², Ph.Swarna Rekha³

A long-standing focus on compliance has traditionally constrained development of fundamental design changes for Electronic Health Records (EHRs). We now face a critical need for such innovation, as personalization and data science prompt patients to engage in the details of their healthcare and restore agency over their medical data. In this paper, we propose MedRec: a novel, decentralized record management system to handle EHRs, using block chain technology. Our system gives patients a comprehensive, immutable log and easy access to their medical information across providers and treatment sites. Leveraging unique block chain properties, MedRec manages authentication, confidentiality, accountability and data sharing-crucial considerations when handling sensitive information. A modular design integrates with providers' existing, local data storage solutions, facilitating interoperability and making our system convenient and adaptable. We incentivize medical stakeholders (researchers, public health authorities, etc.) to participate in the network as block chain "miners". This provides them with access to aggregate, anonymized data as mining rewards, in return for sustaining and securing the network via Proof of Work. The purpose of this paper is to expose, in preparation for field tests, a working prototype through which we analyze and discuss our approach and the potential for block chain in health IT and research

Keywords: Block Chain Technology, Ethereum, prototypes, Database.

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Trust Base Responsibility for Sharing Photo in Online Social Sites in Social Netwok.

M.Ramesh Babu¹, Annaram Shiva Shankar²

In modern life people share their photos in social media technologies like twitter, whats up, face book etc. There are changes and advancements in the online social media technologies. Sharing of photos in social networks to the authenticated persons in a secured way. The rich information contained in a photo makes it easier for a malicious viewer to infer sensitive information about those who appear in the photo. When sharing a photo that involves multiple users, the publisher of the photo should take into all related users' privacy into account. We propose a trust-based privacy preserving mechanism for sharing such co-owned photos. The basic idea is to anonymize the original photo so that users who may suffer a high privacy loss from the sharing of the photo cannot be identified from the anonymized photo. The privacy loss to a user depends on how much he trusts the receiver of the photo. And the user's trust in the publisher is affected by the privacy loss. The anonymiation result of a photo is controlled by a threshold specified by the publisher. We propose a greedy method for the publisher to tune the threshold, in the purpose of balancing between the privacy preserved by anonymization and the information shared with others. Simulation results demonstrate that the trust-based photo sharing mechanism is helpful to reduce the privacy loss, and the proposed threshold tuning method can bring a good payoff to the user.

Keywords: Social media, Internet Security, Testing.

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COVID-19 Analysis Using Machine Learning Dr. S.V.Vasantha¹, Mr.U. Naresh², Mr.Chittipothula C Y Rao³

Broadly ML is a subset of computer science which involves applying statistics over observed data to generate some process that can achieve desired predictions. Python offers concise and readable code. While complex algorithms and versatile workflows stand behind ML and AI, Python's simplicity allows the developer to write reliable systems. Developers get to put all their effort into solving an ML problem instead of focusing on the technical part of the language. Several prediction methods are popularly used to solve the problems. This study demonstrates how the ML model forecasts the number of upcoming COVID-19 cases. Three kinds of predictions can be made by each of models-deaths, newly affected, and recoveries.

Keywords: COVID-19, Forecasting, prediction, Supervised Machine Learning, ML

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Applications of IoT and Its Security Concerns Dr. S.V.Vasantha¹, A.Sudha², N. Shilpa³

In the past decades, the Internet of Things (IoT) has been used for providing connectivity among numerous devices. There are various impacts in various domains of facilities in human lives, i.e., social, economic, and commercial impacts. It is a system where objects that are embedded with a detector technology acts with another object through a wireless communication medium to exchange and transfer information without human interaction. However, IoT nodes are generally power constrained with data transmission using channels, i.e., the internet which opens the gate for vulnerable attacks due to the simple and open nature of their networks. Therefore, privacy and security are the biggest concern in this technology. This paper briefly reviews the research progress of IoT and pay attention to the security, through deeply analyzing the security architecture and features.

Keywords: IoT, Industrial informatics, Attacks, Vulnerabilities, Security, Privacy

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Deep Learning Techniques for Agriculture Automation Dr. S.V.Vasantha¹, N. Shilpa², A.Sudha³

In recent times, rapid development of artificial intelligence (AI) has been witnessed in agriculture. Application of AI techniques varied from simple Machine Learning (ML) methods to more advanced Deep Learning (DL) methods. AI application in agriculture ranges from environmental monitoring, soil analysis, soil, livestock and water management, planting seeds, plants or crop disease detection, removal of weeds, crop distribution, fruits counting, harvesting, yield prediction, etc. DL approaches have been proven to be more accurate methods. This paper presents various DL techniques designed for the automation of various activities of agriculture.

Keywords: Agriculture, Artificial intelligence, Deep Learning, Plants, Livestock

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Eye Ball Cursor Movement Using OpenCv Away to Optimize by Using Machine Learning

Pulligilla Manoj Kumar¹, S.PrudhviRaj², P.SriRamulu³

An individual Human computer interference system is being introduced. In olden times, as an input device the mouse and keyboard were used by human computer interference system. Those people who are suffering from certain disease or illness cannot be able to operate computers. The idea of controlling the computers with the eyes will serve a great use for handicapped and disabled person. Also this type of control will eliminate the help required by other person to handle the computer. This measure will be the most useful for the person who is without hands through which they can operate with the help of their eye movements. The movement of the cursor is directly associated with the center of the pupil. Hence our first step would be detecting the center of point pupil, The advance technology replaces this mouse movement by eye motion with the help of an OpenCV Conventional method of interaction with the computer with the mouse is replaced with the human eye movements. This technique will help the paralyzed person, physically challenged people especially person without hands to compute efficiently and with the ease of use. Firstly, camera captures the image and focuses on the eye in the image using OpenCV code for pupil detection, The eye-movements are eye open, eye close, eyeball left and eyeball right are captured by web camera. SVM can analyze data and used for classification and regression analysis. SVM is a set of associated supervised learning functions used for classification and regression problems. Raspberry plays a vital role in the working module that keeps the eye movement with sensors. Raspberry pi uses SD card, to install Raspbian, it is Required as GUI using as Application Machine Learning, by implementing as HTML, Css, Javascript Database as MySQL

Keywords: My SQL, JAVA Script, Machine Learning, Raspberry, Open CV.

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Data Deduplication: A Solution to An Efficient Cloud Management

Padma Punna¹, Yada Sunitha², D.Uma³

Those that are unable to manage their own infrastructure, security features, and storage system capabilities may take use of cloud computing. The ideal option to on-premises computing is cloud computing, which allows customers to pay only for the storage or service they really use. Cloud computing has its own set of challenges to solve. Service providers in Cloud computing concurrently give service to several customers. Duplicate data in the cloud platform slows down the cloud environment's performance since it is maintained by several clients.

With deduplication, you may get away of irrelevant stuff from your storage system and boost its speed. Deduplication and cloud data storage deployment options will be the subject of this paper's literature study. In this paper mainly I discussed about what Data Duplication is and how to achieve it by using block chain technology.

Keywords: Cloud Management, Data base, Block Chain Technology.

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Blockchain Technology in Healthcare System: P.Uppama¹, S.Akhila², M.Sruthi³

An individual Human computer interference system is being introduced. In olden times, as an input device the mouse and keyboard were used by human computer interference system. Those people who are suffering from certain disease or illness cannot be able to operate computers. The idea of controlling the computers with the eyes will serve a great use for handicapped and disabled person. Also this type of control will eliminate the help required by other person to handle the computer. This measure will be the most useful for the person who is without hands through which they can operate with the help of their eye movements. The movement of the cursor is directly associated with the center of the pupil. Hence our first step would be detecting the center of point pupil, The advance technology replaces this mouse movement by eye motion with the help of an OpenCV Conventional method of interaction with the computer with the mouse is replaced with the human eye movements. This technique will help the paralyzed person, physically challenged people especially person without hands to compute efficiently and with the ease of use. Firstly, camera captures the image and focuses on the eye in the image using OpenCV code for pupil detection, The eye-movements are eye open, eye close, eyeball left and eyeball right are captured by web camera. SVM can analyze data and used for classification and regression analysis. SVM is a set of associated supervised learning functions used for classification and regression problems. Raspberry plays a vital role in the working module that keeps the eye movement with sensors. Raspberry pi uses SD card, to install Raspbian, it is Required as GUI using as Application Machine Learning ,by implementing as HTML ,Css, Javascript Database as MySQL

Keywords: My SQL, JAVA Script, Machine Learning, Raspberry, Open CV.

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Next Generation - Optical Network Communication Sugumaran S¹, G S Sravanthi², G Sandeepkumar³

Here we are introducing some of the latest research topics related to optical fiber technologies, which enables efficient operation and maintenance of networks while maintaining high reliability, to support future high speed and high capacity era. This review paper provides the recent developments affecting the in-vehicle optical networks .Visible light sources are now being used in various fields bringing advantages in both workability and visibility. The subjects affecting the key devices used in these networks are, visible light sources, optical fibers, optical circuits, transceiver modules will be explained. Wavelength Division Multiplexing technology is promising for realizing further advances in high speed communication. This literature review is supplemented by references in the field of optical communication network.

Keywords: POF(Plastic Optical fiber), Local Area Network, Light Emitting Diode, Time division Multiplexing, Wavelength Division Multiplexing.

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The Future of Health Care System Using Machine Learning K.V.Nanda Kishore¹, M.Sruthi², S.Akhila³

An individual Human computer interference system is being introduced. In olden times, as an input device the mouse and keyboard were used by human computer interference system. Those people who are suffering from certain disease or illness cannot be able to operate computers. The idea of controlling the computers with the eyes will serve a great use for handicapped and disabled person. Also this type of control will eliminate the help required by other person to handle the computer. This measure will be the most useful for the person who is without hands through which they can operate with the help of their eye movements. The movement of the cursor is directly associated with the center of the pupil. Hence our first step would be detecting the center of point pupil, The advance technology replaces this mouse movement by eye motion with the help of an OpenCV Conventional method of interaction with the computer with the mouse is replaced with the human eye movements. This technique will help the paralyzed person, physically challenged people especially person without hands to compute efficiently and with the ease of use. Firstly, camera captures the image and focuses on the eye in the image using OpenCV code for pupil detection, The eye-movements are eye open, eye close, eyeball left and eyeball right are captured by web camera. SVM can analyze data and used for classification and regression analysis. SVM is a set of associated supervised learning functions used for classification and regression problems. Raspberry plays a vital role in the working module that keeps the eye movement with sensors. Raspberry pi uses SD card, to install Raspbian, it is Required as GUI using as Application Machine Learning, by implementing as HTML, Css, Javascript Database as MySQL

Keywords: My SQL, JAVA Script, Machine Learning, Raspberry, Open CV.

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A Block Chain-based Scheme for Healthcare Security of Medical Data

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Smart healthcare is one of the major domains that extensively uses IoT infrastructures and solutions. In this paper, a block chain- based privacy-preserving scheme is proposed, which realizes secure sharing of medical data between several entities involved patients, research institutions and semi-trusted cloud servers. And meanwhile, it achieves the data availability and consistency between patients and research institutions, where zero-knowledge proof is employed to verify whether the patient's medical data meets the specific requirements proposed by research institutions without revealing patients' privacy, and then the proxy re-encryption technology is adopted to ensure that research institutions can decrypt the intermediary ciphertextIoT-based smart healthcare systems have immensely added value to the healthcare domain with the use of wearable and mobile devices. This leads to a substantial use of health data sharing for the improved, accurate, and timely diagnosis. However, smart healthcare systems are highly vulnerable to several security breaches and various malignant attacks, such as privacy leakage, tempering, forgery, etc. Recently, the blockchain technology emerged as a propitious solution against such breaches and challenges. This paper presents an up-to-date survey on different challenges and open issues faced in smart healthcare due to the traditional security measures along with the security requirements of such domains.

Keywords: Security, IoT, Block Chain Technology, BitCoin

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Deep Learning Based Object Detection and Recognition Framework for the Visually-impaired Dr.J.RajaRam¹, D.Uma², A.Vijay Kumar³

Vision impairment or blindness is one of the top ten disabilities in humans, and unfortunately, India is home to the world's largest visually impaired population. In this study, we present a novel framework to assist the visually impaired in object detection and recognition, so that they can independently navigate, and be aware of their surroundings. The paper employs transfer learning on Single-Shot Detection (SSD) mechanism for object detection and classification, followed by recognition of human faces and currency notes, if detected, using Inception v3 model. SSD detector is trained on modified PASCAL VOC 2007 dataset, in which a new class is added, to enable the detection of currency as well. Furthermore, separate Inception v3 models are trained to recognize human faces and currency notes, thus making the framework scalable and adaptable according to the user preferences. Ultimately, the output from the framework can then be presented to the visually impaired person in audio format. Mean Accuracy and Precision (mAP) scores of standalone SSD detector of the added currency class was 67.8 percent, and testing accuracy of person and currency recognition of Inception v3 model were 92.5 and 90.2 percent respectively.

Keywords: PASCAL, SSD, Mean Accuracy Precision, Neural Networks

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Detecting Phishing Websites Using FFNN, RNN Technique Chinta Gouri Sainath¹, M. Karuna², G Venugopal³

This Phishing website Paper Focus On FFNN(Feed Forward Neural Network) and RNN(Recurrent Neural Network) is one of the internet security problems that target the human vulnerabilities rather than software vulnerabilities. It can be described as the process of attracting online users to obtain their sensitive information such as usernames and passwords. In this paper, we offer an intelligent system for detecting phishing websites. The system acts as an additional functionality to an internet browser as an extension that automatically notifies the user when it detects a phishing website. The system is based on a machine learning method, particularly supervised learning. In terms of website interface and uniform resource locator (URL), most phishing web pages look identical to the actual web pages. Various strategies for detecting phishing websites, such as blacklist, heuristic, Etc., have been suggested. However, due to inefficient security technologies, there is an exponential increase in the number of victims. The anonymous and uncontrollable framework of the Internet is more vulnerable to phishing attacks. Existing research works show that the performance of the phishing detection system is limited. There is a demand for an intelligent technique to protect users from the cyber-attacks. In this study, the author proposed a URL detection technique based on machine learning approaches. A recurrent neural network method is employed to detect phishing URL. Researcher evaluated the proposed method with 8900 malicious and 6800 legitimate sites, respectively. The experiments' outcome shows that the proposed method's performance is better than the recent approaches in malicious URL detection

Keywords: Phishing Technique Using FFNN, RNN

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Crime Rate Prediction Using K-Means Alogrithm Roopavath.Jethya¹, T RaviCharan², Usikela Naresh³

Crime is one of the biggest and dominating problem in our society and its prevention is an important. Task. Daily there are huge numbers of crimes committed frequently. This require keeping track of all the crimes and maintaining a database for same which may be used for future reference. The current problem faced are maintaining of proper data set of crime and analyzing this data to help in predicting and solving crimes in future. The objective of this paper is to analyse data set which consist of numerous crimes and predicting the type of crime which may happen in future depending upon various conditions. Based on our visualization analysis, we were interested to see whether we could predict the status of a crime incident based on its time and location data. We created a two-step machine learning model using the XG-Boost Classifier that allows us to predict the probability that a reported criminal incident will result in either a narrest, clearance, or suspension. It consists of crime in formation like location description, type of crime, date, time, latitude, longitude. Before training of the model data pre-processing will be done following this feature selection and scaling will be done so that accuracy obtain will be high. Visualization of data set will be done in terms of graphical representation of many cases for example at which time the criminal rates are high or at which month the criminal activities are high. The sole purpose of this paper is to give a idea of how machine learning can be used by the law enforcement agencies to detect, predict and solve crimes at a much faster rate and thus reduces the crime rate. This can be used in other states or countries depending upon the availability of the data set.

Keywords: Prediction, Dataset, K-Means algorithm, Decision Tree

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Women Safety on Tweets Using Machine Learning Chittipothula C Y Rao¹, Dhanavath Nagaraju², Usikela Naresh³

Women and girls have been experiencing a lot of violence and harassment in public places in various cities starting from stalking and leading to abuse harassment. This paper basically focuses on the role of social media in promoting the safety of women in Indian cities with reference to the role of social media websites and applications including Twitter platform Facebook and Instagram. we focus on how a sense of responsibility on part of Indian society can be developed the common Indian people so that we should focus on the safety of women surrounding them. Tweets on Twitter which usually contains images and text and also written messages and quotes which focus on the safety of women in Indian cities can be used to read a message amongst the Indian Youth Culture and educate people to take strict action and punish those who harass the women. Twitter and other Twitter handles which include hash tag messages that are widely spread across the whole globe as a platform for women to express their views about how they feel while we go out for work or travel in a public transport and what is the state of their mind when they are surrounded by unknown men and whether these women feel safe?.

Keywords: Machine Learning Techniques, Safety Analysis, Hash Tag images

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Smart Hydroponic Farm Monitoring System Using Internet of Things

J.Nagarjun Naik¹, L.Kartheesan²

Hydroponic System is a system in which farmers cultivate different plants without utilizing the soil. The authors have proposed IoT system that monitors and controls all parameters of hydroponic system like water level, pH, humidity and temperature through mobile application. In proposed system, use an ESP32 micro-controller that is controlled pump. The pump will draw water from a reservoir which is connected to a regular water line. If the water level of the reservoir falls down to a certain level, the system will send an SMS to the Farmer. The farmer can control the water line and make the reservoir full by mobile application. An LDR and DHT11 humidity sensor is used to control the light and temperature of the farm. In this system, pH sensor is a scientific instrument that measures the hydrogen-ion activity in water-based solutions and indicating its acidity or alkalinity expressed as pH.

Keywords: Hydroponic, Sensors, IoT, Soil-Less, Cultivation, Microcontroller, Wi-Fi, Module, Mobile Apps

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A Study on Spatial Computing Using Augmented Reality Dr M Rajesh Kanna¹, Mr.G.Sai Charan², Dr C.Thirumalaiselvan³

In the over specific years, the technology of spatial computing has perceived the background expansion of simulated reality by user interaction and wide knowledge which help out the 3D image used space for user interfaces. Spatial computing is usually compatible with XR (Extended Reality). This precedes itself as a development cycle for Augmented Reality (AR), Mixed Reality (MR) and Virtual Reality (VR). Moreover, we are investigating the profound ideas of AR in spatial computing. Augmented reality is a novel intermediate of laminating and integrating digital contents towards the real time. This intermediate gives individual resources interfacing the physical-virtual world with consistent control and improves the general environment truth of client's data. These are gotten in light of cell phones, projection gadgets and mounted shows that assistance in expanding the data over reality. In advance, AR is an assistive technology tool used for determining the makespan, load balancing and quality of interactive computation.

Keywords: Spatial computing, Extended Reality, Cloud Computing, load balancing, makespan

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Dynamic Resource Allocation In Cloud Computing Using Ga Technique

Jatavat Mohan¹, Pelmilla Sriramulu²,S.Prudhvi Raj³

Cloud computing has become more powerful with the inclusion of software-defined networking (SDN) in its environment. In Cloud Data Centers (CDCs), an important research issue is how to forecast and allocate resources efficiently whilst achieving Quality of Service (QoS) of users request with minimal overall power consumption ;taking into account the frequent changes in resource requirements. In this paper ,we propose a Supervisor Controller-based Software-Defined Cloud Data Center(SC-bo SD-CDC) framework for dynamic resource allocation and prediction of cloud computing-based SDN. In this proposed module, Genetic Algorithm (GA) is proposed to deal with the multi-objective problem of dynamically forecasting the utilization of resources in both compute nodes and links bandwidth of network as well as energy consumption in the Cloud Data Center (CDC).

Keywords: SDN, CDS, Cloud Computing, Genetic Algorithm, QoS.

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An Online Learning Approach to Occlusion Frontier Detection

Ch. Sangeetha¹, A. Vijay Kumar², D.Uma³

We propose a novel online learning-based frame-work for occlusion frontier detection in videotape sequences. This approach does not require any prior training and instead "learns" occlusion edges by updating a set of weights for the online learning Hedge algorithm at each frame instance. Whereas previous training-based methods perform well only on data similar to the trained examples, the proposed method is well suited for any videotape sequence. We demonstrate the performance of the proposed detector both for the data set, which includes hand-labeled occlusion edges, and for a novel videotape sequence. In addition to occlusion edges detection, the proposed algorithm is capable of classifying occlusion edges by angle and by whether the background of occluding object is covering or uncovering.

Keywords: Edge detection, motion vedio estimation, occlusion edges, occlusion edges detection, online learning.

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Fast Detection of Multiple Objects In Traffic Scenes with a Common Detection Framework

Sabbineni Venkateswara Rao¹, Thota Aruna², B.S.Swapna shanthi³

Traffic scene perception (TSP) aims to extract accu- rate real-time on-road environment information, which involves three phases: detection of objects of interest, recognition of detected objects, and tracking of objects in motion. Since recognition and tracking often rely on the results from detection, the ability to detect objects of interest effectively plays a crucial role in TSP. In this paper, we focus on three important classes of objects: traffic signs, cars, and cyclists. We propose to detect all the three important objects in a single learning-based detection framework. The proposed framework consists of a dense feature extractor and detectors of three important classes. Once the dense features have been extracted, these features are shared with all detectors. The advantage of using one common framework is that the detection speed is much faster, since all dense features need only to be evaluated once in the testing phase. In contrast, most previous works have designed specific detectors using different features for each of these three classes. To enhance the feature robustness to noises and image deformations, we introduce spatially pooled features as a part of aggregated channel features. In order to further improve the generalization performance, we propose an object sub categorization method as a means of capturing the infraclass variation of objects. We experimentally demonstrate the effectiveness and efficiency of the proposed framework in three detection applications: traffic sign detection, car detection, and cyclist detection. The proposed framework achieves the com- putative performance with state-of-the-art approaches on several benchmark data sets.

Keywords: Traffic scene perception, traffic sign detection, car detection, cyclist detection, object sub categorization

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Analysis of Strength Properties of Pervious Concrete by Adding Glass Fiber and Rice Husk Ash

Badavath Ganesh¹, Chinthala Koushikkumar², Mohd Ashfaq Ahmed³

Pervious Concrete is a special high porosity concrete consisting of cement, Coarse aggregate and water with no or little amount of fine aggregate. Pervious concrete has been found useful in various applications but the most important application is for pavement construction since it helps in reduction of water logging and for ground water recharge. But due to its poor strength it is not useful in the construction of pavement for heavy traffic. In this work, we will analyse the effect of addition of various proportions of Rice Husk Ash and Glass Fibre on the strength and permeability of pervious concrete.

Keywords: Porosity, water logging, Rice Husk Ash, Glass Fiber, Permeability.

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A Study on Strength and Permeability Properties of Bacterial Concrete Embedded with Two Bacterial Species Mohd Arfath Khan¹, Mohd Ashfaq Ahmed², Avula Vamshi³

Cracks formed in concrete are inescapable and are one of the major reasons for the weaknesses of concrete. Majorly water along with other components penetrate through these cracks resulting in corrosion thereby reducing the strength of concrete directly hampering its life. The objective of present research work is to promote sustainable development and to identify sustainable materials for treating cracks formed in concrete. Various researches have shown positive results by adding calcite precipitating bacteria in concrete, also known as bacterial concrete or self-healing concrete. This research is dedicated to check the suitability of mixing these self-healing calcite depositing bacteria with concrete in order to increase the compressive strength of concrete, reduce its permeability and seepage of water by bio-mineralization process. Substantial increase in strength is observed in concrete specimens when casted with bacterial solution. The study has devised methods or ways to test the effect of use of bacteria in concrete slab with various combinations of bacterial solution as well as varied percentage of bacterial solution have been conducted. Use of bacterial solution for surface application on slab to test the sealing capacity is done. Results have been compared with conventional concrete. Biological modifications of construction materials are the need of the hour for strength improvement and long term sustainability. The present study proposes a promising sustainable repair method for concrete.

Keywords: Bacterial concrete, cracks, durability, repair, self-healing.

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Evaluation of Busy Traffic Intersections and Design of Coordinated Signal System

P Rama Rao¹, Avula Vamshi², CH Koushikkumar³

Road intersections in series in urban areas lead to discord between opposing traffic flows and cause delays and accidents. To overcome these problems at intersections, the traffic flows across the intersections are controlled by using signals. The fixed timings and isolated operation of signals at each intersection along a street may cause delays on red duration and generate vehicular queue during peak hours. Proper timing and coordination of the signal timings with reference to intersection distance and the average travelling speed of vehicles can boost traffic handling capacity along the streets during busiest hours.

This work has been conducted to assess the current operating system of traffic signals and investigate the benefits of these signals coordinated by using micro-simulation software PTV VISSIM. Initially, the VISSIM simulation was calibrated and the coordinated signals were run for execution based on the prepared model in VISSIM. The traffic flow delays and travel times obtained by the simulation were compared with the corresponding values before coordination. A considerable decrease in delays and travel times was noticed after coordinating the signals along the study street. It is also useful for similar traffic coordination studies elsewhere, subjected to the intervals of intersections and traffic flow characteristics are comparable.

Keywords: Delay, Signal coordination, Micro-simulation and VISSIM.

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Crashworthiness and Sensitivity Analysis of Structural Composite Inserts in Vehicle Structure Dr. Rama Rao¹, Maruti S W²

This study is focused on identifying influential parameters in numerical analysis of structural composite inserts in vehicle structure. A 3-point bending test of a simplified steel-composite beam structure is conducted to evaluate the crashworthiness of composite insert in steel structure. Empty sections of the beam structure are filled with composite insert and foam filler. From physical 3-point bending tests, it is identified that the two critical behaviors of composite insert and foam filler greatly affect the strength level of steel-composite beam structure. Some influential parameters to achieve an accurate simulation model are studied. Finally, future steps of research work are indicated.



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Advance Gesture Control for Handicapped People B.Veena¹, P.Sumana²

According to a research there are about 6 million populations in the world who are paralysed and needs a wheelchair for their mobility. Earlier the wheel chairs had to be moved and be externally supported by any person. To help overcome this "joystick- controlled wheelchairs" are developed. But in regular use, these joystick-controlled wheelchairs became difficult to use. Especially in the case of paralysed people, the use of joystick became more difficult due to the hard buttons and unidirectional use of the joysticks. To overcome these problems, we've tried to develop a "gesture-controlled wheelchair" which can be moved with a slight tilt of the hand. This can be used in both hands and can be controlled to come to the user from a distance. The current work is implemented with ARDUINO based devices such as ARDUINO NANO and UNO processors and programmed through ARDUINO IDE.

Keywords: ARDUINO IDE, Joystick, Processors

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Disease-Associated Transcript Factors Plant Resistance and its Potential for Agricultural Improvement Dr B.Kiranmai¹, P H Swarna Rekha², Dr M.Swapna³

Transcription factors serve a range of purposes, which differ by organism. Transcription factors, for example, are directly responsible for growth in vertebrates, with different classes of factors operating in various tissues. Because transcription factors are especially critical throughout embryonic development, pluripotent embryonic stem cell differentiation requires specific transcription factors. For stem cells to keep their ability to change into any cell type and self-renew, other factors' activity must also be maintained. We are looking at Transcription Factors that defend plants from infections in this research.

Keywords: Transcription factor; disease resistance; abotic stress, pathogens

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