# CONFERENCE PROCEEDINGS



# **IInd ICMCTT - 2022**



### Second International Conference on Modern Computing Trends and Technology

# 30<sup>th</sup> & 31<sup>st</sup> July 2022

Kristu Jyoti College of Management and Technology, Kerala, India & RSP Research Hub, Coimbatore, Tamilnadu, India





## PROCEEDINGS OF

## **ICMCTT - 2022**

### Second International Conference on Modern Computing Trends and Technology

## Organized by

Kristu Jyoti College of Management and Technology, Kerala, India

## &

RSP Research Hub, Coimbatore, Tamilnadu, India

**Abstract Proceedings** 

(Special Edition)

#### **Editorial Board Message**

We are delighted to inform you that the Second International Conference on Modern Computing Trends and Technology(ICMCTT-II) organised by Department of computer application, Kristu Jyoti college of management and Technology, in collaboration with RSP Research Hub, will be held on 30th July and 31th July 2022.

This International conference provides a unique opportunity to present your research findings and solutions related to Multidisciplinary research domain. The conference program this year is exciting and innovative; we have an excellent selection of Keynote Speakers, Invited speakers technical presentations, interactive panels and stimulating discussions from scholars and academicians across the globe. It promises to be a highly motivating platform for the exchange of ideas, research results, successful practices and experiences among researchers, academics, students and practitioners in our multidisciplinary field.



#### About the Kristu Jyoti College of Management & Technology

The Kristu Jyoti Group is one of the groups of educational institutions owned by the carmelites of mary Immaculate (CMI) congregation of St. Joseph provice, Thiruvanthapuram. The carmelites of mary Immaculate, the first indigenous religious congregation has done pioneering job in the field of education, without any distinction of caste or creed ever since its inception in 1831. The founder of the congregation, Saint Kuriakose Elias Chavara started the first Sanskrit school in Kerala in 1846 and the first primary school in 1864. Now this has grown to a network of 405 schools including number of vocational Institutions and 20 First Grade Colleges, 4 Engineering colleges, 8 B.Ed colleges, 1 Medical College, 9 Technical Institutes with research centres and the deemed University, Christ Bangalore. Kristu Jyoti College of Management & Technology, Chethipuzha, affiliated to Mahatma Gandhi University and approved by All India Council for Technical Education, New Delhi (AICTE) that offers post graduate programme in Computer Application was started in the year 2002. Two more new courses, M. Sc Bioinformatics and B. Com with Computer Application was accorded by MG University and Govt. of Kerala to offer BBA and BCA courses from 2010, B Com (Finance and Taxation) and M Com (Finance) from 2011 and B.Sc (Psychology) from 2014 along with second batch of M.Com and B.Com Computer Application. From the year 2015 the college started two new courses B.Sc (Geology) and B.A (English).

#### About the RSP Research Hub

RSP Research Hub organizing an international peer reviewed conference dedicated to the Modern Computing Trends and Technology. It promotes collaborative excellence between academicians and professionals from academics. The objective of the RSP Research Hub is to provide an opportunity for academicians and industrialist from various fields with cross- disciplinary interests to bridge the knowledge gap, promote research esteem and the evolution of pedagogy. This conference is an amalgamation of industrialists, academia where they can gear up knowledge. Our gratitude towards people who are concerned about advancements in hub of research and we cordially invite them to gear up and make the congress an unforgettable successful event.

### About the Conference ICMCTT – 2022

The Department of Computer Application was established in 2002, with MCA course (Approved by AICTE New Delhi) with and intake of 60 students. Later, BCA course has been started in the year 2010. Both the courses are affiliated to MG University Kottayam. Ever since its inception, the Department of Computer Application is marking a since its inception, the Department of Computer Application is marking a solution of Management and Technology, Chethipuzha. The research hub aims to become a platform for those students who wish to come out from their comfort zone and work on developing their academic skills. Also, to involve themselves in a community of people who has their point of thinking. Research hub involves the academic fraternity in conducting various workshops, seminars, conferences within the department and also as a part of faculty extension activities.





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- Shri. M. Saravana Kumar Head, Global Conference Hub, Coimbatore
- Ms. Sona D. Solanki Deputy Head, RSP Research Hub, Coimbatore





#### **Technical Session – I**



#### Keynote Speaker: Dr. Eng. Neyara Radwan

Associate Professor

Mechanical Department

Suez Canal University, Egypt

Associate Professor & the Quality Assurance officer for PhD Program

KingAbdukaziz University, Saudi Arabia

Topic: "Digital Transformation: The Role of Adaptable Digital Transformation Framework"





#### **Technical Session – II**



### Keynote Speaker: Dr. Twinkle Doshi

Head in Department of Electronics & Communication

Deputy Director-Krishna Centre of Training in Disaster Management

(KCTDM) and Alumni Coordinator

Drs. Kiran & Pallavi Patel Global University (KPGU)

Vadodara, India

**Topic: "Recent Trends in Ultra-Wideband Communication System"** 





#### **Technical Session – III**



#### Keynote Speaker: Dr. N. Chandan Babu

Assistant Professor Department of Mathematics and Statistics Bhavans Vivekanand College Sainikpuri, Secunderabad, Telangana, India. **Topic: "Research Methodology"** 





**Technical Session – IV** 



Keynote Speaker: Dr. Preeti Chawla

Associate Professor

School of Management

Department of Management

The Northcap University

Gurgaon, India

**Topic: "The Role of Fintech in the Post Covid World"** 





**Conference Chair(s)** 



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**Dr. Karanam Madhavi** Associate Professor Maharani Cluster University Palace Road, Bangalore, India



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#### **Pictures of ICMCTT-2022**

Kristu Jyoti College of Management and Technology, Kerala, India & RSP Research Hub, Coimbatore, Tamilnadu, India

Second International Conference on Modern Computing Trends and Technology (ICMCTT - II)





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### **KEYNOTE SPEAKER**

Second International Conference on Modern Computing Trends and Technology (ICMCTT - II)





#### Dr. Eng . Neyara Radwan

Associate Professor Mechanical Department Suez Canal University, Egypt Associate Professor & the Quality Assurance officer for PhD Program KingAbdukaziz University, Saudi Arabia **TOPIC:** Digital Transformation: The Role of Adaptable Digital Transformation Framework

Dr. Twinkle Doshi Head in Department of Electronics & Communication Deputy Director-Krishna Centre of Training in Disaster Management (KCTDM) and Alumni Coordinator Drs. Kiran & Pallavi Patel Global University (KPGU) Vadodara, India TOPIC: Recent Trends in Ultra Wideband Communication System







### **KEYNOTE SPEAKER**

Second International Conference on Modern Computing Trends and Technology (ICMCTT - II)





Dr. N. Chandan Babu Assistant Professor Department of Mathematics and Statistics Bhavans Vivekanand College Sainikpuri, Secunderabad, Telangana, India TOPIC: Research Methodology

Dr. Preeti Chawla Associate Professor School of Management Department of Management The Northcap University Gurgaon, India TOPIC: The Role of Fintech in the Post Covid World







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#### A Sample Presentation ICMCTT – 2022















#### Valedictory ICMCTT – 2022



### **VOTE OF THANKS BY**

#### Dr.SusheelGeorge Joseph

Associate Professor, Department of Computer Application, Kristu Jyoti College of Management and Technology, Kerala, India











#### **Best Presentation of ICMCTT-2022**









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#### A review on AI methods for the Prediction of Infertility in Women

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# ABSTRACT

Around the world 8 to 15 percent of couples in their reproductive age have infertility problem. According to WHO estimates, there are 60-80 million infertile couples globally, with some parts of population having the greatest rate. Significant social, emotional and psychological stress has been brought on by infertility among couples, families, the individual in question, and the larger society. Few researches have used Artificial Intelligence (AI) techniques in the field of reproduction, despite the fact that the use of AI techniques in the medical profession is growing every year. In order to assist couples with unexplained infertility, this review study develops and assesses multiple artificial intelligence models that can differentiate infertile/fertile couples based on a variety of characteristics.

Keywords: AI, Infertility, Women.





#### An IOT based model for the classification of plant diseases using

#### deep learning

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# ABSTRACT

In India, Agriculture is of great importance. Diseases affecting crops is a major challenge faced by Agricultural industry. Hence earlier detection of crop disease has greater importance in agricultural field. In recent years, the number of diseases on plants and degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods and inadequate plant protection techniques. In the present study, Farmers spend so much money on disease management, often without adequate technical support, resulting in poor disease control, pollution and harmful results. In addition, plant disease can devastate natural ecosystems, compounding environmental problems caused by habitat loss and poor land management. A symptom of plant disease is a visible effect of disease on the plant. Symptoms may include a detectable change in colour, shape or function of the plant as it responds to the pathogen. A faster method for detection of crop diseases will create a better opportunity to keep their crops. This is done with the help of IOT.A sensor network can create in the farm land using Raspberry Pi 4 model. The images will be captured by the sensor cameras and send to the cloud server via Raspberry pi 4 model. The proposed model is a theoretical model. In this proposed methodology, various image processing techniques will be applied on acquired images for classification of crop diseases using k-means clustering algorithm This paper will also shows the method of image processing technique such as image acquisition, image pre-processing, image segmentation and feature extraction for classification of crop diseases. In bad natural environment, the farmers can produce quality crops and people will get healthy food by this proposed methodology and make more profit. In real time treatment of crop diseases, farmer will increase quantity of their crops. Keywords: Crop Diseases, Image Processing, Internet of Things, Machine Learning, Raspberry Pi 4 and Sensors. Keywords: Deep Learning, Internet of Things, Rasperry Pi and Sensors.





#### A Comparative Study of Proofs on Liouville's Theorem

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#### ABSTRACT

We will have a study on the different proofs of Liouville's theorem. There are many different ways to prove Liouville's theorem. While comparing these proofs we can conclude that if we use Picard's theorem, we can prove Liouville's theorem more easily

#### Keywords: Liouville's Theorem, Picard's Theorem.







#### **Comparison of YOLO Versions for Object Detection from Aerial**

#### Images

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#### ABSTRACT

Deep learning techniques are used across a wide range of fields for several applications. Deep learning-based object recognition from aerial or terrestrial photos has grown in popularity as a research topic in recent years. On this work, object detection was used by training the YOLOv2 and YOLOv3 algorithms in the Google Colaboratory cloud service using the DOTA dataset, which consists of aerial pictures, and the Python programming language. For assessment, 4 aerial pictures of 5 class items were used. Large vehicle, aeroplane, ship, basketball court, and swimming pool are some examples of these classifications. The outcomes of accuracy analyses of these two algorithms were compared in accordance with recall, precision, and F1-score for 5 classes. The top score with YOLOv2 was 99 percent F1 in the aeroplane class, whereas the best score with YOLOv3 was 83 percent in the pool class. While YOLOv2 can identify items in an average photo in 43 seconds, YOLOv3 has outperformed its predecessor in terms of speed, identifying objects on average in just 2.5 seconds.

Keywords: Deep Learning, Object Detection, YOLOv2, YOLOv3, Aerial Image.





# **Digital Marketing Before and After Covid-19**

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# ABSTRACT

Digital Marketing is not a new term. It was first coined in the year 1990. Digital Marketing is a type of marketing that was the internet, and digital technologies like Mobile devices, Computers and other social and digital media platforms to promote products and services. Whenever a product or service or anything is advertised or marketed through an online medium, it becomes a part of Digital Marketing. The covid-19 pandemic had shaken all corners of the world, and made most of the countries to go to lockdown. People are not leaving home as much, but spending way more time online than ever before. Internet usage grown 25% within a few days in the mid of April as the pandemic started forcing everyone into lockdown situation. The true fact is that the need for products and services had never gone down during the corona days but, increased ever than before. Since January 2020, the world has been watching the Covid-19 hit and numerous questions were asked in the boardrooms, an earnings calls, in the media and the Government. People want to how the businesses will survive when the whole world was shut down the answer to all those questions came in the form of Digital Marketing had transformed before and after Covid-19.

Keywords: Marketing, Digital marketing, Covid-19, Products, Services, Business, Socialmedia, Online Marketing.





#### **Review On Autism Spectrum Disorder Detection Using Machine**

#### Learning Algorithm

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# ABSTRACT

Autism Spectrum Disorder may be a condition associated with brain development that impacts how a person perceives and socializes with others, causing issues in social interaction and communication. The disorder additionally includes restricted and repetitive patterns of behavior. The term "spectrum" in autism spectrum disorder refers to the wide selection of symptoms and inflexibility. Autism spectrum disorder includes conditions that were antecedently considered separate - Autism, Asperger's syndrome, childhood disintegrative disorder and an unspecified form of pervasive developmental disorder. Some people still use the term "Asperger's syndrome" which is mainly thought to be at the mild finish of autism spectrum disorder. Autism Spectrum disorder begin in early childhood and eventually lead to problems with social functioning-for example, in social interaction, school and work. Children usually show symptoms of autism within first year of life. A small number of children appear to be developing normally in the first year and then go through a regression phase when they develop autism symptoms between 18 and 24 months of age. Although there is no cure for autism spectrum disorder, early intensive treatment can significantly improve the lives of many children. The aim of this paper is to study different machine learning algorithm to detect and predict Autism Spectrum Disorder.

#### Keywords: Autism, Machine Learning Algorithm.





#### A Study of Crime Analysis: A Systematic Review

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#### ABSTRACT

Nowadays, certain crimes occur within a society, and criminality is increasing on a daily basis. There has also been a significant increase in criminal activity. Society has been negatively impacted by crime. Controlling crime is essential for government support, social stability, and growth. Regulation implementation organizations are searching for a framework that will allow them to successfully objective crime structure. The intelligent crime data analysis provides sufficient knowledge about the elements of illegal activities, running through examples of criminal behavior while aiming to be advantageous in catching where, when running through examples of criminal behavior while aiming to be advantageous in and why infractions may occur. It is in need of data storage, analysis, and algorithm which can manage a large amount of data and produce high accuracy. This paper summarises the many machine learning approaches utilized during criminal analysis that should be eliminated in order to achieve the best result.

Keywords: Crime Data Analysis; Machine Learning; Methodology; Law enforcement.





#### **Predicting Blood Glucose in Type-1 Diabetic Patients using Deep**

#### **Learning Techniques - Approaches and Challenges**

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# ABSTRACT

Diabetes Mellitus (DM) is a metabolic disorder where the body fails to produce the digestive hormone insulin, or the body's ability to respond to insulin is limited. This situation leads to abnormal metabolism of carbohydrates and elevated blood sugar level. Type-1 diabetes (T1DM) is a condition arises mainly due to auto immunity disorder in which the immunity cells of the body mistakenly destroy the beta cells in the pancreas, which produce insulin. T1DM patients require to have proper control of their blood glucose level through proper medication, physical activities and continuous monitoring of blood glucose levels. A wide range of advanced wellbeing innovations, particularly computerized applications, have been growing quickly to assist individuals with dealing with their diabetes. Artificial Intelligence is a rapidly growing field, and its applications to diabetes research are becoming significantly more quickly. This paper is a review of six studies of existing neural network-based models for the prediction of future blood glucose level in T1DM patients and describes some challenges to predict future blood glucose with the available data. These models include prediction of blood glucose level using Convolutional Neural Networks (CNN), Feedforward Neural Network (FNN), Recurrent Neural Network (RNN) implemented using Long Short-Term Memory (LSTM), Convolutional Recurrent Neural Network (CRNN), Bidirectional LSTM (BiLSTM) and Dilated Recurrent Neural Networks (DRNN)

Keywords: Diabetes Mellitus, Artificial Intelligence, Deep Learning, Convolutional Neural Networks, Feedforward Neural Network, Recurrent Neural Network, Long Short-Term Memory, Convolutional Recurrent Neural Network, Bidirectional LSTM, Dilated Recurrent Neural Networks.





#### **RFID Implemented Library System**

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# ABSTRACT

Libraries are important aspects of our life. These are important in providing or acquiring essential knowledge about anything around us. Earlier Library system faced a lot of problems related to the user accessing it using conventional methods. The RFID implementation on Library Management system faced a lot of problems. The RFID implementations on library management helps to reduce and sort out such issues that faced by conventional Library system. Using RFID implementation, the database shows the availability of the book in the library so that the student can search in the database and if available, they can collect book from the library. It helps to handle the issue, renewal and return process for books using RFID tags implemented on it. Students will also get notified about their status of due of books also.

Keywords: RFID Technology, Traditional Library Management System, RFID Implementations, RFID Tags, RFID Advantages.





#### **Application of Nanotechnology in Computer Science**

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Nanotechnology is now firmly entrenched in the field of computer science, assisting in the development of more efficient computing components. It's a technology with an undiscovered future, capable of advancing science and technology to realms we've never dreamed. It is an interdisciplinary field with applications and development in a variety of fields including applied science, mechanical engineering, and electrical engineering, among others. Nanotechnology has evolved in the modern era of numerous applications in recent years. In this paper, we highlight the relevance of nanotechnology in computer science, as well as recent developments and potential.

Keywords: Carbon Nanocomputer, Computational Nanotechnology, Time crystal in quantum computer, top-down approach, bottom-up approach.





#### **Federated Learning: Collaborative Machine Learning without**

#### **Centralized Training Data**

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Standard machine learning approaches require centralizing the training data on one machine or in a datacentre. And Google has built one of the most secure and robust cloud infrastructures for processing this data to make our services better. Now for models trained from user interaction with mobile devices, we're introducing an additional approach: Federated Learning. Federated Learning enables mobile phones to collaboratively learn a shared prediction model while keeping all the training data on device, decoupling the ability to do machine learning from the need to store the data in the cloud. This goes beyond the use of local models that make predictions on mobile devices (like the Mobile Vision API and On-Device Smart Reply) by bringing model training to the device as well. It works like this: your device downloads the current model, improves it by learning from data on your phone, and then summarizes the changes as a small focused update. Only this update to the model is sent to the cloud, using encrypted communication, where it is immediately averaged with other user updates to improve the shared model. All the training data remains on your device, and no individual updates are stored in the cloud. Federated Learning allows for smarter models, lower latency, and less power consumption, all while ensuring privacy. And this approach has another immediate benefit: in addition to providing an update to the shared model, the improved model on your phone can also be used immediately, powering experiences personalized by the way you use your phone.

#### Keywords: Machine Learning, API, Cloud.





#### **Industrial Edge Computing: Architecture, Challenges, Applications**

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#### ABSTRACT

Edge computing is the deployment of network operations and data-handling activities toward more solitary sources of data collecting or storage. Industrial edge computing, which includes industrial applications, describes the method of controlling data-handling operations using distinct data sources, such as smart edge devices. As a result, whether collecting, processing, or evaluating data in smart factories, IIoT devices and smart equipment do not need to contact centralised cloud platforms. Information can also be sent to the cloud for additional analysis or integration into a larger system, depending on how important the data analysis performed at the edge is. Industrial edge computing is a term used to describe a distributed platform that combines communication, processing, and storage capabilities to run real-time applications that may be accessed directly from the cloud. The Industrial Internet of Things (IIoT) revolution has raised demands for flexible connectivity, real-time control, data optimization, intelligent applications, security, and privacy protection. Edge computing nodes serve as intelligent gateways for assets, services, and systems, bridging the gap between the real and digital worlds.

# Keywords: Industrial Edge Computing, IIoT, Edge Computing nodes (ECN), Edge computing, Industrial clouds.





#### ICMCTTAP1013

#### **Role of IOT in Covid-19**

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#### ABSTRACT

The global pandemic known as covid-19 has spread. To create a vaccine, expand testing facilities, and improve monitoring systems, scientists and engineers are working day and night. Applications for smartphones and the web have already been created to track people's health using surveys. The spread of covid-19 can be stopped via the Internet of Things (IoT). The Internet and physical devices are connected through the "Internet of Things." Devices can monitor and respond in addition to detect and record information. In this article, we evaluated the covid-19 literature that is currently accessible, discussed monitoring approaches, and proposed an IoT based architecture that can be used to reduce the spread of covid-19. Modern healthcare systems are being transformed by the IoT revolution by embracing technological, economic, and social prospects. Health care systems are changing from traditional to more individualised ones so that patients can be diagnosed, treated, and monitored more simply. IoT technology is one of the pioneers in this field. Since the epidemic began, there has been a rapid push in various research communities to use a wide array of technologies to tackle this global menace.

Keywords: IOT, Covid-19, Healthcare.





#### **OPAC: Catalogue of Modern Library**

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# ABSTRACT

OPAC stands for "Open Public Access Catalogue". The online public access catalogue depicts the online library database of resources like books, journals, newspapers, e-books, etc. The students can get access to any books as well as e-content from anywhere & at any time with the OPAC. All they need is to search for keywords such as – name of the book, title, author's name, volume number, and much more. Thus, OPAC can contribute to students' success in the long run by helping them carry on their e-learning journey. The purpose of OPAC or the Online Public Access Catalogue to make the digital resources search faster & easier for the students by offering a digital library catalogue.

Keywords: Information Retrieval, Database, Academic Libraries, Library Users.





#### A systematic review on face spoofing detection methods

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# ABSTRACT

Face biometric researchers have had a lot of success over the past 62 years. Face recognition technology has been widely employed in both commercial and governmental applications, including mobile, banking, and surveillance systems. Though, the facial recognition system's ability to survive an uninvited attacker is a crucial issue. Face recognition software is susceptible to fake images and video attacks. Anti-spoofing solutions are useful in these situations for thwarting these attacks. The biometric community as a whole, including researchers, developers, and retailers, has spent the last ten years working on difficult projects to create a more precise defence against spoofing attacks. Despite numerous face anti-spoofing or liveness detection techniques being put out, the problem has not been addressed since it is challenging to identify the features and techniques. The study came to the conclusion that in order to increase the system's security, computational efficiency, and dependability, it is necessary to provide more generalized methods for the detection of unanticipated spoofing assaults.

Keywords: spoofing, techniques, biometric.





#### ICMCTTAP1016

#### The Mobius Strip's Shape

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# ABSTRACT

The Möbius strip, obtained by taking a rectangular strip of plastic or paper, twisting one end through 180°, and then joining the ends, is the canonical example of a one-sided surface. Finding its characteristic developable shape has been an open problem ever since its first formulation. Here we use the invariant variational bicomplex formalism to derive the first equilibrium equations for a wide developable strip undergoing large deformations, thereby giving the first non-trivial demonstration of the potential of this approach. We then formulate the boundary-value problem for the Möbius strip and solve it numerically. Solutions for increasing width show the formation of creases bounding nearly flat triangular regions, a feature also familiar from fabric draping and paper crumpling. This could give new insight into energy localization phenomena in unstretchable sheets, which might help to predict points of onset of tearing. It could also aid our understanding of the relationship between geometry and physical properties of nano- and microscopic Möbius strip structures.

Keynotes: Möbius strip, bicomplex formalism, deformations.





#### Augmented Reality VS Virtual Reality

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#### ABSTRACT

Augmented reality (AR) which is defined as that "the real time use of information in the form of graphics, text, audio, or other virtual enhancements integrated with real world objects". Augmented reality involves auditory, overlaying visual or other sensory information onto the world in order to enhance one's experiment.AR works on to by adding the digital contents onto a live camera feed, making that digital content looks as if it is part of the physical world around as. The applications which are used in AR is Healthcare, Education, Retail, Military, Industrial and manufacturing, Engineering, Marketing and advertising etc. Virtual reality (VR) which is defined as that a computer generation simulation in which a person can interact with in an artificial 3-D environment using electronic devices such as special goggles with a screen or gloves fitted with sensors. The Virtual Reality Modelling Language (VRML) allows the creator to specify images and the rules for their display and interactions using textual language statements. The applications which are used in VR is Military, Sports, Fashion, Medical training, Education etc.

Keywords: Augmented reality (AR), Virtual Reality Modelling Language (VRML).





#### Neurallink

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#### ABSTRACT

Brain-computer interfaces (BCIs) hold promise for the restoration of sensory and motor function and the treatment of neurological disorders, but clinical BCIs have not yet been widely adopted, in part because modest channel counts have limited their potential. In this white paper, we describe Neuralink's first steps toward a scalable high-bandwidth BCI system. We have built arrays of small and flexible electrode "threads", with as manyas 3,072 electrodes per array distributed across96 threads. We have also built a neurosurgical robot capable of inserting six threads (192 electrodes) per minute. Each thread can be individually inserted into the brain with micron precision for avoidance of surface vasculature and targeting specific brain regions. The electrode array is packaged into a small implantable device that contains custom chips for low power on-board amplification and digitization: the package for 3,072 channels occupies less than  $(23 \times 18.5 \times 2)$  mm3. A single USB-Cable provides full-bandwidth data streaming from the device, recording from all channels simultaneously. This system has achieved a spiking yield of up to 85.5 % in chronically implanted electrodes. Neuralink's approach to BCI has unprecedented packaging density and scalability in a clinically relevant package.

Keywords: Brain-computer interfaces, Neuralink's, electrodes.





#### An Analysis: Google Chrome Keeps on Being the Most Popular Web

#### Browser

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# ABSTRACT

"We are all now connected by the Internet, like neurons in a giant brain", these are the famous words of Stephen Hawking. The internet revolution gave an increase for the convenience of access to free data. To access this data there ought to be a medium; an online browser acts as a medium. The browser is the most elementary part of an ADP system and we talk to it because of the internet. There are several browsers within the world and are classified in many sorts. This paper is an analysis of why google chrome is being well-liked in today's market with some case studies.

Keywords: Web browser, Google Chrome, Microsoft edge, Bing, Web kit, Blink, UI/UX, Privacy, multi-platform compatibility, search engine, omnibox.





# Comparative Study on How, Advertisements have Changed with and without UI/UX

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# ABSTRACT

Digital images provide sufficient information in various real-world applications. But it is quite impossible to avoid quality degradation during image transmission process due to interruption of noise. Since the type and behaviour of the noise changes for different fields, thus plenty of denoising approaches are applied by the researchers to retrieve the quality of the image. This paper provides a thorough survey of various well-known denoising methods used in spatial and frequency domain.

#### Keywords: Denoising, Image Processing, Noise, Filter, Spatial Domain, Transform Domain.





#### **Smart Garbage Monitoring System using Internet of Things (IoT)**

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# ABSTRACT

In the rapidly-evolving modern civilization, the inspection, collection, and removal of rubbish waste are seen as some of the major causes of dispute because their neglect will lead to leverage unfavourable environmental impacts. A boring method is the conventional approach to physically directing and gathering the garbage, as it necessitates require human labour and assets, which raises expenses further. This study describes an open IoT platform-based trash-checking system that works with an Arduino or Raspberry Pi board. The Arduino is a microcontroller included in the suggested architecture. A Wi-Fi module, an ultrasonic sensor, and a large battery information obtained from the load cell and ultrasonic sensor is achieved with the help of the Arduino microcontroller. Making use of the depth of the debris in the water using an ultrasonic sensor, resolved, and the volume and weight of the waste estimates are also made for the garbage cell's receptacle. The LCD screen is used for showing the information. The displayed information is sent to the web through the Wi-Fi module. An open IoT debate and Thingspeak used to adhere to the garbage framework. In this context, the executive can successfully monitor and manage the waste disposal.

#### Keywords: Wi-Fi module, LCD screen, Thingspeak.





# MBM-IoT: Intelligent Multi-Baseline Modelling of Heterogeneous Device Behaviors against IoT Botnet

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#### ABSTRACT

Now we are in an era of IoT. Lot of IoT hardware are ruling current market. Since we are connecting through Internet, security is a concern. Attacking to the system is big issue in this market. So, lot of researches are going on this. To identify IoT botnet attack we are proposing a new method. First, we generate individual behaviour baselines for different types of devices with Single conditional Variational Auto encoder model. Then detect with even minor deviations from baselines.

Keywords: Botnet, Computational Modelling, Machine Learning, Computational Efficiency, Computer Network Security, Botnet Attack, Heterogeneous IoT Devices, IoT Security.





#### **Trends and Impacts of Gaming in Modern Society**

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#### ABSTRACT

Games have always been a part of humans, throughout evolution. All these years only the methods and medium of games have changed and not more. Earlier the games where just a mode of entertainments for people, but now it has become a huge stage for gaining audience and making revenue. In this modern world, the contribution of E-sports community in a country's growth is considered essential. By analyzing the impact of gaming in our modern society and its trends till date, we will get a clear picture of the industry. The Indian gaming industry alone is expected to generate \$3.9 billion per year by 2025. By taking right steps in its course, this industry can be made an essential part of the growth of a nation.

Keywords: Modern Society, E-sports, Evolution.





# Detection of Botnet Attack in Internet of Things Using Feature Selection Enable Machine Learning Technique

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The Internet of Things (IoT) is very rapidly developing with millions of devices that are used in the smart home, smart city and many other smart systems for education and so on. On the other side, attackers are mostly targeting these devices. After infecting malware attacks on these devices, they become bots that are controlled by attackers and these will be targeted to these organization not only for stealing important information but also for breaking down of the network. Although some security mechanisms have developed to protect against cyber-attacks most such system are rule-based systems. And also, the formal rule-based detection could be circumvented by the malware attacker's knowledge. Therefore, the machine learning-based detection scheme is the replacement for the lack of previous detection techniques. The proposed detection architecture is based on machine learning method like the CART algorithm and public IDS dataset, named N-baloT. Machine learning models based on four classifiers are built. Naïve bayes, K-nearest neighbour, Support vector Machine and decision trees. Using 82,000 records from UNSW-NB15 dataset, the decision tree model has yielded the best overall result with 99,89% testing accuracy, 100% precision, 100% recall, and 100% F-score in detecting botnet attacks.

Keywords: Internet of Things (IoT), CART, IDS dataset.





#### ICMCTTAP1025

#### Human Machine Interface in Aviation

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# ABSTRACT

A Human-Machine Interface (HMI) is a user interface that connects a person to a machine or a device or to say, a screen that allows a user to interact with a device. Interfaces such as leap motion controller, multi touch display, speech recognition etc. helps to ease functions or the command execution in various sectors of aviation industry such as cockpit, air traffic controller (ATC), Unmanned Aerial Vehicle (UAV) of the aircraft cockpit and other related elements in aviation industries. The aim is to ease the interaction between the machine and the human and also to improve the accuracy of the system. The minimisation of equipment in the aircraft industry has led to less generation of e-waste.

Keywords: HMI, Speech recognition, Gestures, ATC, UAV.




#### Analysis of Problems faced by Dropout students and solving them

#### using Design Thinking

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# ABSTRACT

Education is the basic requirement for human development. With education, employment opportunities are broadened and income levels are increased. According to the survey conducted by the National Statistical Office (NSO) of the Indian government, one out of every eight students enrolled in an educational institution drops out, and over 62% of all dropouts occur at school level and 62.9% of all dropouts occur in high school. This paper examines why students dropout of school and what can be done as the solution. Reducing the number of dropouts has become a national policy concern. This paper tries to resolve problems faced by the dropouts using Design Thinking(DT) technology. Design thinking challenges old ways of thinking. It doesn't look at problems from a prejudiced perspective. Instead, it always starts with them end-user. Design thinking focuses on users and their needs, encourages brainstorming and prototyping and rewards out of the box thinking that takes wild ideas and transforms them into real-world solutions.

Keywords: Design Thinking (DT), National Statistical Office (NSO), Dropout students.





#### A case study on conventional security practices v/s AI-powered

#### approaches in Internet of Things

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#### ABSTRACT

The internet of things (IoT) is an advancement that can change the way that we live, in regions going from transport to prosperity, from redirection to our associations with government. The usage of the IoT has extended decisively, and network insurance concerns have extended close by it. IoT systems might perhaps increase effectiveness, obligation, detectability, and efficiency. The extreme front line of organization assurance is Artificial Intelligence (AI), which is used to improve bewildering computations to shield associations and structures, including IoT systems. As to security, the IoT will be gone up against extra outrageous troubles. In this paper, we discuss the conventional security methods and the role of artificial intelligence in governing security in the Internet of things.

Keywords: Internet of things, AI, security.



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# Study on Challenges in Big Data

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#### ABSTRACT

Big data is having a greater influence in cloud storage now a days. Big data is a data which contains huge varieties, arriving in massive volumes and with greater speed. Big data is very complex and is very huge in size. Any one of the traditional management tools cannot be applied in big data. It plays a foundation for next generation of advances in medicine, business, science. This paper presents a study on challenges of big data. Big data analytics is a process that include research of massive amount of data to reveal hidden patterns and secret correlations. This paper consists of big data's content, scope, methods, advantages, challenges etc.

Keywords: Complex, Advantages, Challenges, Huge.





#### **Discord:** An all in one messaging application (Case Study)

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# ABSTRACT

Discord was started to solve a big problem: how to communicate with friends around the world while playing games online. It's a home for communities of any size, but it's most widely used by small and active groups of people who talk regularly. Discord is used by everyone from local hiking clubs, to art communities, to study groups. Discord has millions of people creating places for their friends and communities, talking for upwards of 4 hours per day on the platform. Discord is now where the world talks, hangs out, and builds relationships. Discord lets anyone create a space to find belonging—just like it did for Jason and Stan. People love discord because it's a home for all their communities and groups of friends. It's a place where they can be themselves and spend time with other people who share their interests and hobbies. In this Case study we are trying to resolve the following cases such as Why discord keeps on the widely acceptable chance of global and local communication and How discord manages the large crowd and their activities.

#### Keywords: Discord, Communities, Application.





#### A Review on Effectiveness of Computer Assisted Learning

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# ABSTRACT

Any learning, mediated by a computer and doesn't require direct interaction between the user and human instructor in order to run is called Computer Assisted Learning (CAL). CAL also includes online courses and supplemental course materials used in colleges, home schooling and distance learning. Basically, any type of technology that can be used to learn most likely falls beneath the umbrella of computer assisted learning. CAL makes learning more interactive and engaging. The advancement in Computer Aided Learning doesn't mean it will eventually replace the traditional educational system. But in the situation of a pandemic like this we all are choosing computer assisted education. It would have been very difficult for us to continue with our educational system in this pandemic period without the facilities offered by CAL. In this paper, we examine the effect of computer assisted learning in students' deep-rooted development. According to the result it indicates that education technology has long lasting positive effect on a variety of outcome and CAL should be applied to improve teaching quality. By using CAL, it will be possible to eliminate lingual, regional and ethical biases between teachers and students. Also, it can be effective in reducing the rural-urban education gap.

#### Keywords: Computer Assisted Learning, education, technology, pandemic, lingual, regional.





#### **Exploring the Relationship between FoMO and Big Five Personality**

#### **Traits among Emerging Adults**

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#### ABSTRACT

Fear of Missing Out (FoMO), often known as the worry of missing out on exciting or fascinating events, has garnered a lot of attention recently, but little study has been done on its relationship to personality in the Indian context. The term "Fear of Missing Out" (FoMO) was used to characterise a trend observed on social networking sites. The purpose of this study is to look into the relationship between the Big-Five Personality Traits and FoMO. The questionnaire was administered to 248 emerging adults who were selected using convenience sampling technique. The collected data was analyzed using correlational research method. The tools used for this study were the Fear of Missing Out (FoMO) scale and the Ten-Item Personality Inventory (TIPI). The findings of this study reveals that all Big-Five Personality Traits had an impact on FoMO. FoMO and all Big-Five Personality Traits show a positive and significant relationship. Limitations and directions for further research were discussed.

#### Keywords: Fear of missing out, Big-Five Personality Traits, Social Media.





#### **Procrastination, Fear of Negative Evaluation and Perceived Stress**

#### among Emerging Adults

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#### ABSTRACT

Procrastination refers to a form of self-regulation on failure characterised by the irrational delay of tasks despite potentially negative consequences. Fear of negative evaluation can be defined as the expectations that others would evaluate oneself negatively, anxiety about others, negative evaluation and anguish over the negative evaluation by others. Perceived stress refers to the degree to which events in a person's life are assessed as stressful, unpredictable and uncontrollable. The study is conducted to analyse the relationship between the procrastination, fear of negative evaluation and perceived stress among the emerging adults. The sample data were collected from 180 emerging adults from the commerce field and who fall in the age between 18-25. The participants were from different colleges. The tools used in the study are procrastination scale (PS), fear of negative evaluation (FNE) and perceived stress scale (PSS). Spearman Rho correlation was used to find the correlation and the statistical analysis used were SPSS. The findings showed that there is significant positive relationship between procrastination and perceived stress (p<0.01) and also there is a significant positive relationship between procrastination and fear of negative evaluation (p<0.01). The study concluded that the procrastination is highly correlated to fear of negative evaluation and perceived stress.

Keywords: Procrastination, Fear of negative evaluation, Perceived stress, Emerging adults, Commerce field, Spearman Rho correlation.





#### **Interpersonal Dependency and Life Satisfaction**

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The observable characteristics of the young adults of this century has claimed their determination to become an independent personality. But for the same they depend on one another. Gender based studies on interpersonal dependency have shown that it plays a prominent role in individuals personal life. The present study aims to find "Interpersonal Dependency and Life Satisfaction Among Young Adults. The sample size of the study was 91 and the data were collected from the college students of age group ranging from 18 - 24. The method used to select the sample population was a random sampling method. The data was analysed using the spearman bivariate correlation method. The findings of the study revealed that there is a positive relation between interpersonal dependency and life satisfaction among young adults.

Keywords: Interpersonal Dependency, Life Satisfaction, Emotional Reliance, Self-confidence.





# Resilience, Big five personality traits and Spiritual well-being among college students

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## ABSTRACT

The present study investigates the relationship between spiritual well-being, Big five personality and resilience in emerging adults. The research sample consisted of 202 college students of which there are 102 males and 102 females. The sampling technique used in the study was convenient sampling and the statistical analysis method was Spearman rank correlation. The Spiritual Well-Being Scale, Brief Resilience Scale and brief Big five personality inventory were used in the study. The results of the study showed that there is a significant and negative relationship between spiritual well-being and big five personality traits. The present study found that there's a significant positive relationship between spiritual well-being and resilience was also founded.

Keywords: Spiritual Well-being, Big five personality traits, Resilience.





#### **Passionate Love and Personality Traits of College Students**

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# ABSTRACT

Thinking about and exploring love by college students is not a very uncommon scenario in the present times. The trend of relationships being a necessity in colleges is very much prevalent nowadays. Most college students who are susceptible to relationships go through the phenomena of passionate love. This study tries to investigate the relationship between passionate love and Big Five personality traits that may help us to predict how an individual may experience and perceive passionate love. The PLS and TIPI inventory was used to measure the passionate love and personality of college students. The passionate love scale was composed of three components which are cognitive, emotional, and behavioural. The Big Five personality traits are extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. The questionnaire was administered to 120 college students who were selected using the convenience sampling technique. The collected data was analysed using a correlational research technique. The results of this study revealed that various components of passionate love were found to be significantly associated with Big Five personality traits. Individuals who possess high levels of extraversion, agreeableness, and openness to experience displayed comparatively higher levels of the cognitive component of passionate love than the other personality traits. While the emotional component showed a significant negative correlation with emotional stability whereas the behavioural component had a significant positive correlation with agreeableness and conscientiousness. The limitations and suggestions for further research regarding passionate love and limitations were discussed.

Keywords: Sternberg's triangular theory of love, Big five personality, Passionate love, College students.





#### Indecisiveness and psychological well-being among young adults

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#### ABSTRACT

Young adults are often faced with the sudden responsibility to take up a number of decisions suddenly. The overload of so much options and information in today's day and age can cause indecisiveness and affect the psychological wellbeing among young adults. This study attempts to study the effect of indecisiveness on the psychological wellbeing in a sample of young adults (N=74) within the age group of 18 to 24. The questionnaire from indecisiveness scale developed by Randy o Frost and Deanna L Shows (1993) and the psychological wellbeing scale (Ryff & Keyes, 1995) was used to collect data from the sample population using convenience sampling technique and was analyzed using a correlational method. The findings indicated that there is a significant relationship between indecisiveness and psychological wellbeing. Thus, it can be concluded indecisiveness has an impact on psychological well-being in young adults.

Keywords: Indecisiveness, Psychological wellbeing (PWB), College students.





# Bedtime procrastination and thought control among hostellers and day scholars

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# ABSTRACT

Procrastination is a prevalent and problematic phenomenon. that up to 46% of college students report procrastinating on specific academic tasks (Solomon and Rothblum, 1984). Bedtime procrastination is an important factor related to getting insufficient sleep and consequently, it has the potential to affect individual well-being and thought control. This study attempts to study the effect of bedtime procrastination on thought control in a sample of hostellers and day scholars (N=82) within the age group of 18 to 22. The questionnaire from the bedtime procrastination scale was developed by Kroese et al. (2016) and the thought control scale was Developed by Adrian Wells and Mark I. Davies. The sampling technique used in the study was convenience sampling techniques and was analyzed using a spearman correlation method. The findings indicated that there is a significant relationship between bedtime procrastination and psychological well-being. Thus, bedtime procrastination had an impact on thought control among hostellers and day scholars.

Keywords: Bedtime procrastination, thought control, day scholars, hostellers.





#### Fear of Negative Evaluation and Emotional / Social Loneliness in

#### **Young Adults**

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#### ABSTRACT

Around the world today, young adults are constantly confronted with the fear of receiving negative evaluation from others which forces them into the obscure spaces of desolation. This study examined the effects of fear of negative evaluation on the emotional/social loneliness in a sample of young adults (N=162) within the age group of 18 to 25 years. The data was collected through convenience sampling technique. Brief fear of negative evaluation scale (Leary,1983) and emotional/social loneliness inventory (Vincenzi & Grabosky, 1987) were used. The statistical method used was Spearman Rank correlation. Findings revealed a positive correlation between fear of negative evaluation and emotional/social loneliness. The study concluded that fear of negative evaluation produces social and emotional alienation.

Keywords: Emotional/Social loneliness, Fear of negative evaluation, desolation, alienation, college students.

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# Applications of IOT Using Deep Learning based Intrusion Detection System and their Challenges

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#### ABSTRACT

The Internet of Things (IoT) is the new paradigm of our times, where smart devices and sensors from across the globe are interconnected in a global grid, and distributed applications and services impact every area of human activity. An intrusion detection system (IDS) is an app or device that monitors inbound and outbound network traffic, continuously analyzing activity for changes in patterns, and alerts an administrator when it detects unusual behaviour. An administrator then reviews alarms and takes actions to remove the threat. A subset of machine learning, which is itself a subset of artificial intelligence, deep learning is a way of conducting automated data analysis via what are called artificial neural networks — algorithms that effectively mimic the human brain's structure and function In this paper we shall discuss about various applications of IOT used in intrusion detection and then highlight about the deep learning algorithm that are used for analyzing data in Application based IDS or Network based IDS and web based IDS. Finally, few of the challenges will be listed out to check the processing of them for some of the applications.

#### Keywords: Deep Learning, IDS, IOT, traffic, Applications, Network.





## Modeling & Analysis of Cylinder Block for V8 Engine

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#### ABSTRACT

Loss of heat is a significant factor in the performance of internal combustion engines. In addition, a heat transfer phenomenon causes mechanical stresses that are thermally induced, compromising the efficiency of engine components. In engine design, the capability to determine heat transfer in engines plays a vital role. Today, the simulations are progressively being made at a much earlier stage of engine production with numerical simulations in the current research V type multi-cylinder assemblage is modeled. This design is introduced to ANSYS and completed the consistent state thermal and constructional investigation for anticipating heat stress, heat transference, heat flux in contrasting and two distinct materials (FU 4270, FU 2451) from presented material (Aluminium). Heat transfer is the significant part of power change in internal ignition engines. Finding problem areas in a strong wall is utilized as a driving force makes a plan a superior chilling system. Quick transitory heat fluxes with the ignition chamber and the strong divider have to be explored to comprehend the impacts of non-consistent temperatures.

#### Keywords: Cylinder block, V8 engine, design, analysis.





#### **Impostor Phenomenon and Hypercompetitive Attitude Among**

#### **Emerging Adults in Rural and Urban Areas**

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#### ABSTRACT

Impostor syndrome refers to the state that affects high achievers who are unable to internalize and accept their achievements. Hypercompetitive attitude can be defined as an indiscriminate need to compete and win at all costs which is characterized by unhealthy and aggressive behavior. The present study aims to analyse the significant difference in Impostor Phenomenon and Hypercompetitive Attitude among emerging adults in rural and urban areas. The sample consisted of 80 emerging adults of which 40 were from urban areas and the other 40 from rural areas. Sample was collected using convenient sampling. Assessment tools used in the study were Impostor Phenomenon Scale and Hypercompetitive Attitude Scale. The collected data were analysed using SPSS and were used to examine the difference between two groups. The findings showed that there exists a significant difference in Impostor Phenomenon and Hypercompetitive Attitude among emerging adults in rural areas and Hypercompetitive attitude was found to be higher among emerging adults in rural areas.

Keywords: Imposter Phenomenon, Hyper competitiveness, Rural areas, urban areas, emerging adults.

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#### **Body Image and Social Interaction Anxiety among**

#### **Undergraduate Students**

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#### ABSTRACT

Psychological well-being is an essential need for humans. The need to be satisfied with one's own body can affect to a great extent. The way in which a person perceives his or her body can either build or destroy their self-esteem in a social setting. A negative perception of one's self can cause an individual to separate from a social setting. The present study focuses on the impact of perception of one's body and the role of gender as a factor in causing social interaction anxiety in a social setting. The study is conducted among 79 undergraduate students that include males and females from Kerala. The result indicates firstly that there is significant relationship between body image and social interaction anxiety secondly there is no significant difference in body image and thirdly there is no significant difference in body image and thirdly there is no significant difference in body image students.

#### Keywords: Body image, Perception, self-esteem.





#### **Evaluation of Mental Stress using Different Physiological**

#### **Parameters: A Review**

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# ABSTRACT

Mental Stress plays a vital role in everyday life. It is mental state and is accompanied by physiological changes. So, monitoring of these significant changes is important, which can help to identify the matter of anxiety at an early stage before some serious health problem. Continuous stress monitoring may help users better understand their stress patterns and provide physicians with more reliable data for interventions. The basic parameters on which stress can be identified are heart rate, galvanic skin response, body temperature; blood pressure etc. combinations of different parameters provide more accurate results. Usage of multiple parameters aids in better determination of stress. Combination of different parameters like galvanic skin response and blood pressure, electrocardiogram, skin temperature and heart rate are used.

Keywords: Stress detection, physiological parameters, heart rate, galvanic skin response, mental stress.





# A Uniformly Convergent Numerical Algorithm for a Class of Singularly Perturbed Parabolic Differential Equations with an Interior Layer

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# ABSTRACT

This paper considers a class of second-order parabolic differential equations of the form singularly perturbed convection-diffusion interior layer with discontinuous convection coefficients. The analysis of the numerical upwind algorithm on G-mesh is presented and the efficiency of the upwind algorithm on G-mesh compared with other standard meshes Shishkin, Harmonic, and B-type. Computationally we show that the numerical algorithm is uniformly convergent with respect to the singular perturbation parameter.

Keywords: Singularly perturbed problem, Discontinuous convection coefficient.





#### **Computer-assisted education and the future**

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#### ABSTRACT

The purpose of this review is to explore and learn boundlessly about computer-assisted education, and its impact on students and their academic success. Computer-assisted learning provides academics with various teaching information and multimedia platforms for easy learning for students. It interprets the innovation of computer-assisted education and its success in today's era. Computer-aided education signifies the integrated approach of the computer and its devices. Nevertheless, it does not mean online learning will eventually replace traditional education and teachers, rather teachers using computer-based platforms, and their applications to teaching, like smart classes, videos, and web tutoring with improved resources and reduced teacher workloads. By which, students can arrive, grasp, and engage themselves at their own pace in a co-relational environment. Computer Assisted Learning has completely modernized the way that students learn, both in the average classroom as well as in language learning settings. Computer Assisted Learning can make lessons much more interactive and engaging, and can pique the interest of even the most reluctant of pupils. Computer lessons normally adapt to the individual based on their progress, not on a set of standards, so each student is able to have a more personalized experience. Therefore, without computer-facilitated education today, it would have been merely impossible for us to study and attain education. The world has widely opened and accepted the new technology of computerassisted education. This paper is done to distinguish the success of computer-assisted education.

Keywords: Visual Learning, Listening Practice, Tests, Games, Internet Searches, Online classes, Multimedia Platforms, Computer-Assisted-Education, Computer Facilitated Education.





#### Impact of Backpressure on the Composition and Characteristics of

#### the AA5083 Alloy During ECAPed

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# ABSTRACT

Equal channel angular pressing at room temperature along varying backpressure level and numbers of passes produced bulk billets of 25 mm×25 mm×100 mm commercial AA5083 alloy with an ultrafine-grained microstructure. Supersaturated solid iron in an aluminium matrix was treated in brittle cast AA5083 during ECAP with Sixteen passes and a 285 MPa backpressure. The ECAP alloy's strength, ductility, and microhardness were all greatly improved. Increased backpressure improves ductility of ECAP alloys, the workability and delays the cracking of intermetallic particles. Alloys treated by ECAP have improved workability due to backpressure. The AA5083 alloy's strength and microhardness were greatly improved. When an initially coarse-grained alloy undergoes 3 passes of ECAP with a 220 MPa backpressure, its microhardness and room strength (185 HV, UTS = 327 MPa) are significantly higher than their typical values following conventional processing with cold rolling or hot pressing.

Keywords: AA5053, High pressure, Backpressure, SPD, and UFG, Nanostructures, Nanofabrications, Transmission Electron Microscopy.





#### **Automated Electronic System for Census Process**

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#### ABSTRACT

Present-day censuses are generally completed in physical modes wherein the authorities need to go from door to door to gather the necessary information. All the Censuses to date have been directed similarly, and in this way require a ton of on-ground authorities for the same. Likewise, a ton of desk work is needed to have been kept up within this interaction making it a bulky interaction. There have been ongoing advancements in having an application for completing the Census, yet even that has numerous limits. Since for this situation individuals can get to the application and give the responses all alone, it can prompt off-base or deceiving information bringing about the failure of the reviews. Likewise, not all individuals can utilize portable applications with no help. Also, it has been referenced in the Lok Sabha that over 25000 villages in India still lack mobile and internet coverage. Because of this absence of web entrance in distant regions, the past conventional techniques for taking overviews are still in practice. Hence, in this paper, we introduce a new approach, an Automated survey system for the census process. The proposed system is faster and more authentic than the traditional process of pen and paper. All the data is collected digitally and stored directly into datasets, therefore data storage and retrieval are no longer cumbersome. This collected data is far easier to analyze. The authenticity is provided by Biometric sensors.

#### Keywords: Electronic System, Lok Sabha, Biometric.





#### Multihop broadcasting of emergency message dissemination in

#### Vehicular Adhoc Networks

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#### ABSTRACT

Vehicular Adhoc Network (VANET) is a distinct type of Mobile Adhoc Networks (MANET) that makes use of moving vehicles as nodes to create a mobile network. The vehicles that are in radio range of each other can communicate with one another. Timely message dissemination is extremely important for the delivery of critical information. Generally, data dissemination in VANET is broadcast oriented. Multihop broadcasting can be used to spread emergency messages. In this paper, the proposed work is compared with the existing approaches using NS2. The simulation results show the reduction on transmission delay and improved packet delivery ratio.

Keywords: VANET, Broadcasting, Dissemination.





# Achievement Anxiety and Procrastination Assessment in College Students

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#### ABSTRACT

The aim of this study was to examine the presence of achievement anxiety and procrastination among college students. The study group consisted of 104 undergraduate students. The two questionnaires were used for this process are - The Achievement Anxiety Test (Alpert and Haber, 1960) and The Procrastination Assessment Scale for Students (Solomon and Rothblum, 1984). From the present study it was concluded that no significant correlation was observed between the two variables-Achievement Anxiety and Procrastination.

Keywords: Achievement Anxiety, Procrastination, College Students.





## **Real-Time Parameter Monitoring of Feeder Pillar-Box and**

#### **Predictive Maintenance**

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#### ABSTRACT

A feeder pillar box is essentially operated to house the electrical equipment. The feeder pillar box is the central circuit. It controls and distributes the electricity to the outgoing circuits and then it is delivered to the various stations. The vital function of the feeder pillar is to supply electrical energy that is received from the transformer and is distributed via fuse ways. The optimum value of electric powers delivered to a number of outgoing circuits, in addition with the protection of the electrical components. The electric feeder pillars control the electricity supply to houses and are located substantially near railways, local and national highways, and airports. The improper cabling results in the melting of the feeder pillar-box contents. Electricians from Tamil Nadu Electric Board (TNEB) visit to check the distribution box randomly. This will lead to the melting of the fuse in case of an unbalanced load which is the consequence of loose cabling and over current. Hence, an IoT-based real-time temperature and current monitoring and alerting system to the TNEB electrician.

#### Keywords: Feeder pillar box, Iot based, alerting system.





#### A Study on Evaluation of Effectiveness of e-HRM Practices in

#### **Manufacturing Industry**

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Humans are the most important valuable resource to run a company towards is objectives. Among other resources, Human Resource plays vital role in taking part of maximum contribution in organization performance. Every organization will have a goal to achieve and most common goal is to earn profit and added to that to capture the market area for a long time and continuous expansion. To achieve these goals and objectives, organization have to bring various resources like Money, Power, Raw materials, Humans, etc., All these resources will take part in organization performance and its effectiveness is completely depends upon "how we are managing those resource?". Management is all about getting optimized output with minimal input. How we are handling the cash? how we are handling the raw materials? will reflect in organization performance. Similarly, human resource has to be managed properly. In early days, there is no representative for workers to care them and communicate their needs to the management. After evolution of Human Resource practices like recruitment, training and development, performance management, compensation management, etc., made some valuable measures in managing employees. As technology grows everyday many transformations are occurred in various sector and domain. In Human Resource, clerical HR practices were now replaced by internet and it is called as e-HRM practices. Manufacturing Industries are slowly transforming into e-HRM Practices and this paper focuses on evaluating its effectiveness. Questionnaire was prepared and distributed to 496 manufacturing companies in Tamil Nadu. This research found that factors measuring effectiveness of e-HRM practices were correlated and shows its effectiveness is high. e-HRM practices creates various advantages like less time consuming, more accuracy, etc.

#### Keywords: e- HRM, HRM.





#### Matlab Applications for Power Flow Analysis

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#### ABSTRACT

In this paper a brief review has been done on MATLAB Applications for power flow analysis with realistic loads. The classical algorithms for power flow Gauss Seidel and Newton Raphson method have been implemented under MATLAB codes, Simpower, Simulink and fuzzy logic environment. Simscape<sup>TM</sup> Electrical<sup>TM</sup> can perform a power-flow, or load-flow, analysis for an AC, DC, or mixed AC and DC electrical power transmission system modeled using the Simscape three-phase electrical domain. A load-flow analysis allows to determine the voltage magnitudes, voltage phase angles, active power, and reactive power of the electrical system in steady-state operation. For a given steady-state operating point, the load-flow data reveals the: Voltage magnitude and voltage phase angle at each bus. Active and reactive power generation for each generator that supplies the grid, Active and reactive power that flows to each load that places demand on the grid, the data is used to determine ideal operating conditions or estimate the response of system to hypothetical situations. Power flow studies are very helpful when making future plans by considering and analyzing various hypothetical situations related to electricity. Also based on the difference between the power flow at the sending and receiving ends, the losses in a given line can also be calculated. In addition, we can also find out more and less load status. Power flow solutions are essential for continuous evaluation of power system performance so that appropriate control measures can be taken if required. Load or power flow analysis is essential for the operation of the power system under current operating conditions, up-grading and future capacity expansion.

Keywords: Matlab, Simpower, Simulink, Fuzzy logic.





#### **Exploration of Landslide Detection Model using Deep Learning**

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#### ABSTRACT

People who work in mining locations put their lives on the line for valuable resources; landslides and the emission of hazardous gases are the leading causes of worker fatality. In general, underground mining is far more perilous than surface mining. The landslide occurs in a matter of seconds, and although warning surface mine employees is simple, informing underground mining personnel is complicated and has a low likelihood of escape. The proposed solution for our project is to use deep learning technology to monitor and anticipate landslides. It does an amount analysis of the mining zone, which is backed by IoT sensors that monitor the landslide. A trained model is developed and fed into the computer system. By predictive analysis, the system issues an alarm.

#### Keywords: Deep learning, landslide prevention, Remote monitoring, Mining.





# **Big Data and 17 SDGs: The Role Play in India's GEM Governance Revolution**

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## ABSTRACT

This paper presents a study of the implications of big data analytics towards realization of sustainable development goals (SDGs). The paper begins with a brief overview of the concept big data and its potentials followed by a discussion of the role of big data in the realization of SDGs. In 2015, world leaders agreed to 17 goals for a better world by 2030. These goals have the power to end poverty, fight inequality and stop climate change and so on. Guided by the goals, it is now up to all of us, governments, businesses, civil society and the general public to work together to build a better future for everyone.

Keywords: Big Data, SDGs, NITI Aayog, MoSPI, UNPAN.





## **Modern Computers in Astronomy**

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# ABSTRACT

This paper provides an overview of the recent work of computers in astronomy. The paper describes the development and the comparison of different parts of components. The major components in spacecraft design, celestial mechanics, mission control, and the gathering and processing of data generated by the spacecraft are examined. The paper finally shows some modern computer prototypes as a conclusion of the papers.

Keywords: Astronomy, Computers, Spacecraft Design.





#### Assertiveness and Perceived Social Support Among College Students

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# ABSTRACT

One among the major issues that adults face is the kind of social support they get from family, friends and significant others. These may vary and can influence their assertiveness. This study analyses the relation between assertiveness and perceived social support. The data was collected from 60 college students, particularly 30 males and 30 females of age group 18-25 through convenience sampling method. Assertiveness Self Statement Test and Multidimensional Scale of Perceived Social Support were used as the data collection tools in the study. It was analysed using correlational research design. Findings from the present study states that assertiveness had a high influence on their perceived social support which in turn predicted their psychological well-being.

Keywords: Assertiveness, Perceived social support, college students, family, friends, significant others.





# Stacked Ensemble Transfer Learning Models for Animal Species

#### **Image Recognition**

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The image classification is the popular task in image processing, and Artificial Intelligence fields. In these days taking a survey of animals could be a difficult task. A system that may classify animals from images is important for an assessment system. Classification of animal pictures is extremely difficult since the dataset of pictures is very non-linear. Our novel approach is to develop Stacked Generalization Ensembled Image transfer learning meta learner deep neural network to classify the animal species using these pictures. Image classification came into existence for decreasing the gap between the computer vision and human vision by training the computer with the data. The image classification is achieved by differentiating the image into the prescribed category based on the content of the vision Various work areas require fast and precise image categorization for efficient working. The use processor-based automation for recognition it will transform various areas. Image recognition is the popular task existing to tackle this requirement. Classification is done by a systematic arrangement in groups and categories based on its features. Image Recognition models always face a challenge when it requires to predict new samples having much variations compared to the training samples used for its learning purpose. This is where the propose our new hybrid model which contain abundant knowledge about shapes and features of huge variety of items which can be fine-tuned for our specific task. This helps in providing better generalization while predicting new samples having complicated variations in features compared to its training samples.

#### Keywords: deep learning, ensembled model, animal, species.





#### Integrating Technology with Constructivist Pedagogy

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#### ABSTRACT

Technology and constructivism are closely intertwined with the application of one assisting the other. Constructivism is a school of thought that holds that learning occurs in contexts, whereas technology refers to the designs and situations that engage learners. Recent initiatives to incorporate technology in the classroom have used a constructivist approach. This article aims to understand the interaction between constructivism and technology by reviewing various studies conducted in this regard. Further, it tries to determine whether technology is a crucial component of constructivist pedagogy and how it fits in with our contemporary classrooms. Last, the article presents the implications of technology and constructivism for teachers and teacher educators.

Keywords: Constructivism, Pedagogy, Technology.

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#### **Self-Efficacy and Fear of Negative Evaluation in College Students**

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#### ABSTRACT

The title of study was "Self-Efficacy and Fear of Negative Evaluation in college students", the variables used were 'Self Efficacy' and 'Fear of Negative Evaluation', quantitative methodology was used to examine the relationship between these variables, the data were collected from young adults of 18 - 25 years pursuing under-graduation and post-graduation in different colleges across Kerala, sample consisted of 132 college students who were selected by probability random sampling with equal number of male and female samples (66) each and their mean age was found to be 20 years, tools used were Brief FNE scale (Fear of Negative Evaluation) developed by Leary in 1983 and SES scale (Self Efficacy Scale) developed by Mark Sherer, James E. Maddux, Blaise Mercandante and was analysed with SPSS Software Version 25 for correlation analysis and a positive correlation was found between the variables - Self Efficacy and Fear of Negative Evaluation with Spearman's correlation coefficient was found to be 0.429 at 0.01 level of significance, which indicates a significant relation between the above two variables.

#### Keywords: Self Efficacy, Fear of Negative Evaluation, College Students.





#### **IOT-Based Battery Management System in Electric Vehicles**

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#### ABSTRACT

We can check battery voltage and Percentages in electric vehicles using this system anywhere in the world. As we all know, the battery is the most important component in any system or product because it powers the overall structure. As a result, we must monitor the battery's voltage level. We are all aware that an inefficient charging and discharging mechanism might result in battery damage or system failure. The majority of electrical/electronic equipment has a Battery Management System (BMS). The BMS monitors all of the battery's attributes such as voltage, current, temperature, and the auto cut-off mechanism. To guarantee the proper handling and storage of Lithium-Ion or Lithium Polymer batteries in the vehicles. The BMS can monitor the current battery state as well as alert the user through a battery indicator. However, in this research, we employed Internet of Things (IOT) technology to remotely inform consumers. We may now automatically inform users thanks to the utilization of the Internet of Things. From anywhere in the globe, the user may check the battery status on their smartphone as well as computer dashboard. The Node MCU ESP8266 board will be used in an IOT-based Battery Monitoring Program to deliver battery status information to the Arduino IOT cloud. In both charging and discharging scenarios, the IOT Cloud Panel provides the voltage level and the battery percentage. These all process are carried out with the help of softwares.

Keywords: IOT, Battery Management system, battery, user interface, Electric vehicles.





## AI Assisted Wireless Digital Stethescope

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#### ABSTRACT

The AI assisted wireless digital stethoscope is a device that can instantly predict the problem by analyzing the heartbeat. It is a device that has been designed to detect problems in the heart with just one touch. It can be used to monitor and analyze the heartbeat of an individual remotely using a cloud-based system. The AI assisted wireless digital stethoscope is not only for medical purposes but also for athletes, students, or anyone who wants to keep track of their health and fitness. The device is a wireless digital stethoscope system that can be used to diagnose heart problems. It is also capable of instant predicting the problem by analyzing the heartbeat. It is designed to be used in rural locations where it might not be possible to have a doctor visit on time. It uses Artificial Intelligence (AI) and Raspberry pi and node MCU in order to analyze the heart beat and predict any possible problem. It stores the information to a cloud which will be used to train the datasets. The trained data sets with the user reference are used for analyzing the health and notifying the users as report.

Keywords: AI, Wireless Digital Stethescope, MCU.




### Automated Irrigation for Smart Gardening based on IOT

#### using sensors

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## ABSTRACT

The external need of every person in this world is oxygen. Plants play a vital role in maintaining the carbon dioxide and oxygen content of the air. A lot of plants are destroyed every day due to the urbanization process. The number of plantings made will also decrease. In addition to these things, more plants die due to a lack of maintenance. Smart gardening represents the application of modern information and communication technologies to planting. It automatically checks the soil moisture under the tree and plants in the garden and if the moisture is low, it displays a message and automatically pours water to the plants from the water tank to which it is connected. Precise application of the irrigation method is required as there may be a lack of rainfall or there may be dry areas. For this reason, an automated irrigation system is used, which it is suitable for all climatic conditions. The soil moisture sensor will sense the water content and indicate whether to pump water or not. This will help reduce water wastage and also help plant growth even when one is not physically present. Internet of Things (IoT) enables various plant monitoring and selection applications, automatic irrigation decision support, etc. sensor data related to soil moisture and temperature captured and accordingly KNN (K-Nearest Neighbor) classification machine learning algorithm deployed to analyze sensor data for prediction to irrigate the soil with water. It is a fully automated system where devices communicate with each other and use intelligence during irrigation. The main goal of this project is to preserve the nature of plants by constantly monitoring the parameters leading to an increase in the life of plants and humans.

Keywords: IOT, smart, garden, irrigation, KNN.

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### Metaheuristic based Task Scheduling for Load Balancing in the

### **Cloud Computing Environment**

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### ABSTRACT

Cloud computing involves virtualization, distributed computing, networking, software and the delivery of computing services including servers, databases, software, analytics over the internet. A cloud consists of several elements such as clients, datacenter and distributed servers, which includes fault tolerance, high availability, scalability, flexibility, reduced overhead for users, reduced cost of ownership, on demand services etc. Cloud users are just going on increasing day by day and the load i.e., the number of processes getting distributed over the cloud is also increasing. The load can be of various forms, like, CPU load, delay, memory capacity or network load. As the load getting distributed through the cloud is very large, it should be noted whether load is distributed in an even manner and hence load balancing become a crucial task to be considered. Load balancing is an NP-hard problem that involves in the process of workload distribution among the computing resources in the cloud computing environment and also in balancing the network traffic. The main objective of this paper is to assign a set of requests into a set of resources for load distribution. Many bio-inspired and nature inspired metaheuristic techniques have been proposed in solving the problem of load balancing. Load balancing is the process of distributing the load among various nodes of a distributed system to improve both resource utilization and task response time while also avoiding a situation where some of the nodes are heavily loaded while other nodes are idle or doing very little work. Load balancing ensures that all the processor in the system or every node in the network does approximately the equal amount of work at any instant of time. This technique can be sender initiated, receiver initiated or symmetric type (combination of sender initiated and receiver-initiated types). Our objective is to develop an effective load balancing algorithm using Cat Swarm Optimization (CSO) and Spider Monkey Optimization (SMO) Algorithms to distribute the tasks among the virtual machines to balance the load and to prevent any virtual machine being under or overloaded. The proposed algorithm (CSO-SMO-LB) is obtained by the hybridization of the CSO and SMO algorithms to balance the load among the VMs, to increase the performance by reducing the energy utilization and makespan. The performance is analyzed and found that the proposed algorithm gives better outcome.

Keywords: Task scheduling, Cloud computing, Cat Swarm Optimization algorithm, Spider Monkey Optimization

algorithm, Energy Utilization, Makespan.





### Impact of partial replacement of coarse aggregate with electronic

#### plastic waste on compressive strength of concrete

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### ABSTRACT

The need for infrastructure development, electrical equipment, and plastic-manufactured goods has increased exponentially with the arrival of the twenty-first century. Demand growth was followed by a notable increase in construction debris and electronic-plastic (e-plastic). Due to its nonbiodegradability and dangerous metallic waste, e-plastic waste, which consists primarily of wires and discarded plastic components from TVs, refrigerators, and other electronic devices, poses a serious ecological threat. Being the primary component of construction waste, cement considerably contributes to CO2 emissions, which cause global warming. Situations become more distressing for towns with a large population when such waste is dumped or burned, either of which pollutes the environment. Thus, the purpose of the article is to evaluate whether e-plastic waste can substitute some of the coarse aggregates in concrete. In the experiment, the compressive strength of an M40 concrete mix with weight replacements of coarse aggregates of 5 percent, 10 percent, 15 percent, and 20 percent made from e-plastic waste was measured and compared to a control mix. In the experiment, e-plastic wastes were made up of acrylonitrile butadiene styrene (ABS), a high-density polymer plastic, and poly-propylene (PP), a low-density plastic primarily found in electronic gadgets. For efficient test results, a total of 30 cube specimens with varying proportions of cement, fine aggregate, coarse aggregate, and e-plastic were created. According to the conclusions drawn from tests carried out in accordance with Bureau of Indian Standard (IS), a noticeable increase in compressive strength was seen at a 5 percent replacement of e-plastic. Nevertheless, a further rise in replacement showed a fall in compressive strength.

## Keywords: Plastic waste, E-waste, E-plastic waste, Coarse aggregate replacement, Recycling, Reuse.

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## Design Development of A Pressure Cooker-Whistle Using Boothroyd

### **Dewhurst Method**

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### ABSTRACT

The pressure cooker is the most efficient energy-saving cooking equipment and plays a hand to glove with working women/men. The conventional pressure cooker consists of many parts that need to be assembled in the factory and consumes precious time. The paper's novelty is to identify the difficulty of the assembly and eliminate unnecessary parts in the pressure cooker and also remodelling of the pressure whistle with the help of Boothroyd Dewhurst Method. Finally, a comparison study is done between the conventional and the new designs of the pressure whistle to show the optimal time to assemble the final product and also a porotype of the pressure whistle is created.

Keywords: Design for Assembly, Boothroyd Dewhurst Method, Design Efficiency.



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### ICMCTTAP1066

### Silent Sound Technology

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Silent sound technology SST has been introduced to put end to noise pollution and help the people that have lost their voice and cannot speak on mobile phone. This device is developed at Karlsruhe institute of technology and expected to be see in near feature. This device will notice the lip movement inform of electrical impulse and transfer it to sound speech that can be understood. It will be useful for people that want to make a silent call by just receiving the electrical impulse.

Keywords: Sound Technology, mobile phone, Karlsruhe.





### **Prediction of Heart Disease by Various Classification Algorithms**

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### ABSTRACT

One of the main causes of death in the world is heart disease. Medical professionals find it challenging to anticipate heart attacks since it is a complex process that needs knowledge and expertise. Today's health industry has concealed data that may be crucial for decision-making. In this study, heart attacks are predicted using data mining techniques including J48, Naive Bayes, REPTREE, CART, and Bayes Net. The research's findings indicate a prediction accuracy of 98%. The health sector can now predict trends in datasets thanks to data mining.

Keywords: Heart disease, Heart attack, Health. 1000





# Using oblique elimination to solve elliptic curve discrete logarithm problem

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### ABSTRACT

The elliptic curve discrete logarithm problem is believed to be a secure cryptographic primitive for over three and a half decades. This problem was reduced to a problem in linear algebra problem by a Las Vegas algorithm. That algorithm was presented in IndoCrypt 2018. It was further shown that the linear algebra problem can be solved by zero minors. In this paper, we propose oblique elimination as a way to solve the elliptic curve discrete logarithm problem. This paper provides an improved version of the oblique elimination algorithm along with an example. This paper also provides an implementation of the oblique elimination algorithm.

Keywords: Public key cryptography, ECDLP, LasVegas, Gaussian Elimination, Oblique Elimination.





### India's Heat Wave May be Defeated by Sustainable Architecture

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### ABSTRACT

This paper emphasizes on constructional sustainability and will also acknowledge its misconceptions which will help in focusing on the fundamental ideas and values of sustainability. The country has to pay a huge price for these sophisticated structures. Currently this April, sweltering heatwaves have affected numerous areas of India, with New Delhi seeing temperatures as high as over 120 degrees Fahrenheit. This occurs before the nation's summer season officially begins in a few weeks. The usage of air conditioning to beat the heat feeds the vicious cycle since it uses more energy and generates more heat while doing so. Numerous blackouts during the day and night have occurred in numerous Indian cities as a result of using more electricity. An urban island heat effect is produced by the excess heat the AC units emit. According to experts, India's contemporary architecture would make it more difficult for citizens to adjust to heatwaves that may become more frequent and prolonged. A rising number of environmentalists and young architects who are concerned with sustainability are urging a return to traditional design in response to the warning signs.

Keywords: Sustainable Construction, Traditional Architecture, Heat Wave, Environment Sustainability.





#### **Diabetes Prediction Using Machine Learning**

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## ABSTRACT

Diabetes, sometimes known as diabetes mellitus or just diabetes, is a condition brought on by elevated blood glucose levels. The diagnosis of diabetes can be made using a variety of conventional techniques based on physical and chemical examinations. However, it can be difficult for medical professionals to predict diabetes early. due to the complicated interconnectedness of numerous factors, including how diabetes affects people, kidney, eye, heart, nerves, foot, and so forth. Methods of data science have the potential to aid other scientific disciplines by providing fresh insights into established issues. Among them is to assist in forecasting using medical data. Data science has an emerging topic called machine learning that studies how machines learn from experience. The purpose of this research is to create a system that can detect diabetes in a patient with a higher risk.by merging the outcomes of many machine learning methods. Goals of this projectusing three different supervised machine learning techniques, such as SVM, ANN and logistic regression (Artificial neural network). This also seeks to suggest a successful a method for diabetic illness early diagnosis.

Keywords: Machine Learning, SVM, Artificial Neural Network.

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### Is Artificial Intelligence a Threat or a Benefit?

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### ABSTRACT

Artificial Intelligence AI refers to systems or machines that mimic human intelligence to perform tasks and can improve themselves based on the information they gather. Creating intelligent machines is not without concerns and ethical issues, including how safe they can be and how to ensure that they do not harm humans and other morally relevant organisms. and how they may differ from humans in ethical issues related to privacy and confidentiality. Also, as AI progress accelerates, more robots and autonomous systems will be created and replace human labour. On the other hand, AI has its advantages. It has many applications that lead humanity towards making this planet a better place to live. For every technology to survive, its advantages must outweigh its disadvantages. Most of the disadvantages of AIs are related to the ethics and concerns that AIs bring to human society. For many, this may sound intimidating. Some say it will save humanity, others say it will destroy us. Either way, if that happens, the world will change forever.

This paper discusses about the details, Advantages and Disadvantages of AI.

#### Keywords: Artificial intelligence, Pros and Cons of AI.





# Competency Mapping: An empirical study on manpower skills for a desired career and sustainability in the profession

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### ABSTRACT

In the emerging role of professionals with the latest skills demanded and required, the change in turning the workforce into high-performing employees is the need of the hour. Workforce management with the new skills and talent is the re-evaluation of the employee performance in the job context. The tone for the present and the future workplace and the position are set only if a competitive advantage is made by the employees in their profession. New-age human resource professionals occupy the predominant position if innovative practices are built that result in resilience, transformation, and organization growth. Attracting talent, and nurturing and retaining the right talent is critical for success in the organizational landscape. Rethinking the workforce's skills and mitigation of strengths and weaknesses would match the potential needed by the employer. Enabling employees not only to conventional practice in performing tasks but also encouraging them to imbibe new skills to transform an employee-centric workplace. This ensures workforce productivity and efficiency in meeting the goals and objectives of the organization. Identifying the most significant priority is necessary to up skill periodically to pace with the increasing demands and carve a competitive advantage in redefining the position in their profession. The outbreak of the Covid-19 pandemic has revamped the existing work style. Consequently, technology has proved to be a major enabler in upskilling the workforce irrespective of the discipline. To maintain continuity in various sectors amid disruptions by adopting digital ways of working. The insightful technological advancements made the employees rely on them creating a hassle-free environment to work.

Keywords: Competency Mapping, High-performing employees, Employee-centric, Technology, Digital Transformation, Productivity.

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### **Structural and Mutational Analysis of SARS-CoV-2 Protein**

#### Interactome

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## ABSTRACT

SARS CoV-2, also known as the Severe Acute Respiratory Syndrome Coronavirus 2, is a highly contagious pathogenic virus that affects millions of people and causes respiratory diseases. Studying the intra-viral protein-protein interactions of the virus will give us insight on the functioning mechanisms of the cell. And also, this is important to predict the severity of infection as and when mutations evolve. In order to establish which amino acids mutations, lead to stabilization and destabilization of protein-protein interactions in the virus, 15 intra-viral proteins identified as interacting in literature were docked with their partners using ClusPro and the interface residues were mutated using FoldX. From the 15 interactions, the highest and lowest energy changes of each interaction yielded 30 models which showed 19 stabilizing mutations and 9 destabilizing mutations with an interaction complex showing neither.

Stabilizing mutations may strengthen the interactions and therefore provide a more robust biomolecular interaction with the host while the opposite may be expected with destabilizing mutations. Our findings may be of support for deducing insights into the possible changes of severity of the disease associated with the evolving mutations.

Keywords: SARS-CoV-2, protein-protein interaction, intra-viral, interface residue, stabilizing, destabilizing, ClusPro, FoldX.

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### Cloning, over-expression and purification of Escherichia coli murC encoding UDP-N-acetylmuramate--L-alanine ligase

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## ABSTRACT

Gene *murC* encodes Uridine diphosphate N-acetylmuramate–L-alanine ligase, a 53 kDa enzyme involved in synthesizing the bacterial cell wall. The present study is designed to clone, overexpress and purify the recombinant murC using *Escherichia coli* as a model system. *murC* nucleotide sequence was obtained from the NCBI Gene database. The murC ORF from the genomic DNA of E. coli was amplified using primers containing restriction sites and a poly his-tag included in the pET 28b expression vector and was cloned into it. In E. coli BL21(DE3), the recombinant plasmid was transformed and overexpressed. The overexpressed recombinant His-tagged protein was purified using an affinity nickel column in a single chromatographic step. Since MurC ligases are a crucial enzyme involved in the synthesis of the bacterial cell wall and since it is absent in vertebrates including humans, this enzyme could be a desirable target for the development of antibacterial drugs. This method could be used for the production of MurC proteins that could help in identifying and screening small molecule inhibitors against pathogenic bacteria.

Keywords: Bacterial cell wall, Peptidoglycan, *murC*, Expression, purification, pET28b, His tag.





### Smart Home Automation system using Bluetooth, WiFi and Zigbee

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### ABSTRACT

Introduction of Smart Wireless Home Automation has become a positive inspiration to the new home and renovation comes, because it will increase the standard of life and comfort of the inhabitants, at the same time facilitating energy conservation and environmental property. Generally, Home automation networks comprise of wireless embedded sensors and actuators that showing intelligence interconnect with one another through an appropriate wireless design. Several wireless technologies are emerged recently targeting Home Automation, hence choosing the optimum technology is difficult. In this article we analysis different rising wireless technologies and discuss their quality for sensible home networks.

#### Keywords: Smart Wireless Home Automation.





### Designing a Device to Reduce Vampire Power in Household Electronics

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## ABSTRACT

This report describes the research and prototyping behind designing a novel device to mitigate electricity loss in the form of vampire power, especially mobile phones, due to overcharging. The device also has utility in increasing safety and battery life while charging electronic appliances. The report also details on the scope of the device and its applications while providing a glimpse into the data behind the electronic appliance made and the research done. A mathematical and physical basis has also been provided to support claims where required.

Keywords: Energy, Vampire power, Device, Prototype.





### A Review Study on Health Informatics in Histopathology images using Deep Learning

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### ABSTRACT

With a huge inundation of multimodality information, the job of information examination in health informatics has developed quickly somewhat recently. This has additionally incited increasing interests in the age of insightful, information driven models in view of Artificial Intelligence in health informatics. Deep learning, a method with its establishment in counterfeit brain organizations, is arising lately as a strong device for machine learning, promising to reshape the future of computerized reasoning. Fast upgrades in computational power, quick information stockpiling, and parallelization have likewise contributed to the quick take-up of the innovation notwithstanding its prescient power and capacity to create consequently operation significant level elements and semantic translation from the input information. This paper presents an exhaustive up-to-date audit of exploration utilizing deep learning in health informatics, giving a basic examination of the relative legitimacy, also, expected entanglements of the procedure as well as its future standpoint. The paper mostly centers around key utilizations of deep learning in the fields of translational bioinformatics, clinical imaging, unavoidable detecting, clinical informatics, what's more, general health issues.

Keywords: Histopathology, Deep learning, Pathologist, Medical image, Machine learning.



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### ICMCTTAP1078

### **Smart Wheel Chair using IOT**

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### ABSTRACT

According to one study, there are about 6 million people in the world who are paralyzed and need a wheelchair to move. Wheelchairs had to be moved and supported by in the existing system. However, in normal use, these joystick-controlled wheelchairs are difficult to operate. Especially for paralyzed people, the one-way operation of the hard button and joystick made it difficult to operate the joystick. To overcome these problems, the proposed Smart wheelchair using IOT can be moved with a slight tilt of the hand and is also implemented in voice control and Android applications. This project works perfectly with user-specified voice and gesture commands, and attention is also paid to human stability. This technology is also based on wireless technology, which also saves wiring costs. output from the wheelchair's designed gesture and voice controls and obstacle detection

Keywords: PIC microcontroller, NODEMCU, Ultrasonic sensor, Gesture sensor, BLDC Motor, Motor Drive, Android Application.





### An Insight into Artificial Intelligence in Agriculture –

### **Boon or Bane?**

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#### ABSTRACT

This paper gives an idea in regards with the impact of Artificial Intelligence in Agrarian Sector. As India is an Agrarian Country, our economy is uncommonly dependent upon the yielding of harvests and its most prominent effectiveness. Most of people in our country depends upon cultivation for their everyday requirements. The usage of Artificial Intelligence close by its capacity of learning can give an enormous impact on the country sector. AI development helps in distinctive sickness in plants, vermin and sad sustenance of residences. Man-created insight sensors can recognize and target weeds and subsequently pick which herbicide to apply inside the area. This assistants in lessened utilization of herbicides and cost save reserves. Various mechanical associations make drobots, which use PC vision and man-made awareness to screen what's more, unequivocally shower on weeds. This paper moreover discusses the new developments that opens the way to a Smart Agriculture. This paper gives an idea in regards with the impact of Artificial Intelligence in Agricultural Sector.

Keywords: Artificial Intelligence, Agrarian Sector.





### Iot based Health Monitoring System for Covid Patients

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### ABSTRACT

The number of COVID patients is rising quickly in the midst of the present pandemic. For the doctors, it is quite demanding and requires a lot of patience to keep track of all the COVID patients. This system is employed to continually keep track of the patient's health in order to remedy this. The patient's temperature, heart rate and SPO<sub>2</sub> rate will be tracked by this system. As The corona virus and other viruses, as is well known, pose a threat to civilization and are hazardous. Our ability to monitor the patients health problems is made possible by this method. In this framework suggests, a few sensors, GSM and LCD are connected to Raspberry pi, nodeMCU, and Arduino nano. When an aberrant condition arises, the system afterwards keep track of the patient's health and notifies the doctor, the patient's family, and anybody else who needs to know via an android app.

Keywords: Raspberry pi, IOT, sensors, GSM, LCD, nodeMCU and Arduino nano.





### Effect of Physico-Chemical Parameter on microbes for the

### production of peptide antibiotic from pseudomonas sp

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#### ABSTRACT

Antimicrobial peptides are the low molecular weight proteins with broad spectrum antimicrobial and immuno-modulatory effects on pathogenic bacteria, viruses, and fungi. In the present study, peptide antibiotics were produced from soil microorganisms. Five soil samples were collected from different Hospital premises in Bengaluru. Microorganisms were isolated by pour plate method using LB Agar media. Isolated microorganisms were screened for the production of peptide antibiotics by modified disc diffusion method. Organism showing highest inhibition zone was selected and antimicrobial compound was digested by proteolytic enzyme such as Papain to confirm peptide. The selected organism was identified through morphological and biochemical properties as pseudomonas sp. To improve the production of compound at different cultural conditions, antimicrobial activity was assessed by well diffusion method at different pH, temperature, incubation time and varying nitrogen source and trace elements. Maximum antimicrobial activity of the isolated culture was observed at pH 7, 48hrs and temperature at 30<sup>o</sup>C. In nitrogen source casein showed maximum activity compared to peptone, gelatin, ammonium nitrate, and sodium nitrate. In metal ion mg<sup>++</sup> showed maximum activity. Peptide antibiotics were purified using different methodologies such as salt precipitation with 80% saturation using ammonium sulphate followed by de-salting using G 25 Sephadex gel. Ion Exchange chromatography was performed to further purify the peptide antibiotic. SDS PAGE was performed to characterize the peptide antibiotic. The organism showed considerable amount of antimicrobial activity against gram-positive and gram-negative bacteria I.e., Streptococcus mutants, salmonella typhi, E. coli, Proteus mirabilis, staphylococcus epidermis and Klebsiella pneumoniae.

#### Keywords: Peptide, Gel filtration, Ion Exchange, SDS-PAGE, Papain.





## Evaluation of visual-induced motion sickness from head-mounted display using heartbeat evoked potential: a cognitive load-focused approach

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### ABSTRACT

According to the sensory conflict theory, motion sickness is closely tied to the brain's ability to process information and its resources for adjusting to the variety of sensory inputs present in VR content. The goal of this study was to create a mechanism for analyzing motion sickness using the heart-evoked potential (HEP) phenomena and to suggest new metrics for doing so. In this study, 28 undergraduate volunteers from both genders (14 females) watched VR content on 2D and headmounted displays (HMD) for 15 minutes. Using paired t-tests and ANCOVA, the responses of HEP measures such as alpha power, latency, and amplitude of the first and second HEP components were compared. This study established that motion sickness impairs cognitive functioning, as indicated by an increase in HEP's alpha power. Additionally, during the sensation of motion sickness, the suggested indicators, such as latency and amplitude of the HEP waveform, demonstrated substantial variations and displayed strong relationships with alpha power measurements. According to the multitrait-multimethod matrix, latencies of the first HEP component in particular are suggested as superior quantitative evaluators of motion sickness to other measures. The proposed motion sickness model was put into practise using a support vector machine and validated using data from 20 additional subjects. The findings of the motion-sickness categorization included accuracy, F1 score, precision, recall, and area under the curve (AUC) of 0.875, 0.865, 0.941, 0.8, and 0.962, respectively.

Keywords: motion sickness, heartbeat, head-mounted displays.





### **Comparative Study of Nano Technology & Computer Vision**

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### ABSTRACT

Nanotechnology is the useful creation of materials, system and devices through the operation on matter on an atomic molecular level in the length scale of nanometer size. Computer vision is a field of artificial intelligence (AI) that helps computers and systems to acquire meaningful information from different visual inputs and take measures or guidance. In this paper we propose a comparative study of applications of Nanotechnology and Computer vision in medical field.

Keywords: AI, medical field, applications.





### **Study of Cost Effectiveness of Geosynthetic Material in Road**

### Construction

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## ABSTRACT

Over the last 30 years, geotextiles have been actively advocated for pavement construction. In order to learn more about the impact of geotextile reinforcement on pavement design, further full-scale studies are needed. Geotextile-reinforced pavements under controlled loads and climatic conditions were the major focus of this investigation. Geosynthetics have been widely employed to conduct a range of functions that have substantially improved the performance of highways. All of these things serve to keep you safe and secure by isolating you from your surroundings while also filtering out contaminants. At least six significant highway applications employ one or more of these qualities. For example, reflecting crack migration in asphalt overlays may be addressed using these techniques. Other uses include isolating roads, stabilizing the road foundation, and providing lateral drainage. Natural materials like wood and stone may be replaced with geotextiles, which have both economic and environmental advantages. Various variables contribute to the occurrence of the study's typical pain difficulties in the road building industry. The current situation in India necessitates the construction of as many transportation facilities as possible in the least amount of time and money as possible. In this paper, we looked at the economics of using geosynthetic material in building projects, and the results were rather encouraging.

#### Keywords: Geotextiles, cost effectiveness, pavement.





### Geosynthetics used to Stabilize the Subgrade

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### ABSTRACT

The repetitive, high, and targeted stresses placed on pavements, whether bound or unbound, may hasten the ageing and collapse of the road structure. The main aim of the study is stabilization of subgrade using geosynthetics. Soil stabilization is a process of treating a soil to maintain, alter or improve the performance of the soil as a construction material and very importantly to minimize the cost of earthworks. In order to determine the preliminary and engineering (strength) testing of the samples, analysis was carried out. In this study, the results of studies on the performance of non-woven geotextile within subgrade are carried out experimentally utilizing the California Bearing Ratio (CBR) testing arrangement. The experimental results give a clear indication that the presence of geotextiles increases the CBR value of the soil thus, geotextile should be employed as a modernized form of improving road construction on poor soils and to reduce the layer thickness of pavements.

Keywords: Stabilization, Subgrade, geotextile, CBR, pavement, soil etc.





### **Impact of Geotextile on Thickness Reduction of Road Layers**

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### ABSTRACT

There is considerable promise for geotextiles, a new field in civil engineering and other fields, with a wide range of applications around the world. Modern pavement design and maintenance rely heavily on the use of geotextiles. The exponential rise in its use, particularly in transportation, around the globe has been nothing short of astounding. Using geotextiles as a building material for infrastructure projects such as roads, harbors, and many others is a great concept. In the future, they will have a bright future because of their multifunctionality. This study focuses on the use of geotextiles in the construction of pavements and the use of Recycled Concrete Aggregate (RCA) to construct new roads which will drastically reduce the strain on our natural resources and this also will provide us an effective way of managing the waste produced by demolition of old structures. RCAs are not easy to work with and do not produce the results as good as natural aggregates because of presence of old adhered mortar around it hence geotextiles are used to enhance their performance and improve the overall CBR value of road.

Keywords: Geotextiles, Aggregates, Road.





### Performance Evaluation of Geo fiber Sheets on CBR Value of Soil

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### ABSTRACT

Natural fibers, materials, or plants were used in the early days of geofibre production to improve the condition of roads built on unstable soil. Geofibres have just lately been put to use and tested in modern construction. A highly developed product that must meet a variety of criteria, geofibres have become increasingly popular in recent years. Suitable machinery is needed to produce custom industrial materials. Using geofibres in construction has been a huge success for over three decades. Stronger construction can be achieved by separating sub-grade from sub-base. An example of geosynthetics being utilized to reinforce clayey soil is presented in this publication. Clayey soils were used to prepare laboratory California bearing ratio (CBR) test samples. Thermally bonded nonwoven geofibre-reinforced reinforced soils demonstrate an increase in bearing ratio in these experiments.

#### Keywords: Geosynthetics, California, reinforced.





### Use of Red Mud as An Inferior Building Material

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### ABSTRACT

Aluminum's usage as a steel and wood alternative has resulted in rapid growth for the aluminium sector. Aluminum manufacturing leaves behind red mud as a byproduct. Red mud leftovers amount to 1 to 2 tonnes of dry weight each tonne of aluminium produced. The main aim of the study is Use of Red Mud as an Inferior Building Material. A computational approach and an experimental investigation of red mud are both included in the current work. Investigation of morphology, chemical composition, and mineralogy and geotechnical properties of red mud as a subgrade material is the experimental approach. It is concluded that red mud as a subgrade building material is investigated in this research using laboratory geotechnical testing, model footing tests, and FE modelling.

Keywords: Red mud, pavement subgrade material, model footing, finite element analysis, erosion.

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### **Introduction To Edge Computing**

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### ABSTRACT

With a rapid development in the field of internet of everything the number of devices using the internet has also increased this will affect the speed of internet. This will lead to the high bandwidth, slow response, poor security and poor privacy in the cloud computing models. Due to the increase in the internet of things there is a very limitation arising for the cloud computing. So, there is a lead towards edge computing. It is a computer paradigm for performing calculations at the edge of the devices. It will be closer to the user and closer to the use of data there need only a small response time than the cloud. This article will go through an introduction of edge computing. The architecture of edge computing. The advantages of edge computing. The applications where it is used. A comparison between edge and cloud and finally towards the conclusion.

Keywords: Edge Computing, Cloud Computing Models.





### **Design of Flexible Pavement using the C. B. R. Method**

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### ABSTRACT

California bearing ratio is an empirical test and over the world, it is used for designing the flexible pavement. This method was developed by California Highway Department in 1928. The tests results are used in pavement design, in the duration of second world war. Aim of the study: the main aim of the study is design of flexible pavement using the C.B.R. method Material and method: Tests including Atterberg's (liquid and plastic) limits, shrinkage limits, differential free swelling and swelling pressure as well as OMC and MDD as well as the UCS have all been done to develop the flexible pavement utilising black cotton soil and slurry of Kota stone. Conclusion: Tests are also used to establish the engineering characteristics. The Atterberg's limits (Liquid Limit, Plastic Limit, Plasticity Index), sieve analysis, standard proctor test, and California Bearing Ratio are used to investigate the behaviour of black cotton soil with varying percentages of Kota stone slurry.

Keywords: California Bearing Ratio, Effect on Plasticity Index, Degree of Expansiveness, Maximum Dry Density etc.





### Soil Reinforced with Nonwoven Geotextile Sheets Improved CBR

#### Value

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### ABSTRACT

Geosynthetics are human made material used to reinforce soils to improve the bearing capacity and permeability of the soil, reducing soil settlement. Geosynthetics application plays a vital role in the highway's constructions with no additive layers, such as cement concrete, asphalt concrete, or in a subgrade layer that affects the bearing capacity of unbounded layers. This paper presents the geosynthetics as a tensional material that has been used for reinforcement of clayey soil. Laboratory California bearing ratio (CBR) test samples were prepared with clayey soils. Clayey soil containing unreinforced soil and reinforced soil. The sample comprised thermally bonded nonwoven geotextiles (NW) and superior needle-punched nonwoven geotextiles (SNW) with different characteristics (NW 8, 10, 21, 30 and SNW 14, 25, 62, 75) with three-layered, based on the sample materials to perform defined tests. These tests show that, bearing ratio of reinforced soils with thermally bonded nonwoven geotextiles increases

Keywords: Geosynthetics, Geotextiles, California bearing ratio, Reinforced soil.





### Phishing

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#### ABSTRACT

In the discipline of computer protection, phishing is the criminally fraudulent method of trying to gather sensitive statistics together with usernames, passwords and credit card information, by way of masquerading as a truthful entity in a digital attempting to accumulate touchy information which includes usernames, passwords and credit card information, by masquerading as a honest entity in an digital communique. Phishing is a fraudulent email that attempts to get you to divulge personal statistics that could then be used for illegitimate functions.

Keywords: Phishing, Computer Protection, Fraudulent.





## Edge Computing based Farming model for IoT data Management in

### **Apple Orchard**

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### ABSTRACT

Information and Communication Technologies has emerged at an enormous rate in recent years, in which more and more IoT devices are introduced and are performing services in the different environment around the globe. The Present agriculture objective is to increase crop yield production and quality. In agriculture, the use of wireless sensor technology will help to increase crop yield production. Therefore, the IoT-enabled technologies in agriculture will be helpful to achieve the fast-growing demand for food requirements for the increasing population. The farmers are facing numerous challenges such as low crop productivity, climate changes, pest attacks, and disease outbreaks. Therefore, agriculturalists need to mitigate those challenges by adapting of latest technologies. IoT objects are increasing rapidly and cloud computing is struggling to satisfy the QoS requirements for several applications. The paradigm of Edge computing aims to allow the computation to be performed at the edge of the network. Edge computing can address many problems in the agricultural sector and could effectively utilize smart agriculture services. Agriculturalists can use the services of smart agriculture more efficiently with the implementation of edge computing approaches. With edge computing, more and more services are pushed to the edge of the network from the cloud, because if more data could be processed at the edge rather than being transferred to the cloud, bandwidth may be saved and data processing at the edge can ensure shorter response time and better reliability. Edge computing can overcome the limitation of cloud computing in smart farming. The farmers can access real-time data and will easily monitor the farms from anywhere. The introduction of edge computing and other components into traditional farming practices can improve computing ability and intelligence. In this article, the integration of IoT-Edge computing and machine learning-based intelligent monitoring system for apple orchard is present. Furthermore, the components of the framework comprise the Sensing layer, edge computing, network layer, and cloud computing. The integration of IoT-Edge computing and machine learning will make orchard monitoring systems more intelligent, increase apple production, and will reduce the farmer's physical activities.

Keywords: Precision Farming, Edge Computing, Computing Framework, Internet of Things, Machine Learning, Apple orchard.





### **Provision of Social Relations and Emotional**

### **Intelligence Among Young Adults**

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### ABSTRACT

Emotional intelligence plays an important role in the success of an individual in all aspects of life. Hence it is necessary for young adults to have high emotional development to prosper in personal as well as public life. This research is an investigative exploration to establish any possible link between the social support and emotional intelligence in young adults. The study was conducted on a sample of 80 males (40 males and 40 females) within the age limit of 20 to 25. The social support was measured using the Provision of Social Relations (PSR) scale by RJ Turner, BGB Frankel and DM Levin (1983) and emotional intelligence using the Emotional Intelligence Self-assessment Scale by Emily A & Sterrett (2000) . The findings of the study revealed there is a negative correlation between family support and emotional intelligence. Also, there is a negative correlation between friend support and overall social support to emotional intelligence. The study also put forward suggestions based on the result of the research which may help the young adults have better standards of life by improving emotional development.

#### Keywords: Social support, Family Support, Friend Support, Emotional Intelligence.





### Personality and Altruism among College Students

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#### ABSTRACT

Personality is any individual differences in characteristic patterns of thinking, feeling and behaving. Altruism is a prosocial behavior which promotes someone else's welfare even at a risk to ourselves. The particular study is conducted on young adults between the age group of 18-25 and the population taken was on psychology and non-psychology students. The sample taken here were 228 college students. Convenient sampling method wasused under the study. For measuring personality Ten Item Personality Inventory was usedand for measuring altruism Adapted self-report altruism scale was taken. From our study it can be seen that there is a significant relationship between three personality traits namely openness, conscientiousness and extraversion with altruism.

Keywords: Altruism, Openness, Conscientiousness, Extraversion.





## Image and Video Generation Using Artificial Intelligence and its

#### Detection

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### ABSTRACT

AI (Artificial Intelligence) is intelligence shown by machines, rather than the natural intelligence showed by creatures including people. AI allows machines to learn from experiences and situations, adapt to new information sources and perform human-like errands. Now a days we have to make sure what we see is real or fake because development in AI and deep neural networks have prompted a rise in synthetic media, i.e., artificially generated or controlled photograph, video and audio content. Synthetic media today is exceptionally believable to such an extent that we can never again believe what we see or hear is pure and real. Among the various types of synthetic contents, the most concerning types are deepfakes and general adversarial networks (GANs). This new reality can have critical ramifications for network protection, duplicating, counterfeit news, and border security, fake alligations etc.

Keywords: mmAI, Artificial Intelligence, Deepfakes, Synthetic, Media, GANs, Fake.





### An Overview of Heterogeneous Information Networks based on

### **Recommendation System**

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### ABSTRACT

Heterogeneous Information Networks (HINs) provide a natural way to represent different relationships among entities of different kinds, as a consequence they are valuable in many domains. Analysing and extracting understanding from HINs normally is based at the idea of meta paths, which are paths in the community schema denoting family members of different semantics among entities. Moreover, real-global HINs are frequently extremely big, containing thousands and thousands of nodes and edges. Therefore, exploring and analysing HINs not only requires interdisciplinary know-how, having the ability both to interpret and pick out suitable meta paths inside the network, but additionally to run the analysis in an efficient and scalable manner. However, there may be a loss of tools to facilitate this assignment. Most real system include a huge wide variety of interacting, multi-typed components, while most current researches version them as homogeneous networks, without distinguishing different forms of objects and links in the networks. In recent years, an increasing amount of works have been proposed to present helper data in recommender system to alleviate information sparsity and cold-start issues. Among them, heterogeneous information networks (HIN)- based recommender systems give a brought together way to deal with meld different helper data, which can be joined with standard suggestion calculations to successfully upgrade the presentation and interpretability of models, and accordingly have been applied in many kinds of recommendation tasks. This paper gives a far reaching and efficient overview of HIN-based recommender systems, including four perspectives: ideas, strategies, applications,

and resources.

Keywords: Heterogeneous Information Network, Data Mining, Meta Path, Recommendation system, Data Science.

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## **Benefits and Challenges of Artificial Intelligence in HealthCare**

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## ABSTRACT

Artificial intelligence is the simulation of human intelligence processes by machine, it plays a crucial role in our day-to-day life. Artificial intelligence has possibly changed wellbeing to an extremely incredible degree. The execution of Artificial Intelligence has expanded in numerous areas including the medical sector. Artificially intelligent computer systems are used extensively in medical science. The common application of AI in medical sector includes diagnosing patients, end-to-end drug discovery and development, improving communication between physician and patient, transcribing medical documents, such as prescriptions, and remotely treating patients. Man-made intelligence is the boundless branch worried about building savvy machine equipped for performing undertakings that require human knowledge. AI in medical sector improves so many benefits to the peoples and also the organizations. This study investigates the advantages and difficulties associated with AI involving in medical services. It also considers the future grow of Ai in medical sector and what are the remedies for the challenges.

# Keywords: Artificial Intelligence, Healthcare, Patient consideration, AI, Bias, virtual Health Assistance.





#### Overview of Artificial Intelligence in Agriculture for Enhancement of Irrigation, Application of Pesticides and Insecticide

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Agriculture plays a crucial role within the economic sector. The automation in agriculture is the fundamental concern and the arising subject across the world. The population is increasing massively and with this increment the interest of food and work is in addition increasing. The traditional methods used by the farmers, were insufficient to fulfil these requirements. These new methods consummated the food wants and what is more gave work open doors to billions of people. Automation in agriculture has brought an excellent revolution. This technology has protected the yield from numerous factors just like the climate changes, food security downside, increment and also the employment problems. Artificial intelligence frameworks are assisting with further developing the general gather quality and exactness - known as accuracy agribusiness. Computer based intelligence innovation helps in distinguishing illness in plants, vermin and unfortunate sustenance of homesteads. Simulated intelligence sensors can identify and target weeds and afterward choose which herbicide to apply within the region. An immediate utilization of AI (Artificial Intelligence) or machine knowledge across the cultivating area could act to be an exemplification of shift in how cultivating is drilled today. Cultivating arrangements which are AI controlled empowers a rancher to accomplish more with less, improving the quality, likewise guaranteeing a fast GTM (go-to-showcase procedure) methodology for crops. The ongoing paper tosses a dream of how the different areas of farming can be fuelled utilizing AI. It likewise examines the AI controlled thoughts in for future and the difficulties expected in future.

#### Keywords: Agriculture, Artificial Intelligence, Robotics, Pesticide, Automation Irrigation.





## A high accuracy lung cancer detection system using MRMR method

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## ABSTRACT

Lung cancer is one of the main causes of the death and health issue in many countries with a 5-year survival rate of only 10–16%. In this project we use machine learning algorithms to diagnose a cancer and start treatment in early stages. MRMR method and decision Tree algorithms to predict the high accuracy of the cancer. In this project we use scikit-learn libraries like sklearn and pandas to predict and classify the dataset of the lung cancer patients. Slicing the dataset and feature scaling options are used to train the dataset. After that we use confusion matrix, f1 score and accuracy score to predict the accuracy of the result. Success obtained was 99.51% with 200 features provided by MRMR. In the dataset, the result attributes which have 0 value which represent person have no lung cancer & 1 value represents person have lung cancer. To achieve this objective, we use MRMR method and Decision Tree algorithm to classify the data set and give the best accuracy of the result. These researchers then performed the 10-fold cross-validation for model evaluation. IOT Arduino UNO is interfaced with WIFI module to collect the data. Wi-Fi sensor is connected with various IOT sensor to obtain the information of the patient like temp, BP, Pulse rate. Using Wi-Fi module patient data is transfer to doctor to protect the patient in early stages.

Keywords: Decision Tree algorithm, confusion matrix, MRMR method, IOT Arduino UNO.





#### A Systematic literature Review on Neuroleadership and Emotional

#### Intelligence

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## ABSTRACT

Leaders play a crucial role in institutions and attention must be inclined towards improvement in leadership styles for better decision-making in institutions. Due to their diverse roles, attitudes, behaviours, and emotions associated to different positions held by the leaders and the various roles played by them the leaders face various issues. It is evident from the research that there is a paradigm shift in the responsibilities of leaders. Government policy, rapid economic growth, the ubiquitous and society influence of communication and information technology, demands for more access, internationalisation, and globalisation are some of the factors that have led to a change in the institutions (Bolden et. al., 2012, Jones et. al., 2012; Skilbeck, 2001). It has discovered the following threats in institutions a developing number of people entering the system, changing job standards bringing new necessity and an emphasis on life-long learning and grooming, the need for high-order knowledge-based skills. It has been documented that solutions to these problems can be obtained through improvement in emotional intelligence and neuroleadership skills institutions. This empirical evidence suggests that there is hope not only for changing the organisation landscape but also for leveraging the leadership skills of current school leaders and improve the quality of learning for next generation.

#### Keywords: Emotional Intelligence, Neuroleadership, Neuroscience, Leaders.



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## EMG Control Robotic Arm

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#### ABSTRACT

Electromyography (EMG) is a technique for evaluating and recording the electrical activity produced by skeletal muscles. EMG is also used as a diagnostic procedure to assess the health of muscles and the nerve cells that control them. EMG is performed using an instrument called an electromyograph to produce a record called an electromyogram. Common electrode placement for recording good EMG signal for hand movement is near the ulnar nerve. In this myoelectric prosthetic arm, which is electrically actuated and controlled by flexing of muscle. 3D printed prosthetic arm especially for amputee arm. Using signal impulse, the motors will actuate. As the rapid growth of 3Dprinting industries gives way for the growth of these technologies. The market potential of this product will be raised to peak and will reach the marketing size of US\$2014.162 million by 2026. Bionic arm is already existing, but it is heavy weight materials and the current project has cost around 150€ rounded, and the professional prosthesis are around 5.000-9.000€ and much more Price. It is impossible to afford for many people. Our Advantages of bionic limbs are: The improvement of sensation, improved reintegration/embodiment of the artificial limb, and better controllability. Improve mobility and the ability to manage daily activities, as well as provide the means to stay independent. Designed for people living with upper limb amputation and who cannot afford prosthetic care a low-cost electronic prosthetic hand.

Keywords: EMG Signal, Prosthetic Arm.





#### **Evaluation of pavement materials for Dense Bituminous Macadam**

## layer using Reclaimed Asphalt Pavement (RAP)

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#### ABSTRACT

As a sustainable and eco-friendly alternative to fresh or new materials for road construction and maintenance, recycled or reclaimed asphalt pavement (RAP) is being used more frequently. There are no specific criteria, norms, or methods for identifying recovered asphalt materials in India or other developing nations. Classifying the RAP materials that are now accessible for use in road construction is therefore urgently necessary. Costs associated with highway projects can be cut by 25–30% by reusing these materials. There have been some reported studies in India where new materials were swapped out for RAP in the binder course, but there are undoubtedly many more that have not yet been documented. The goal of the current experiment is to determine the aggregate mix percentage for building DBM layers with various percentages of RAP. The RAP sample was taken from the NH209 Kanakpura Road.

Keywords: RAP, recycled aggregate, percentage, DBM.





## A Secure Wearable Patient Authentication System using Human

#### **Body Communication**

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# ABSTRACT

Human body communication (HBC) is a short-range wireless communication in the vicinity of, or inside a human body by using the human body as a propagation medium. HBC is divided into two solutions: galvanic coupling and capacitive coupling. The former requires one pairs of electrodes in both the transmitter (TX) and the receiver (RX), whereas the latter only requires a single electrode for the TX and the RX. The capacitive coupling makes it possible to miniaturize the size of device, and is more suitable for applications requiring the devices to be miniature enough. Since HBC can transfer in high data rates while maintaining low power consumption, and provide high security and easy integration within body-worn devices, HBC shows great potential for wearable devices. Moreover, as the proportion of biological tissues such as muscle, fat, and skeleton is different between individuals, the overall dielectric constants of human body are diverse, as well as the signal propagated through human body. The diverse HBC propagation signal can be utilized as the biometric trait to authenticate individuals. By means of employing the HBC as both the authentication and the communication approaches, the size of wearable devices will be more miniature. Due to the use of propagation signal between devices, the HBC authentication is suitable for wearable device regardless of the location.

Keywords: Body channel transmission, Medical sensing, patient monitoring.





# Study of Mechanical Properties of Metal Matrix 150 Microns of Red

#### Mud

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#### ABSTRACT

Al6061 is referring to the class of light weight high performance centric material systems. The reinforcement in Al6061 matrix composites could be in the form continuous / discontinuous fibres or particulates in volume fractions. This work focus on the fabrication of Al6061 Alloy matrix composites reinforced with 0%, 12%,14%,16%,18%,20 wt% Red Mud of 150micron using stir casting. Material is melted in furnace at 7500C temperature. After the completion of process pre – heat the casted specimen in the furnace at 3500C temperature for a half-hour to reduce the porosity and also increase the strength. The mechanical properties of fabricated AMCs were analysed i.e., tensile strength, hardness and also microstructure study. Thus, the tensile strength and hardness have improved with the increase wt% of RM in Al6061 Alloy.

Keywords: Al6061, Red Mud, Stir Casing, preheating.





#### **Study of Mechanical Properties of Metal Matrix 212 Microns of Red**

#### Mud

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## ABSTRACT

Red mud emerges as the major waste material during production of alumina from bauxite by the Bayer's process. It comprises of oxides of iron, titanium, aluminium and silica along with some other minor constituents. It is generally agreed that resistance to tensile, hardness of MMC is created by reinforcement and also the mechanical properties are improved remarkable by introducing hard intermetallic compound into the aluminium matrix. The reinforcing materials are generally Sic, Al2O3, TiB2 etc and are costly. Experiments have been conducted under laboratory condition to assess the Tensile, Hardness, mechanical characteristics of the aluminium red mud composite under different working conditions. This has been possible by fabricating the samples through usual stir casting technique. To enhance the tensile, hardness, the samples were also subjected to heat treatment  $(400^{0} \text{ C})$ . The worn surfaces of the samples were studied under optical microscope to get an idea about the effect of particulate reinforcement on the behaviour of the composite.

#### Keywords: Red mud, Al6061, Stir casting, Pre heating.





## **Biometric Iris Recognition System for Identity Verification**

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## ABSTRACT

Individual identity authentication is currently one of the most important components in a wide range of applications. As a consequence, the iris-based biometric technology has piqued the curiosity of many in this field. This high level of interest originates from its high level of accuracy and potentially promising applications. This article focuses on the various studies that have been done on the subject, as well as the various approaches that make up the biometric system based on iris recognition. Methodologies or methods for segmentation, feature extraction, and matching are given special attention. For matching, we employ two different classification methods in our research. ANFIS and k nearest neighbour are the strategies. The iris is located using morphological methods.

Keywords: IRIS, ML, ANFIS, KNN, Classification, ANFIS.





# Phytochemical Screening and Evaluation of Antibacterial Potential of Silver Nanoparticles of White Button Mushroom (Agaricus

#### **bisporus**)

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## ABSTRACT

The current research investigation was conducted with the main purpose of phytochemical screening of edible mushroom Agaricus bisporus, synthesis of silver nanoparticles of aqueous (aq.) extract of Agaricus bisporus and to evaluate their antibacterial potential. The crude extract A. bisporus was prepared by maceration method by boiling continuously for 30 minutes in water bath. The silver nanoparticle (AgNPs) of A. bisporus was prepared by mixing 1ml of aq. extract of A. bisporus and 9 ml of 1mm stock solution of AgNO3. The antibacterial activity assay was carried out by agar well diffusion method. Results depicted that the phytochemical analysis of aq. extract of A. bisporus disclosed the presence of secondary metabolites viz. terpenoids, saponins, steroids, alkaloids, phenols, insulin and glycosides. Antibacterial activity assay revealed that aqueous extract of A. bisporus was effective against S. aureus and B. amyloliquefacien. Furthermore, antibacterial activity assay results depicted the highest efficacy of AgNPs of A. bisporus as compared to aq. extract of A. bisporus alone. In conclusion, AgNPs of A. bisporus could be recommended to use for biomedical and pharmaceutical applications.

#### Keywords: Agaricus bisporus, AgNPs, Antibacterial activity.





#### An Overview on Colour Cotton Research – A Review

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## ABSTRACT

In the current review of literature study, we aimed to describe and delineate on current and future perspectives on colour cotton research. In India, about 40 coloured genotypes of upland cotton (*G. hirsutum*), mostly of various shades of brown and green colour have been developed. Brown cotton lines are at the forefront and expects that one of its varieties, DDCC-1, was proposed for release in 2021. Furthermore, DMB-225, a medium brown variety was developed in 2013, along with three other varieties. However, DMB-225 was not released commercially on the grounds that it would contaminate white cotton, though its fiber quality was found highly suitable. By not using chemical dyes, as well as reducing the use of pesticides, the naturally colored cottons have become popular for being ecological and environmentally safe. However, The limitations which impede commercial cultivation of coloured cotton itself signalize future thrust area of research viz. (i) development of wide range of colors with different shades, uniformity and stability, (ii) improvement of fiber properties such as length, strength and maturity, (iii) development of high yielding, early maturing varieties and hybrids, (iv) development of coloured cotton varieties and hybrids amenable to mechanical picking, (v) development of male sterility based hybrids in desi and upland coloured cottons, and (vi) development of coloured transgenic cottons.

#### Keywords: Gossypium, Colour Cotton, Brown, Green, Cotton genome E.





## Analysis of Big Data in Social Media Marketing's Application

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## ABSTRACT

As a state-of-the-art innovation of current organization innovation, the enormous information is of vital application worth to the improvement of online entertainment showcasing. In such manner, we first and foremost lead explores via virtual entertainment promoting and large information to characterize their undertone and execution importance; furthermore, subsequent to having an information on the improvement heading and passage of media showcasing in the period of enormous information, we distinguish the online entertainment showcasing changes brought about by information; at long last, we examine the exact web-based entertainment promoting technique to give specific insights to the utilization of huge information will straightforwardly influence web-based entertainment showcasing, not just the difference in fundamental promoting, large information depends on information and reconciliation capacity, can continually dig and question the powerful market looking for fix data, anticipate the customer's utilization conduct, subsequently constructing another method of accuracy advertising, is a significant improvement course of China's virtual entertainment promoting from here on out, deserving of additional top to bottom review.

#### Keywords: big data, media, social marketing.





## **Isolation & Formulation of Pomegranate Juice Based on Probiotic**

#### **Properties**

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## ABSTRACT

Probiotics are mainly living microorganisms that used to improve or restore gut flora when ingested. The consumption of probiotics is mainly regarded as safe. A strain of lactobacillus bacteria strain Streptococcus faecalis strains were isolated from bifilac probiotic medicine and identified by colony morphologies cultured on MRS (Man, Rogosa and Sharpe) media and biochemical testing were done in this study. Isolated bacteria were chosen for probiotic screening and further investigation was done based on biochemical properties and further screening. In this study, Gram staining, Catalase test, carbohydrate fermentation, protease test, starch hydrolysis test, motility test, urease, catalase, nitrate test, indole test, growth optimization (pH optimization, and temperature optimization) was all used. Based on the OD (Optical Density), isolated bacteria may thrive at pH 9.0 and at room temperature of 25 °C, making them suitable for use as a probiotic. The shelf life of prepared health drink was also check by checking the growth of bacteria on to the EMB agar media. So, different test revealed that *S. faecalis* can used as a probiotic and also for the development of probiotic health drink. So, Probiotics used in gut microbiota by eliciting an immune response that recognises them as beneficial and forms a protective barrier in the intestine against infections.

#### Keywords: Probiotics, Catalase, Gram staining, immune response, gut microbiota.





#### **Effective Mode of Learning Cartonization: White-box Cartoon**

#### **Representations**

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#### ABSTRACT

Cartoon, a renowned art form has different forms of application in various scenarios. In essence, different cartoon styles and use cases, demand prior knowledge to develop a usable algorithm or they have certain assumptions that needs to developed which cater to a particular task. The present paper's objective is to determine an impactful approach towards image cartoonization, by developing an efficient and effective mode of such learning. The author proposes to identify three white-box representations from images individually, namely, the surface representation that covers a smooth surface of cartoon images, the structure representation that observes the sparse color-blocks and the texture representation which observes high- frequency texture, contours, details in cartoon images. The objectives of the proposed method are separately based on each extracted representations, that applies a Generative Adversarial Network (GAN) framework to understand the extracted representations and cartoonize images, which further enables the framework to be under control and adjustable at the convenience of the author. The present approach aspires to benefit the requirements of an artist that deals in several cases and has various style requirements. The author has conducted analytical and doctrinal studies, coupled with bibliometric research, that covers both quantitative analysis and qualitative comparisons, accompanied with the empirical study that have been present in several research papers, related to the subject have been thoroughly analyzed by the researcher to add something to existing knowledge on White box Cartoon Representations. Lastly, it is observed that the ablation study carried out shall showcase an influence of each component in the framework suggested by the author.

Keywords: Image Cartoonization, White-box cartoon Representations, Generative Adversarial Network (GAN).





## **Chassis Dynamometer for Shock Absorber Endurance Test**

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The main function of a Shock Absorber is to damp the Vibration, Shock Absorber is designed to resist the vertical motion of the wheels which were caused by rough or uneven surface. The project presents the test on shock absorber to perform endurance test. The performance of shock absorber is significantly affected by shock absorber damper. It is difficult to achieve unless and until all parts of damping system perform their assigned work satisfactorily. To overcome this performance, it requires mechanism which shall generate and stimulate the real road conditions which were faced by shock absorber. The mechanism should be performing a vehicle situation in which one side shock absorber levied with load conditions and other side should be subjected to vibrations and jerks. So, this project encompasses the design and development of shock absorber testing chassis dynamometer in which all above mentioned conditions are simulated and perform as per requirement.

Keywords: Shock Absorber, Vibration, Chassis Dynamometer.





## **Stress Management of Bank Employees in Tirunelveli District**

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#### ABSTRACT

Banking sector is the prime example of a globalised industry. In the globalised and competitive era, bankers are in the situation to face the stressful matters. Stress is the emotional and physical pressure that a person can feel due to his/her surroundings. Stressful challenges needed for effective administration in banking sector is to build competencies and capabilities. The study covers most of the public and private banks in Tirunelveli District. This study tries to explore and analyse the stress management ability among employees in public and private banking sectors.

Keywords: Stress Management, Tirunelveli District, Bank Employees.





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