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FRANCIS XAVIER ENGINEERING COLLEGE
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ICACCT-2021

VIRTUAL CONFERENCE

INTERNATIONAL CONFERENCE ON

ADVANCED COMPUTING AND COMMUNICATION TECHNOLOGY

06TH - 07TH MAY 2021

Organized By

Department of Information Technology

Francis Xavier Engineering College, Tirunelveli

in Association with

Institute For Engineering Research and Publication (IFERP)

ICACCT-2021

International Conference on Advanced Computing and Communication Technology

(Virtual Conference)

Tirunelveli

06th - 07th May, 2021

Organized by:

Francis Xavier Engineering College, Tirunelveli

&

Institute For Engineering Research and Publication [IFERP]

Rudra Bhanu Satpathy
Chief Executive Officer
Institute For Engineering Research and Publication.

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Francis Xavier Engineering College, Tirunelveli***. I am delighted to welcome all the delegates and participants around the globe to ***Francis Xavier Engineering College, Tirunelveli*** for the "***International Conference on Advanced Computing and Communication Technology (ICACCT-2021)"*** Which will take place from ***06th - 07th May'2021***

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator **(IFERP & FXEC)** and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at ***Tirunelveli, Tamil Nadu, India***

Sincerely,

Rudra Bhanu Satpathy

Preface

The ***International Conference on Advanced Computing and Communication Technology (ICACCT-21)*** is being organized by ***Francis Xavier Engineering College, Tirunelveli*** in Association with ***IFERP-Institute for Engineering Research and Publications*** *on the 06th – 07th May, 2021*.

Francis Xavier Engineering College has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Tirunelveli in Tamil Nadu.

The ***"International Conference on Advanced Computing and Communication Technology"*** was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of **"Computing and Communication"** which were given International values by ***Institute for Engineering Research and Publication (IFERP).***

The International Conference attracted over 180 submissions. Through rigorous peer reviews 53 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

ICACCT -21

MESSAGE FROM CHAIRMAN'S CHAMBER

Dear all,

I am very much delighted to know that the Department of Information Technology is organizing an International Conference on " Advanced Computing and Communication Technology" ICACCT'21 on 06th and 07th May 2021. The Conference mission is to provide a platform for academicians, practitioners, research scholars and other researchers to exchange knowledge and share innovative ideas on the Global IT transformation through the presentation of papers, panel discussions. FXEC always aims to create an academic environment in which students are continually challenged and inspired to do their best possible work. This conference theme "Advanced Computing and Communication Technology" is centred on accomplishing the human needs which cater from the development and the progress actually achieved by IT Industry in the recent years. The conference aims at educating and training students who are eager to further improve their knowledge in this specific field. This conference has been organized with the objective of providing a platform for interaction amongst the participants to share their innovative ideas on emerging trends in computing applications. A heartfelt appreciation to all the faculty members and students who have made up this conference. I hope that this conference would surely induce modern ideas among the participants paving way for new inventions.

Dr. S. CLETUS BABU

Chairman

SCAD Group of Institutions

MESSAGE FROM MANAGING DIRECTOR

Dear all,

I am very much pleased to know that the Department of Information Technology is conducting an International Conference, ICACCT'21 on 06th and 07th May 2021. This conference ensures a futuristic approach that keeps pace with the changing trends in the field of Computer and Information Technology. I hope that the Conference on "Advanced Computing and Communication Technology" would certainly help everyone to have the latest updates, to contribute more and understand the progress achieved by the software industry today. The discussions between the experts would trigger the budding engineers to come out with flying colours in the competitive environment. I congratulate all the teaching fraternity and the students who have put their best efforts for the successful outcome of this conference.

Best Wishes!

Er. C. ARUN BABU

Managing Director

SCAD Group of Institutions

MESSAGE FROM GENERAL MANAGER DEVELOPMENT

Dear all,

I am very much pleased to know that the Department of Information Technology is conducting an International Conference on " Advanced Computing and Communication Technology" ICACCT'21 on 06th and 07th May 2021. This conference ensures a futuristic approach that keeps pace with the changing trends in the field of Information Technology. I hope that the Conference on "Advanced Computing and Communication Technology" would certainly help everyone to have the recent updates, to contribute more and understand the progress achieved by the software industry today. This conference helps in designing the young budding engineers to come out with flying colours in the competitive environment. I congratulate all the faculty members and the students who have put their best efforts for the successful outcome of this conference.

Best Wishes!

Dr. K. JEYAKUMAR

General Manager Development

SCAD Group of Institutions

PRINCIPAL'S MESSAGE

Dear all,

I am extremely happy to hear that the Department of Information Technology is organizing the International Conference on " Advanced Computing and Communication Technology - 2021(ICACCT '21)" on 06th and 07th May 2021. I wish the proceedings of the conference a grand success and commend of all the teachers, scholars and students for making this intellectual exercise, a great event. I whole heartedly wish this conference a great success.

Dr. V. Velmurugan

Principal

FXEC, Tirunelveli

MESSAGE FROM HOD'S DESK

Dear all,

It is a great honour for me to welcome you all for the International Conference. ICACCT '21 is committed to provide better knowledge sharing and skill enhancing opportunities to all the participants. This conference proves to be a platform for the engineers in making their voice, their views through the various papers and healthy interactions that take place between them. I hope that this conference will enable the participants to understand more about the recent trends, prospects and directions in the field of Information Technology. It is a testimony of the deep motivation, personal interest and lofty inspiration of the teaching fraternity and students of our department of Information Technology. Wishing the students and the participants the very best of your education in your respective careers!

Prof. G.Prince Devaraj

Professor & Head,

Department of Information Technology

FXEC, Tirunelveli

ICACCT-21

International Conference on Advanced Computing and Communication Technology

Keynote Speakers

Mr. Dhananjay Singh

Vice President

Engineering at eGovernments Foundation, Bangalore Urban, Karnataka

MESSAGE

I am honored to be part of " ICACCT 2021" organized by IFERP and Francis Xavier Engineering College.

Great to see people from the different corners of the globe come together and make Engineering impactful for our life and next generations. Today we can not imagine life without Engineering disruptions and it has become integral part of our life.

I am delighted to see the topics for the Papers. It's like ICACCT 21 has everything covered from the Engineering point of view. You name it and you will find the field of interest in the Papers topic.

My message to all participants is to keep two things in mind when you design your thoughts into Engineering- First one is Platform Thinking where people can come and contribute to your idea as a Platform and Second thing is Impact on Citizen's life.

I would like to extend my thanks to all participants who have joined ICACCT 21 conferece to make our future better with Engineering Disruptive ideas.

Thanks and Regards,

Dhananjay Singh

VP- Engineering | Innoviti Payments Solutions

Dr. Richard Sinnott

Director

eResearch University of Melbourne

Greater Melbourne Area

Professor Richard O. Sinnott is Professor of Applied Computing Systems at the University of Melbourne. He has been technical lead on a multitude of large-scale international projects with emphasis on security worth over $500m. This includes numerous projects in the defence, intelligence and biomedical domains. He has over 400 peer-reviewed publications across a range of computing and application-specific domains.

Oscar Correia

IT Director at Maarifa Education

Kenya

MESSAGE

Dear Sir / Madam,

I would like to thank the organizers of the conference for Advanced Computing and Communication Technology at Francis Xavier Engineering College, Tirunelveli, in association with Institute for Engineering Research and Publication for inviting me to your prestigious event on 6th – 7th May 2021 to give a keynote speech.

There are many trends technology I could speak off, but I would like to focus on the impact of just one technology: Artificial Intelligence. It is a technology that has become a highly integral part of our society often without our conscious knowledge. It is important to understand that this technology offers the potential to make more social change, for good or for bad, than any other technology in the history of mankind.

Artificial Intelligence (AI) is not just a subdomain of Information Technology as many people would like to categorize. AI has rapidly combined with mechanical engineering, law, and healthcare to change these fields forever. And beyond just academia and industry, when artificial intelligence is combined with big data and IoT in our complex, socially interconnected world of the 4th Industrial Revolution, it is set to change society in ways we cannot anticipate.

I am sure that a lot of other speakers and panelists will speak on the usefulness and importance of AI at this conference in various contexts. I have no intention of overlapping with them and would like to focus on a very specific aspect of AI: the ethics of Artificial Intelligence.

Some of the challenges that AI poses include the risk of bias, the necessity to build and define safety limits in a variety of scenarios often not seen by its original designers, the role of human oversight given the volume and speed of decision making, the ability for humans to understand the logic behind the decisions and how all this power can put at the service of the common good.

AI is here to stay. Nevertheless, it calls for a different approach of ethics. It demands that we ensure that some ethical limits and rules are built into our algorithms (algor-ethics), design AI solutions with a diverse set of stakeholders so that biases may be identified and treated throughout its lifecycle, have access to detailed logic of how and why machines make decisions,

need to keep humans in the loop especially where there are important decisions to be made and lastly, ensure the education of AI in all domains and just not technical ones.

O. Correia

Yours Sincerely

Oscar Correia

Director of Technology, Maarifa Education Holdings

Deputy Vice Chancellor, Cavendish University Zambia

Prof. Eduard Babulak

Honorary Chair, Chief Mentor & Senior Advisor

Core Advisory Committee at the World Assessment Council

Lynchburg, Virginia, United States

BIOGRAPHY

Professor Eduard Babulak, is accomplished international scholar, researcher, consultant, educator, professional engineer and polyglot, with more than thirty years of experience. He served as successfully published and his research was cited by scholars all over the world. He serves as Chair of the IEEE Vancouver Ethics, Professional and Conference Committee.

He was Invited Speaker at the University of Cambridge, MIT, Purdue, Yokohama National University and University of Electro Communications in Tokyo, Japan, Shanghai Jiao Tong University, Sungkyunkwan University in Korea, Purdue, Penn State in USA, Czech Technical University in Prague, University at West Indies, Graz University of Technology, Austria, and other prestigious academic institutions worldwide.

His academic and engineering work was recognized internationally by the Engineering Council in UK, the European Federation of Engineers and credited by the Ontario Society of Professional Engineers and APEG in British Columbia in Canada.

He was awarded higher postdoctoral degree DOCENT - Doctor of Science (D.Sc.) in the Czech Republic, Ph.D., M.Sc., and High National Certificate (HNC) diplomas in the United Kingdom, as well as, the M.Sc., and B.Sc. diplomas in Electrical Engineering Slovakia.

He serves as the Editor-in-Chief, Associate Editor-in-Chief, Co-Editor, and Guest-Editor. He speaks 16 languages and his biography was cited in the Cambridge Blue Book, Cambridge Index of Biographies, Stanford Who's Who, and number of issues of Who's Who in the World and America.

- Fellow of the Royal Society RSA, London, UK;
- Chartered Professional IT Fellow, Mentor and Elite Group Member of British Computer Society, London, UK
- Invited Panel Member for National Science Foundation Graduate Research Fellowship Program, USA
- Expert Consultant for EU HORIZON2020 & CORDIS FP6 - FP7 European Commission, Brussels, Belgium

- Mentor and Senior Member of the IEEE and ACM, USA
- Nominated Fellow of the Institution of Engineering and Technology, London, UK and Distinguished Member of the ACM, USA
- Chartered Member of the IET, London, UK
- Professional Member of American Society for Engineering Education, American Mathematical Association, and Mathematical Society of America, USA

EDUCATION:

- D.Sc., University of Pardubice (Czech Republic), 2008
- Ph.D., Staffordshire University (United Kingdom), 2003
- M.Sc., University of East London, (United Kingdom), 1991
- High National Certificate, Brighton College of Technology (United Kingdom), 1990
- M.Sc., Technical University of Kosice (Slovakia), 1982
- High National Diploma, Electro-technical College (Slovakia), 1976

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ICACCT-2021

International Conference on Advanced Computing and Communication Technology

Francis Xavier Engineering College, Tirunelveli, 6th - 7th May, 2021

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ICACCT-2021

International Conference on Advanced Computing and Communication Technology (Virtual Conference)

Tirunelveli

06th - 07th May, 2021

ABSTRACTS

Organized by:

Francis Xavier Engineering College, Tirunelveli

and

Institute For Engineering Research and Publication (IFERP)

Stock Market Prediction using Recurrent Neural Networks

Neel Agarwal, B.Tech (Computer Science & Engineering) Final Year Students, School of Computer Science and Engineering, Lovely Professional University, Phagwara – 144411, India.
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Ankita Wadhawan, Assistant Professor, School of Computer Science and Engineering, Lovely Professional University, Phagwara – 144411, India

Abstract:--

In the stock market, prediction of price trend series is among the most challenging and widely investigated issues especially for investors and stock holders. In the current scenario, many methodologies are adopted for predicting the scenario of the stock market. This paper makes use of deep learning to predict the future of trend in stock prices. Since the next stock value is usually related to the prior value, it can be easily classified as a time-series problem. This paper uses Long Short .Term Memory (LSTM) layered Recurrent Neural Network (RNN) to be able to achieve this. LSTM improvises on the long term dependencies of the recurrent Neural Network and helps in achieving stability and accuracy for the prediction. Apple stock values from Yahoo finance have been used to train the proposed model and the same model has been used to deduce future values of stocks pertaining to Amazon, Google and Microsoft as well.

Index Terms

Long Short Term Memory, Market Sentiment, Recurrent, Stock, Time Series

Smart Band for Women Safety

Susmitha T, Bannari Amman Institute of Technology, Sathy, Tamil Nadu
Subha R, Bannari Amman Institute of Technology, Sathy, Tamil Nadu
Vaishnavi M P, Bannari Amman Institute of Technology, Sathy, Tamil Nadu

Abstract:--

The smart band is designed in which the data directed in such a pulse rate, body temperature. Which is continuously monitoring by the application which is pre-installed in the phone. If any problems occurred to women. If any problems occurred to women, the smart band will play the role of the following tasks:

•First it will send message to the family members along with the co-ordinates of the specified member.
•Second step, once the co-ordinate receives the message, he is asked to inform to the nearest police station to take immediate action.
•So, this is programmed which uses the GPS of smart band to track the co-ordinate. Through GSM the help message is send to the family members.

Signature Schemes on Post-quantum Cryptography

Anna N Kurian, Assistant Professor, Department of Computer Science and Engineering, St. Joseph's College of Engineering and Technology, Palai.
Tomina Thomas, Assistant Professor, Department of Electrical and Electronics Engineering, Mar Baselios Christian College of Engineering and Technology, Kuttikanam

Abstract:--

Cryptographic techniques are crucial for the safe and secure communication in this cutting-edge society. As increasingly more and more commercial enterprise processes are being performed through the internet even in this covid pandemic situation and the necessity for efficient cryptographic answers is in progression. All the cryptographic schemes practically used are based on difficulty level of solving two problems: factoring of large complex integers and the tackling of the discrete logarithms. However, schemes based on these problems became unreliable when large quantum computer systems are built. In quantum computers numeric and theoretic problems which includes factorization of integers and discrete logarithms were tackled down even in the polynomial time. The key reason behind is the Shor's algorithm. Therefore, requires immediate alternative options for those classical public key schemes. Considering the lattice, code and hash-based cryptosystems, multivariate cryptography is considered to be a most promising candidate. Besides the resistance against quantum computer attacks, the multivariate schemes are fast and needs only modest computational requirements, which makes them more appealing for the use on low-cost devices like RFID (Radio Frequency identification) chips and smart cards. The paper presents a various dimension- cryptography, quantum computers, discussion on shor's algorithm, post-quantum cryptography and review on diverse signature schemes in post-quantum cryptography.

Keywords

Cryptography, Internet usage, Shor's algorithm, Quantum computer attacks, Post-Quantum Cryptography, signature schemes.

Security Protocol for Electronic Health Record Using Blockchain

Sonali Hembrom, karunya institute of technology and sciences, Tamil Nadu

Abstract:--

Blockchain is considered the more secure way to carry out the transaction via the network. Because of its decentralized nature and cryptographic algorithm, it is near to impossible to be attacked by any third party. There are several applications of blockchain in many fields to secure the data. Similarly, in the health sector, blockchain plays a major role to secure details about the patients. In this paper, we have discussed how blockchain has been used for EHR (electronic health records), what all security challenges it faces, the security measures needed to protect EHR using blockchain, the background of EHR as well as of blockchain. This paper focus will be on the security of EHR using blockchain.

Design a efficient powertrain for a electric vehicle

Sujith Manickam M, Department of Electrical and Electronics Engineering, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu
Sailesh Suman Manoharan, Department of Electrical and Electronics Engineering, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu
Dr.J Jayakumar, Professor, Department of Electrical and Electronics Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu

Abstract:--

Electric scooters are plug-in electric vehicles with that can be recharged from any external source of electricity they are two-wheeler, and rechargeable battery is used for power supply, which provides power to electric motors for movement. The electricity generated from an external source helps in acceleration of the motorcycle. The economy speed for the motor is 45km/h but it can run up to 100km/h. The electricity is stored using a battery and BLDC motor is used for movement. Due to pollution engine is removed and electric motor is fixed. It reduces the Human effort as it was Eco-friendly. In this paper, the design and manufacturing of effective power train is discussed. Where it mainly deals with battery pack and its character and battery Management system and suitable Motor for long drive of the scooter. The design of 4.8 Kw of battery pack is explained.

Optimising Cache Prefetching

Remegius Praveen Sahayaraj, Department of Computer Science and Engineering, Loyola-ICAM College of Engineering and Technology, Loyola Campus, Nungambakkam, Chennai 600034, Tamil Nadu, India
Nancy Mathew, Department of Computer Science and Engineering, Loyola-ICAM College of Engineering and Technology, Loyola Campus, Nungambakkam, Chennai 600034, Tamil Nadu, India
Jeswin Joseph, Department of Computer Science and Engineering, Loyola-ICAM College of Engineering and Technology, Loyola Campus, Nungambakkam, Chennai 600034, Tamil Nadu, India

Abstract:--

Despite the hierarchical structure of computer memory being designed to alleviate its difference in speed from the processor, a bottleneck still exists. A prefetcher mitigates this problem by fetching relevant memory blocks into memory levels closest to the processor ahead of an explicit request by the traditional MMU components. Traditional prefetchers, however, either depend on table-based methods that are limited by the proportional growth in memory requirements, or are unable to predict complex memory access patterns. We propose to optimise cache prefetching by introducing an LSTM- based prefetcher that trains on dynamic program traces, thereby eliminating the fetch count-space linear dependency while improving the ability to recognise and predict complex access patterns.

Keywords:

Computer Architecture — Memory Prefetchers — Dynamic Instrumentation — Machine Learning — LSTM — Model Compression — Binary Accuracy

A Comprehensive Survey on Learning Models Used in Sentiment Analysis

Kamal Kumar, Research Scholar in Dr. B.R. Ambedkar National Institute of Technology, Jalandhar Punjab-144011, India
Dr. Amritpal Singh, Dept. of Computer Science & Engineering, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar Punjab-144011, India

Abstract:--

In the generation of AI, to extract emotions and information from a massive amount of text data, sentiment analysis has become one of the most important tools. Sentiment analysis (SMA) is a growing area of research because of the high growth of digital information. It is also necessary for various fields such as sentiment prediction, opinion mining, social media monitoring, customer support, customer feedback, and reputation management. Numerous efforts have been put by researchers work to analyze the sentiment using various Deep Learning (DL) and Machine Learning (ML) techniques. Sentiment analysis aims to determine what other people think and comment. It may contain public-generated information about a particular product and service. By using this survey we can also analyze the Twitter dataset for the positive and negative comments because generally, peoples are interested in the positive and negative comments, like and dislike shared by the users for the particular product and services. In this paper we try to cover existing techniques for sentiment analysis using various machine / deep learning techniques, we have also taken the best paper for sentiment analysis using various ML and Deep Learning techniques. After compared all techniques we have found that deep learning models have given better accuracy than other models.

Index Terms—

OpinionLexicon, SentiLex, SVM, NB, RF, DT, LSTM, CNN, RNN, and Sentiment analysis

Design and performance analysis of Homo junction and Hetero junction Double gate TFET at 40nm

N. Anjani Devi, Research Scholar, GITAM Deemed to be University, Vishakhapatnam,
Ajaykumar Dharmireddy, Research Scholar, GITAM Deemed to be University, Vishakhapatnam
Sreenivasa Rao Ijjada, Assistant Professor, GITAM Deemed to be University, Vishakhapatnam,

Abstract:--

Tunnel FETs based on Si are good choice in terms of high quality interface with high-K dielectric channel. And also Si-TFETs are compatible with CMOS process flow. The homo junction and hetero junction TFETs are designed at 40nm and the performance is compared. The homo junction TFET is designed using III-V materials. Replacement of Si with InAs leads to reduction in OFF state current. ION of 6.431μA and IOFF of 21.3pA are achieved. But subthreshold slope is undesirable that is 78mV/dec. Hence hetero structure InAs/Si junction TFET is designed and desirable performance is achieved. Sub threshold slope is reduced to 47.8mV/dec which is very much better than homo junction TFET.

Detection of False Ranking Apps Using Level Aggregation

R. Jeeva, Assistant Professor in Thamirabharani Engineering College, Tirunelveli, Tamilnadu
N. Muthukumaran, Professor in Francis Xavier Engineering College, Tirunelveli, Tamilnadu

Abstract:--

Each platform of mobile devices has its app store which is the source for apps, games, movies, books, etc. The apps are categorized under predefined labels based on the rules formulated in the app store. The apps have been ranked based on the ratings, reviews, downloads, and no. of installs. It helps the user to download the top-ranked app in a specific category. That ranking of an app makes them think that it will work better than others in an effective way. The evidence aggregation of the above attributes has less variation that doesn't reflect the current status of an app which influences the ranking. For that, the attributes that have been frequently changed due to developer and user actions to be collected for a specific category in top charts. The attributes include version, last updated date, features of an app and keywords will undergo an independent process that produces the following levels: 1. Version change level, 2. Keyword matching level and 3. Feature matching level. Each value of a level has to be consolidated and aggregated to produce the final ranking of apps in a specified category. The actual ranking has been compared with the obtained ranking to find the deviation value and the false ranked app in the app store.

Index Terms

Evidence aggregation, Version change level, Keyword matching level, Feature matching level

Determining the Quality and Freshness of Fruits Using Machine Learning

Dr.SV. Shri Bharathi, Associate Professor(SG), Department of Computer Science and Engineering, Hindustan Institute of Technology and Science, Padur, Chennai, TamilNadu, India
V.Sampreeth, Student, Department of Computer Science and Engineering, Hindustan Institute of Technology and Science,Padur, Chennai, TamilNadu, India.
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R.Sai Prasanna Kumar Reddy, Student, Department of Computer Science and Engineering, Hindustan Institute of Technology and Science, Padur, Chennai, TamilNadu, India.
Angelina Geetha, Head Of Department, Department of Computer Science and Engineering, Hindustan Institute of Technology and Science, Padur, Chennai, TamilNadu, India

Abstract:--

The Quality of fruits or vegetables plays a vital role in consumer consumption and there by affecting its sales. Automatic classification of food and fruit freshness assumes a huge part in the food business. Fruits quality detection from creation to utilization organizes should be performed minutely. Customary techniques which identify the waste of food are moderate, difficult, abstract, and tedious. Thus, quick, and exact automatic techniques should be acquainted with modern applications. To defeat this issue, this paper presents a dependable recognition strategy by utilizing the Tensor flow library, CNN algorithm to work out the standard of the fruit. The recommended framework starts the technique by tapping the input fruit image picture. At that time, the images are then passed to the filtration process where the fruit pictures go through a training and testing process to extract required features such as shape, surface, size of fruits are drawn. with the association of the above features, we determine the standard and quality of fruit.

Keywords:

Machine Learning, Fruits Quality Detection , Convolutional Neural Network

Drowsiness Detection by Raspberry PI Using IR Camera

Mathesh B, Final Year Student, Department of Mechatronics, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu
Mohamed Riyaz A, inal Year Student, Department of Mechatronics, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu
Mohamed Riyan N, inal Year Student, Department of Mechatronics, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu
Oorappan G M, Assistant Professor, Department of Mechatronics, Bannari Amman Institute of Technology, Sathyamangalam, Erode, Tamil Nadu.

Abstract:--

Driver drowsiness detection is a vehicle safety technology that can help delay accidents caused by driver drowsiness. Various studies have shown that about 20% of road traffic accidents are caused by drivers' drowsiness. Avoiding sleepiness while driving is one of the biggest challenges when using an accident prevention system. In the course of driving, various new methods must be developed to counteract this effect. The purpose of this Project is to develop an automated system to protect drivers from improper driving. He will definitely study his blink. The controller flashes in this document. This is detected by the infrared scintillation Camera. This IR camera is Linked to the Raspberry pi. In this Raspberry pi, the Python program is pre-coded to detect the Eye aspect ratio (EAR). The difference in the entire eye changes with the blink of an eye. When the peephole is closed or the output is low, the output is high. Indicates the closing or opening of the eyes. The circuit that sends out the alarm signal. The control sends a warning signal via Raspberry pi to the Buzzer. The buzzer next to the driver is activated, and if the driver falls asleep during driving, it will disturb the driver. From 68 facial landmarks, Eye coordinates are extracted and used here to calculate the Eye Aspect Ratio

Index Terms-

Drowsiness detection, EAR, Raspberry pi, IR camera, Buzzer, 68 facial landmarks

Exam Assisting Robot

Dhivya. P, ECE department, KCG College of technology, Anna University, Chennai, India
Divya.J, ECE department, KCG College of technology, Anna University, Chennai, India
Aishwarya Prakash.S, ECE department, KCG College of technology, Anna University, Chennai, India
Dr. Nirmala Devi, ECE department, KCG College of technology, Anna University, Chennai, India

Abstract:--

The next decade of our life is going to be totally habitual more than this process which we are undergoing now .Though the future is going to be fully automated , robots plays vital role .To make the life more simple and easier we create automatic things so that the robot will be useful in all aspects .This robot work represents a robotic application aimed at performing, the monitoring process, distributing question and answer sheets and also identifying the right candidate it also maintains the security of the collected data. Due to this COVID pandemic situation it is crucial for conducting exam physically, where as to minimize the spreading of virous our project is initiated.

Extractive Text-Image Summarisation in Hindi

Pratik Savla, Department of Computer Science and Engineering, SRM Institute of Science and Technology, Kattankulathur – 603 203, India
Sahil Jaiswal, Department of Computer Science and Engineering, SRM Institute of Science and Technology, Kattankulathur – 603 203, India
Dr. G. Manju, Department of Computer Science and Engineering, SRM Institute of Science and Technology, Kattankulathur – 603 203, India

Abstract:--

Today's world has skyrocketed by the gathering and dissemination of huge amounts of data. A lot of this data is in text form which makes it very difficult to store and process. Hindi is the national language of India. Dataset of text-image summarization is not readily available for Hindi language and hence we created a dataset of 40558 news articles with images for the task and created extractive summaries for them. We did the evaluation using ROGUE and BELU metrics.

Key words:

dataset, text-image summarisation, Hindi, extractive summarisation

Filtering of Unsolicited E – Mail Using Classifiers

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Abstract:--

Many companies and individuals have benefited from electronic mail as a means of communication. Spammers use this tool to make fraudulent profits by sending unsolicited emails. The aim of this article is to demonstrate a method for detecting spam emails using machine learning algorithms and optimization approaches are used to improve them. A literature review is performed to evaluate the most successful approaches for producing good outcomes when applied to various datasets. The use of Naive Bayes in machine learning models was the subject of extensive research, feature extraction and pre-processing are also included. To boost the efficiency of classifiers, optimization algorithms such as the Genetic Algorithm were used. Naive Bayes with Genetic Algorithm performed best.

Keywords

Bio-inspired algorithm, genetic algorithm Machine learning, Naïve Bayes

A Comparative Study of Different Neural Network Models for Identification and Classification of Diabetic Retinopathy on the basis of Severity

Kaushik Ghosh, UPES, Dehradun
Sugandha Sharma, UPES, Dehradun

Abstract:--

Diabetic Retinopathy is a serious & rare problem that is responsible for damaging the blood vessels of the light-sensitive tissues present in the eyes. It arises due to diabetic complications in a person. This paper aims to do a comprehensive comparative analysis of different models viz. VGG16, Inception V3, Resnet50 and MobileNetV2 models for detecting Diabetic Retinopathy among populations by classifying the severity of the disease on a scale of 0 to 4. Here 0 represents no problem, 1 indicates mild, 2 indicates moderate, 3 indicates severe and 4 indicates proliferative stages of Diabetic Retinopathy respectively.Images with multiple properties like varying contrast, intensity, brightness, etc., were used to train the models such that the model becomes capable in classifying the severity of Diabetic Retinopathy by taking images as input[1]. The above mentioned models were used for classifying the image of user's eye into one of the scales between 0 and 4, by analyzing retinal images. The results of the analysis revealed that the model MobileNetV2 recorded maximum training and testing accuracy amongst the rest. Moreover, accuracy graph, loss graph, confusion matrix and classification report for every model have been generated for increasing number of epochs. The overall performance of all the models were seen to improve with increase in the number of epochs.

Index Terms

Convolution Neural network, Deep learning, Diabetic retinopathy, Machine Learning.

A survey on Security Challenges in Mobile Ad hoc Networks

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Dr. J. Amar Pratap Singh, Professor,Computer Science & Engineering, NICHE, Nagercoil.

Abstract:--

MANETs (Mobile Ad hoc Networks) is an infrastructure-less network in which mobile acts as a node, which is deployed for Mobile to Mobile communication and with Base Station (BS) to exchange information. MANETs helps in various activities such as military camps, disaster situations and in emergency situation etc. Due to the lack of infrastructure networks in MANETs, there is a high probability of security issues such as collision attack, man in the middle attack, authentication issues, establishing a reliable end-to-end communication path, and secure data transfer, etc. In this survey, we have discussed the security challenges to be faced while the deployment MANETs. Also, we discussed the four main aspects to be concentrated on to provide secure communication. The four main aspects are Routing – a selection of routes which provide reliability and unlink ability, Key Sharing – the most important aspect to provide a secure and attack free network, Authentication – Authentication of nodes in a network, Security – Data transfer. In this survey, we have concentrated on all four aspects of the network and analyzed to provide a secure and attack-free network.

Keywords:

MANET, IDS, Authentication, Routing, Attacks.

A Technique Using Association Rule Reduction Based Classification for Spatial Data

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Abstract:--

Data mining techniques have grown potentially so that it is possible to extract information from spatial data. Spatial data is the data that has geographical positions. In this modern world, large sets of data are generated everyday. Extracting and classifying data has become a challenge in data mining. In this paper, a new technique that uses association rule reduction based classification technique is used for spatial data classification. The method uses a filter in association rule mining followed by the classification of data. The proposed method is given the forest fire dataset as input and the fired and non-fired regions are predicted. The method is tested for parameters like classification accuracy and classification time.

Keywords—

Data Mining, Association Rule, Accuracy, Classification

Low Power Design and Challenges in VLSI with IoT Systems

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Dr. Santosh Kumar Agrahari, Associate Professor, Electronics & Communication Engineering, Poornima University, Jaipur

Abstract:--

IoT systems are designed for people to explore the Internet of Things and its impact on everyday life of humans. IoT has number of industrial applications such as in mining, agriculture, healthcare etc. With many more designing applications of IoT have some issues like as speed, power consumption, heat, energy loss, reliability, timing response etc. This paper dealt with various issues with designing VLSI IoT devices. As VLSI related with designing IoT devices to describe the characteristics of systems and challenges of the system at different levels like as circuit, architecture, and network, nowhere designers need to design IoT systems with efficient VLSI or Low power VLSI technologies. Also security and networking are other main issues relate with IoT system design and they have important role in IoT system design.

Key words:

IoT system, IoT Architecture, VLSI IoT system, Challenges in VLSI IoT design.

A Novel Approach towards Video-Ranking Using Intent and Relevance Feedback

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Rupali Sawant, Professor,Information Technology,S.P.I.T, Andheri

Abstract:--

The "Internet" today has rapidly morphed into a large platform for learning purposes. As a result, large amounts of instructional videos are being produced every day and are uploaded to video repository platforms like "YouTube". The video-ranking methodology employed by such platforms largely focuses on video-description and user-ratings as a direct criterion. This often leads to less relevant videos being ranked higher than others and creates a "search-intention and relevance gap" between users' search query and video results that are shown. As these platforms also allow users to express their opinion about videos, in this paper, we propose a video re-ranking methodology IRF (Intent and Relevance Feedback) to improve the rank of the relevant videos, where we emphasize determining the impact of using unexplored video aspects, like "user comments" and "video's content" in the video ranking and index calculation.

Keywords

Video relevance, Video ranking, OCR, Content extraction, Sentiment analysis, YouTube.

Word-level analysis of the impact caused by COVID-19 on Mental Health

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Abstract:--

COVID-19 has impacted the lives of all people around the world. The trauma of being locked up, economic loss, social distancing, closure of workplaces, educational institutions, etc. has imparted negative thinking in the mindset of humans. In this paper, we have discussed how the COVID-19 pandemic has impinged the mental health of individuals. We have analyzed the most searched words related to mental health for seven countries- Canada, US, UK, Iran, Japan, South Korea and Italy. A comparative analysis of searched words in pre and post COVID-19 era for Canada indicates that the incremented search is due to fact that people are suffering from mental health issues like anxiety, stress, depression, etc.

Keywords:

COVID-19, mental health, anxiety, stress, depression

Private Cloud Containerization using Raspberry Pi Network

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Abstract:--

The existing FOSS IAAS cloud systems target enterprise as a primary user, students and developers usually cannot afford to maintain their own cloud and technical knowledge required to maintain is still very high. Raspberry Pi and ARM based devices is a series of small single board computers which is very affordable and caters to all the requirements. Raspberry Pi is a capable little device that enables people of all ages to explore cloud computing. It's capable of doing everything we'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games. Students who wants to learn cloud should be able to span cloud servers on demand for free in their premise. This would definitely make the life of a student much better by building pocket cloud on demand easily. Raspberry Pi devices are officially supported by Docker and Kubernetes which can be used to create and orchestrate cloud containers. ARM based devices can also be used to spawn Virtual Machines using cloud stack. In this paper, Raspberry Pi and affordable device is configured with Docker and Kubernetes with a supporting Operating System to spawn on demand containers and Virtual Machines.

Keywords:

Docker; Raspberry Pi; Cloud Computing; Kubernetes; Containers;

Design of Parallel VLSI Structure for Discrete Hadamardtransform

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Abstract:--

Discrete Hadamard transform is a particular Fourier transform case which often works in many applications, such as picture/data processing, compression, encoding and quantum computing. For designers seeking to reduce electricity consumption using sleep/standby modes, wafer shrinkage, node capacity reduction and frequencies switching, various classical approaches are available. These techniques are not sufficient enough to meet today's power requirement. Even though, the required power dissipation and cost have been achieved by lithography, these approaches deliver only incremental improvements. Recent days, the discrete transforms are required in various image processing, signal processing and video applications. Each transforms contains various mathematical computation which holds adder, multiplier and other related blocks. Since, the internal architecture decides the operations and computational speed. Hence, this research focused more on adder and multiplier design to achieve low power, to maintain less delay with a minimum number of gates. The proposed adder subtractor is implemented to design a efficient Discrete Hadamard transform with an least power 27.34mW and 15.30 ns of delay. At last the 20% power get reduced and 48% power delay product get reduced. The power and delay can be calculated. These process were carried out by Xilinx14.5 ISE design Suite.

Keyword:

power, delay, Discrete Hadamard Transform, power delay product

Hybrid Technique of Intrusion Detection Classification model using Soft computing

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Abstract:--

Intrusion detection is responsible for ascertaining the anomaly by denotes of estimated trust value from the cognition algorithm. The training and testing process is performed on standard dataset NSL-KDD. In this paper, we study the neural network as classification strategy with neighbourhood component analysis as feature selection technique to finalized features, used to classify the network traffic in attacks and normal. The objective of this paper is to study the combined impact of feature selection and classification techniques. We studied the proposed hybrid classification model to distinguish oddities. The end goal of this study is to improve the efficiency, recognition of malicious traffic exploratory assessment performed using the parameters, viz. detection rate, false positive rate and accuracy. The experimental result with existing methodologies shows the adequacy as far as accuracy detection rate, and false positive rate (FPR) are concerned.

Keywords:

Network security, Intrusion detection, Classification, Neighbourhood Component Analysis, neural network, Feature Selection.

Improving the Power Issues of a Grid Using Statcom

Dr. Vodapalli Prakash, Kakatiya Institute of Technology & Science, Warangal, Telangana, India

Abstract:--

Wind source is one of the freely available source. Due to uncertainty of injecting the wind energy to the grid may changes the execution of the network. Injecting wind power into a grid slowly changes the performance. Wind source a most trusted renewable source and it is one of the important resource. Mitigation of reactive power and reduction of harmonic distortion in a medium-level voltage systems for coordinating the same to the grid are the relevant problems context discussed here. The quality of power plays a prime role when dealing with power semiconductor devices and is delicate to the supply variations. This work covers the various issues with regards to quality due to w.r.t wind turbine with the grid by employing STATIC COMPENSATOR (STATCOM) at point of interconnection along with a PV system using Matlab domain.

Index Terms—

Statcom, quality, wind source, photovoltaic, harmonics

Solar Power Generation System with a Seven Level Inverter

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Abstract:--

The solar power generation system is composed of a dc/dc power converter and a new seven-level inverter. The dc/dc power converter integrates the converter and a transformer to convert the output voltage of the solar cell array into two independent voltage sources with multiple relationships. Here the dc-ac converter is multilevel inverter is configured using a capacitor selection circuit and a full-bridge power converter, connected in cascade. The capacitor selection circuit converts the two output voltage sources of dc–dc power converter into a three-level dc voltage, and the full-bridge power converter further converts this three-level dc voltage into a seven-level ac voltage. This work focus on solar power generation system is island system. The salient features of the seven-level inverter are that only six power electronic switches are used, and only one power electronic switch is switched at high frequency at any time. The PV system is formulated using MATLAB/Simulink.

Keywords:--

Solar energy, power quality, power generation, dc-ac converter, pulse width modulation.

Result Analysis of Combined Fuel Cell - Battery System Application in the Distribution System to Improve Power Related Issue

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Abstract:--

The Unified Power Quality Conditioner (UPQC) combined with fuel cell-battery for improving the scenario and remove the problems in the distribution system. Here the focussed on custom device UPQC implementation and its merits. This method using a UPQC to compensating various issues in a three phase system that includes of a DC-DC converter along with fuel cell with battery at DC link point to manage non-linear loads. The implementation is run through MATLAB.

Index Terms

Distribution system, Battery, Harmonic distortion, Fuel Cell, Non-Linear Load.

Multi Layer Enhanced Protection Algorithm for Multiple Attacks in Wireless Sensor Detection

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Abstract:--

In todays era there is open access wireless medium and shared nature available everywhere, where the Wireless Networks can be attacked by the jammer easily. By this attack the real normal communication by utilizing the similar wireless channel of legal nodes are stopped. It's a tedious process to prevent the attack or find out the jammer location. When located an indication of implementing anti-jamming mechanism is applied. In account of locating the jammer attacks accurately, a discussion of existing attack localization techniques relating to gravitation locate algorithm (GLA) is applied. This heuristic optimization evolutionary algorithm on newton's law of global gravitation and interaction follows several steps. Also for selecting the alternative ways Link-quality Aware Path Selection algorithm is used on finest link quality. Also various detection algorithms such as PSO (detecting malicious node in WSN, LEACH protocol for IoT applications, distance related threshold for CH selection , particle swarn optimization and several more algorithms are discussed in brief.

Keywords:

WSN, GLA, LAPSE, PSO, Swarn optimization, LEACH.

Intelligent Security Monitoring System with Video Based Face Recognition

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Abstract:--

The areas with large flow of peoples like airports, border control areas, etc., would have frequent emergency situations. So, there requires higher degree of security to prevent the unwanted coercive change. The security endowed in those conditions is of traditionally and also the monitoring of crime is difficult with limited man power to provide with the complete security. Another major issue is that higher volume of video data brings the complexity in video analysis by a human. The Intelligent video retrieval technology has become a crucial part of video monitoring and face recognition has been proven very effective in security critical environment. Hence this system has been developed to recognize the faces of suspect with Viola-Jones Algorithm for face detection and it is capable of identifying a person from a video frame to bring in better accuracy and to establish stability in security. This system also applies convolution neural network to process the image information from the video to verify the person. The faces in the surveillance video in real time has been extracted, recorded and with the use of deep learning model which was built on the basis of convolution neural network, the Single face and multi face images has been detected and recognized to effectively assist the security personnel in dealing with the crisis. The system not only has a high academic value, but also will bring great contribution to national security, social stability and so on.

Keywords

Artificial Intelligence ,Face recognition, Security monitoring, Convolution neural network.

Image Mining Hybrid Algorithms on Classifications of CT scan Brain Tumor Images

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Abstract:--

In today's reality, the main reason in rise of mortality among the people is Brain Cancer. For detection of brain tumor, first we have to read the CT scan image of brain and pre-process the image then we can classify the various image mining hybrid algorithms to identify the Brain Tumor. This image mining classification hybrid algorithms includes extracting features done by K-Nearest Neighbor (KNN) classifier, that supplies all feature vectors and classifies to generate new features depends on a distance functions then extract the features from training database to generate feature vectors using Naïve Bayesian Classifier and CT scan brain tumor image classification done by SVM -Support Vector Machine. The CT scan brain images are classified by benign or malign type which is taken by TCIA medical image repository. The proposed image mining hybrid classification technique is implemented in Python software. The general parameters of the image like entropy, mean, variance, standard deviation, contrast, correlation, smoothness, coefficient of kurtosis and root mean square error (RMS). This analysis is based on the extracted features values and classified image performance done by minimizing the root mean square error and increasing accuracy.

Index Terms

K-Nearest Neighbor (KNN); Naïve Bayesian; Support Vector Machine (SVM); Image Mining; CT scan Image; Classification; Brain Tumor.

Live Object Detection and Distance Measurement using YOLOv3, Triangle's Law with the help of Smartphone Camera

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Abstract:--

This paper focuses on the object detection and distance measurement in real time with the help of a regular smartphone's camera module. Firstly, we will discuss the object detection approach and after that we will discuss the distance measurement. So, there are different types of deep learning based algorithms that can be used in detection of objects. Here, we have used the single shot detection algorithm (SSD) like you only look once (YOLO)[2],[3]. This algorithm doesn't require any region proposal network. It generates the information about the label and position of the object through this network. Therefore, detection of objects in single shot algorithm will be much quicker when compared to a two-step object detection algorithm.Therefore,we will use the SSD approach for the object detection. For the distance measurement[1] of the objects , we will follow a convenient and feasible approach rather than adding unnecessary hardware modules. We will integrate the smartphone's camera and we can use the depth information that our camera will use to draw the bounding box for localizing the objects that are present in the frames and we will calculate the distance between the camera and the objects.

Index Terms—

Deep Learning, Object Detection, YOLO v3, SSD.

Design and simulation of Microgrid using solar PV panel

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Peeka Samuel Sandeep, Electrical and Electronics Engineering, Karunya Institute of Technology and Sciences, coimbatore,india
Dr Venkatesh Kumar, Electrical and Electronics Engineering, Karunya Institute of Technology and Sciences, coimbatore,india

Abstract:--

One of the most pressing issues confronting the world today is the need to reduce reliance on fossil fuels, a challenge that can be mitigated by using renewable energy sources. Renewable energies are supposed to replace fossil fuels not only because they are cleaner (emitting fewer CO2), but also because they are infinite. Finding a way to make these renewable energy sources more efficient is a challenge. It is critical to figure out how to improve the efficiency of these clean energies, but a proper link between the renewable generation source and the main grid is also needed. As a result, the aim of this project is to develop, model, monitor, and simulate a small-scale distributed generation system that includes a renewable generation source and a storage generation system, as well as a load and the main power grid. In fact, the previous concept of a microgrid is very similar.

Keywords

Microgrid,smart grid , load management,simulation load,battery storage

Minimal Spanning Tree for Efficient Clustering

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Abstract:--

Data Mining is a procedure used to handle information from a major dataset and changing over it into a reasonable structure for a gainful use. One of the Data Mining technique is Clustering, grouping together a set of objects in such a way that the objects of the same group. Clustering algorithms based on a minimum spanning tree can be efficiently used to recognize groups. The conflicting edges is an important issue that must be addressed in all MST-based clustering algorithms. In this article, the idea is that an MST-based clustering algorithm goes through the clustering center initialization algorithm. It is also an idea that re-approving the internal grouping measures the selection of the best collection result. The research results of synthetic datasets, real datasets and visual information datasets show the excellent efficiency of the proposed MST-based technique.

Index terms

K-means cluster, Minimal spanning tree, Data mining.

Evaluation of Network Security on basis of Virtualization Techniques in Kali Linux Environment

Prof. Vinit A. Sinha, Assistant Professor
Dr. V.M. Thakare, Professor and Head

Abstract:--

In today's cyber security space network security has a top priority specially system based on Open Source platform. Kali Linux is the new door for white hat security specialist for hardening security for firm and organization. Kali is secure based distribution from linux family having Debian platform. As it includes over 600 + preinstall security application, so it is needy to keep record of network activity by the system and to the system. As kali linux is power tool for server security, virtualization is secure way to implement that tool. The main purpose of this article to evaluate network security on basis of virtualization techniques for this we track implementation of KVM (Kernel Based Virtual Machine) using three virtualization techniques – virt-manager, kimchi project and SDN (Software Defined Network).

Virt-manager is python-based desktop user interface for editing and customization of virtual machine through lib-virt. Kimchi is HTML based virtual machine management tool specially used for KVM. SDN is a technology revaluation which needed priory in cloud and virtualization world for providing network services. In this paper we aim to present advantages of virtualization techniques to explore network security hardening in kali linux.

Keywords:

Kali linux, Kimchi, KVM, SDN, Virt-manager.

Neuro-Fuzzy Wavelet Based Adaptive MPPT Algorithm for PV Systems

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Dr.Shanty Chacko, Assistant Professor , M.E., Ph.D.,Karunya Institute of Technology and Sciences , Coimbatore,India

Abstract:--

An Intelligent control of photovoltaics is necessary to ensure fast response and high efficiency under different weather conditions. This is often arduous to accomplish using traditional linear controllers, as photovoltaic systems are nonlinear and contain several uncertainties Based on the Maximum Power Point Tracking (MPPT) techniques, a high performance neuro-fuzzy indirect wavelet based adaptive MPPT control is developed in this work. In the proposed system, the Hermite Wavelet-embedded Neural Fuzzy (HWNF)-based gradient estimator is adopted. The performance of the proposed controller is compared with different conventional and intelligent MPPT control techniques.

Keywords-

Photovoltaic systems, maximum power point tracking, adaptive control, wavelets

Design and Analysis of Homo and Hetero junction Double gate TFET at 40nm For the IoT core Design

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Sreenivasa Rao Ijjada, Assistant Professor, GITAM Deemed to be University, Vishakhapatnam, A.P,530016, India

Abstract:--

IoT core has many components like processors, sensors, and actuators. To promote the IoT in large scale, it hardware should be satisfy the characteristics of the IoT systems, hence the electronic devices which uses in the IoT design should be replaces with the newer technological devices. Tunnel Field Effect Transistor (Tunnel FET) is one for IoT core design. Tunnel FETs based on Si are good choice in terms of high-quality interface with high-K dielectric channel. and Si-TFETs are compatible with CMOS process flow. The homo junction and hetero junction TFETs are designed at 40nm and the performance is compared. The homo junction TFET is designed using III-V materials. Replacement of Si with InAs leads to reduction in OFF state current. ION of 6.431μA and IOFF of 21.3pA are achieved. But subthreshold slope is undesirable that is 78mV/dec. Hence hetero structure InAs/Si junction TFET is designed, and desirable performance is achieved. Sub threshold slope is reduced to 47.8mV/dec which is very much better than homo junction TFET.

Index Terms

First Keyword, Second Keyword, Third Keyword.

Node MCU Based Landmine Detection Using Wireless Robot

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Abstract:--

Landmine detection is very important to find the metal object in the field area by placing the detector. This vehicle can be works with best performance in the field by hand to operate and also it is very safe, it is best for the replacement of human Detector in war field. Additionally the mines placed all over the land and it is identified by sending a mine detecting instrument, which may save the workers. During this work, the best point is to see the bomb location by use of the remote functioning component that had the sensors that will finds the presence of any bomb through ringer alert. Anyway it is controlled by a remote system, it is always need to be activated and might be controlled.

The component had a metal identifier at high accuracy to detect the metal items. It causation the bomb by using buzzer alarm. The Radio Frequency locator deals with 433MHz transmitter and beneficiary. During this framework we keep an eye on our project and an indicator that identifies the presence of any metal item (bomb) through ringer alert.

Key words:

Landmine Detection, Sensors, mechanical properties

Optimization of Engine Performance and Emission Parameters in Ci Engine Fueled With Simarouba Biodiesel Blends by Taguchi Method

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Abstract:--

Emissions from conventional fuel namely diesel is key source of air pollution and global warming. The present study is focused on use of simarouba oil methyl ester (SuOME) blends by varying engine operating parameter like injection timing and injection pressure to investigate the engine performance and emissions at maximum load condition both experimentally and statistically using Taguchi optimization method. Simarouba blends are varied from B0 to B30, injection timing from 15° to 27° before TDC and injection pressure from 160 to 220 bar. Experimental results were also compared with Taguchi optimization method. Taguchi analysis were carried out using L16 (42) orthogonal array. Fuel blend ratio and engine operating parameters like injection timing and injection pressure were optimized based on highest S/N ratio of brake thermal efficiency and lowest S/N ratio of emissions like hydrocarbons, smoke and NOx. Optimal values of brake thermal efficiency and emissions was seen with the use of 30% blend of SuOME with injection timing of 15° before TDC with 220 bar of injection pressure. To find the influence of various factors on performance and emission characteristics, ANOVA and F-ratio tests were carried out. Statistical analysis result showed that, injection pressure has maximum significance and injection timing has minimum significance on brake thermal efficiency.

Index Terms

Simarouba oil methyl ester, Performance, Optimization, Taguchi, ANOVA.

Spectrum Sharing Technique in 5G Cellular Network - A survey

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Abstract:--

Increase in the requirements of the users, increasing data traffic & increasing connecting devices exponentially, day by day, needs a next generation network called 5G networks to absorb these demands of users. To fulfill this requirement significantly more spectrum and much wider bandwidth is needed. An idea to accomplish this necessity motivates towards spectrum sharing for 5G. More spectrum bands can be achieved by higher frequencies and unused spectrum or by adopting new communication techniques to increase the spectrum efficiency. Many researchers are working to fulfill this challenge by applying different technique for Spectrum sharing. This new network must overcome the challenges that are not fulfill by 4G i.e. increase in data rate & capacity, lower latency, massive device connectivity, reduced cost and consistent Quality of Experience provisioning. This paper gives an insight of proper classification of spectrum sharing and various techniques applied under different circumstances.

Keywords:

Dynamic Spectrum Sharing (DSS), In-band full-duplex (IBFD), millimeter-wave (Mmwave), unlicensed spectrum, 5G cellular Network.

Customer Service Ticketing System

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Shaikh Zoha Imtiyaz Ahmed, Department of Computer Engineering
Khan Iqra Sirajullah, Department of Computer Engineering

Abstract:--

We are developing a web application for the company "MASTER FAX ENTERPRISES" situated in Mumbai.

The purpose of Customer Service Ticketing System is to provide services to the customer in an efficient way by automating the existing manual system with the help of full-fledged computer system and computerized equipment

Here, the project represent an efficient way to provide fast and better services to the clients.IT ticketing system is used by many enterprises to deliver rapid, Infallible internal customer services, which results in better and improved IT department performances and content employees.

Index Terms

Ticketing system, help desk, automated, manual

Prediction of Parkinson's Disease from Voice Signals Using Machine Learning

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Abstract:--

Parkinson's Disease(PD) is a neurological disorder of the Central Nervous System, that influence the motion of an individual. Normally, the patients with Parkinson's Disease have low volume voice with monotone quality. To automate the prediction of this neurological condition, audio signals from the UCI dataset repository had been taken. The major features like Jitter, Shimmer, Harmonic/Noise Ratio, Noise/Harmonic Ratio etc were extracted for the study. In the prior work, LSTM based model was experimented on this dataset to get an accuracy of 83%. To enhance the model accuracy, a combination of CNN and LSTM were employed in this work. From the study it was observed that the combination model exhibited a better classification accuracy of 85% when compared to the traditional machine learning model like Support Vector Machine and Recurrent Neural Network like LSTM.

Index Terms

Machine Learning, Deep Learning, Parkinson's Disease, CNN, LSTM

Channel Coding and Multiple Access Techniques from 1g to 5G: An Overview

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Abstract:--

In recent research, the data rate and coverage have become more important challenging factors for 5G wireless communications and beyond. The researchers considered many techniques to reduce the bit error rate (BER) and to maximize the channel capacity. Advancement in 5G wireless networks objective such as high data rate, high spectrum efficiency, high energy efficiency and low latency for improving the stability in wireless communication. It may achieve mainly with the help of advanced channel coding (Forward Error Control coding) techniques and multiple access techniques which use a single platform to deliver connectivity to multiple users. The main objective of this paper is to provide the basic concept of different channel coding techniques and multiple access techniques for various generations of wireless communication. In this paper, various channel coding techniques and multiple access schemes were adapted from 1G to 5G are discussed for the ongoing research communities.

Keywords:

5G (Fifth Generation), Multiple Access Techniques, Channel coding, NOMA, LDPC, and Polar codes

Employee Payslip Application

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Abstract:--

Maintaining employees Payment Record is one of the important tasks in today's era most of the organization maintain it on hard copies that is on paperwork. And when it comes to billing it gets difficult to calculate each employee's paysli. As it is entered manually let me be a chance, but some entries have been misplaced and particular payslip have some human errors such mistakes can cause disadvantages to the employee and due to lack of Record maintenance it's hard for the company explain the financial bills of the employees. To overcome this problem we are going to develop an application payslip management of employees financial record in this we are going to develop an automated application which sends payslip in the digital format to the particular employee in such way it will helps us to maintain the record of payslip and avoid human error problems application promises correct payslip entries and on time delivery of payslip in the digital format over the email, WhatsApp and we are trying To develop an application which sends digital copy as image to the employees in such way it is easy for the organization as well as the employee to maintain its financial payslip records. This application will be handled by authorized member of the company to send particular payslip to the Employees.

Keywords:

payslip, human error, management, record, application.

Short Descriptive Answer Evaluation Using Word Embedding Techniques

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Abstract:--

The score given for short answers may vary from instructor to instructor. There are many short answer grading and essay grading systems existing; that are either automated or semi-automated. Automated grading systems reduce human effort, saves time for the evaluators, and also provide accurate results based on the algorithm provided. In this paper, we are focusing on short answer grading systems. We use simple and effective methods to evaluate short descriptive student answers. The similarity between each student's answer with its model answer is evaluated using word embedding algorithms. The similarity score is used to calculate the score. The accuracy of the scores obtained in the case of each algorithm is calculated and analyzed method-wise

Keywords:

LSI, Word2vec, SentenceBert.

Survey on Classification of Insects for Insect Pest Management Using Computational Entomology

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Abstract:--

Agriculture has been practiced in India for ages. It is known as the backbone of Indian economy. Agriculture contributes to 17 % of Indian GDP, but farmers are facing many hurdles in cultivating the crops in which pest diseases is one among them. It is difficult to find a noninvasive and inexpensive sensor that can precisely classify flying insects can be done by implementation of entomological research. It is used for developing many useful applications in agricultural entomology. Computational Entomology helps farmers to overcome the hurdles by using suitable sensors for the classification of pests and use the right pest control fertilizers. In this survey report, a survey of different technologies available, the related work done, classifying the flying insects based on the characteristics and morphological features is done.

Keywords:

Computational Entomology, Morphological , Sensors, Survey

Total Least Square Based Adaptve Order Statistics Filters for Image Restoration

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Abstract:--

This paper proposes order statistics L filter with total least square based optimizer (TLS-L) for image restoration. Previously developed methodologies such as least mean square (LMS) and total least square (TLS) filters are also applied for restoration of noisy images with Gaussian noise of different strengths. TLS based L filter with the properties of ordering image data as well as weight provides better contrast in restored image in comparison to existing LMS and TLS algorithms.

Key words:

Total least square, least mean square, adaptive filters, orders statistic L filter.

Topic Detection in Twitter Dataset Using Python

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Abstract:--

Twitter is a popular social network where anyone can tweet their thoughts and emotions. Tweets are only 140 characters long and are limited to text entry. Twitter is one of the social media channels that always gets the latest information. Tweets are classified as big data because tweets are information that can be used as a data source for research purposes. Latent Dirichlet Allocation (LDA) is used as a big data processing algorithm. In this study, the Python programming language is used to implement LDA for topic detection in group of tweets. Twitter API object is used to store tweets from Twitter to a file. Each topic contains many different tweets. The LDA algorithm to process the tweet data has been successfully implemented, and this method gives the best effect when fetching each topic and detecting the topic. Tweets from 'CNN' are used as data source. The LDA output shows the best word indexing performance in different topics from 100 tweets.

Key words:

Twitter, Topic Detection, Latent Dirichlet Allocation, Python, Twitter API.

RtC Drone: Implementation of intelligent autonomous patrolling using Round the Clock Drone

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Abstract:--

Drones are used in daily life for security purpose, farming, video shooting and product delivery. drones are working on the principal of The Newton's Third law of motion that is also known as action and reaction. Mostly used in Aerial photography for films express shipping, gathering information, Geographic mapping of the location. Drones are also used for patrolling by the government police they are monitoring the particular areas by the drone camera for this work there is a need of skilled drone driver for flying and monitoring. We present a model of drone which is Automatically flying around particular areas in fixed timing and automatically detect the objects, Animals, humans and their Activity and it will detect fire, violence. If any criminal activities are detected by the drone then it is directly reported to the end device. In this model we used the satellite communication for the controlling drone and information transmission, Internet of things and machine learning & computer Vision model for crime detection.

Key words:

Drone, Satellite, Activity, Criminal, Internet of Things

A Survey on Order Forecasting Methods

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Abstract:--

The main objective of an order forecasting system or a predictive model is to manage the quantity of stocks such that shortages as well as excess stock is minimized and to also fulfill customer orders in time by minimizing pre-order processing & preparation time. Just in Time Inventory Management, a Japanese management method, is an established method for optimizing inventory holding, reducing bank borrowing and avoiding disruptions in inventory supply. Various models have been used for forecasting sale of food in restaurants, some of which are mentioned in the following paragraphs. These methods help in achieving the 'Just in Time' objectives. The main goal of any business is to make profit, and with the help of the forecasting methods mentioned in this paper, it is intended to make businesses more efficient & profitable. The methodologies discussed in this paper will help the managers to predict food orders in advance and accordingly, decide on inventory requirements & also plan pre-order preparation process for their upcoming sales. This will minimize wastages, improve the capabilities to provide more varieties of food, enhance customer service and increase customer turnover.

Key words:

Sales forecasting, Data Mining (K-means), Network-based approach, Machine Learning.

Face Recognition in Video Frames Using Morphological Face Template Grabber

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Dr. Ravikumar M S, Professor, Dept. of E & C Engineering, KVG College of Engineering

Abstract:--

In the present global network-oriented society, for security, identity of an individual find's greater emphasis. Face recognition is one of the interests for researchers with the advent of biometric person identification. In this paper, comparison of two face segmentation algorithms applied on principal component analysis (PCA) based face recognition model. The data set is of generated video data base captured from cooperative individuals. Frames extracted from the video clips are contrast enhanced by contrast limited adaptive histogram equalization (CLAHE) process. Morphological filtering of the frame leads to referred ARK (Anil-Ravikumar) face template grabber. Applying threshold on the Y Cb Cr converted frame based on this template extracts the individual face along with unwanted skin region. Face detection by Viola Jones algorithm, allows to crop and remove the unwanted skin region. The face frame is further subjected to PCA feature extraction and recognition. This algorithm outperforms the face-recognition system based on the mere skin color thresholding technique in terms of recognition accuracy.

Key words:

ARK face template grabber, face recognition, morphological filtering, Principal Components Analysis

Assessment of Solar Energy Capacity and Performance Evaluation of a Grid-Connected PV System with PVSYST

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Dr. Ravikumar M S, Professor, Dept. of E & C Engineering, KVG College of Engineering

Abstract:--

In today's time photo-voltaic systems are emerging fast due to its high sustainability and viability. It is necessary to assess the performance of these systems to understand various aspects related to its operation. The study analyses the usefulness of a PV system installation that supplies electricity to an academic institution. This paper aims at evaluating the performance of a grid connected silicon-poly PV system that has a peak power of 20.0 kWp and voltage of 17v. The software used for analysis is PVsyst(7.1.7 version). PVsyst is a widely used simulation software for estimating the energy yield and for optimizing the system design. The PVsyst software has been used to design a grid connected pv system for Karunya Institute of technology. The simulated system has silicon-poly pv modules assembled in it. Each module consists of numerous photo-voltaic cells interconnected. Each module has a power rating of 180wP and voltage sizing of Vmpp(60 degree celsius)17.5v Voc(-10degree)28.9v. The photo voltaic modules are assembled in a total of 13 strings. Modules in a string are series-connected. Each string in the system consists of 10 pv modules connected in series with power rating of 20.8 kWp. The arrangment is grid-connected with a utility meter. The weather dataset used for evaluation is extracted from PVsyst's database and has the attributes, solar radiation and ambient temperature.

Key words:

Performance ratio, Photovoltaic, PVSYST, Temperature distribution, Tilt angle, Si-poly PV Module, performance ratio, Optimization.

Battery Bulge Identification and Avoidance of Firing System Using an IOT

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Abstract:--

The automobile batteries ordinarily generate electric electricity for engine running, lighting of material and charging the engine mechanism. Ongoing any specified automobile engine running event, a powerful current starting with 100A to 1500A, reckoning from the engine capability of the batteries is typically drained from the engine batteries. From every engine running event, there's associate degree associated voltage mislaying within the batteries that in consequence ends up in batteries humiliation and supreme non-success. The non-success could happen short therefore trouble and every now and then imperil the lifetime of the automobility. The batteries observance system during this analysis used the voltage loss related to every engine running event to cypher the condition of the health of the automobile starter batteries. it's a resistor, current and heat conditions modules have been developed for activity the batteries voltage, current associate degree heat conditions severally employing a Bluetooth and WIFI (microcontroller) on an ESP32. simply previous to the engine running request is formed, the batteries heat conditions and circuit current and voltage area unit has stored, coming after by the deposit of voltage and current usefulness drawn throughout engine running.

Key words:

Durability, alkaline activator, mechanical properties

Child Monitoring Using Geofencing and IoT

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Abstract:--

Child abuse and neglect are serious global problems which occurs in different situations, for a different range of reasons at different places. There are 90% of children undergoing devastating problem all over the world, where these factors may affect the child very seriously and cause a long-lasting, psychological damage. Everyone should be aware that victims of child abuse come from all socioeconomic background. Most of the abuse happens due to lack of knowledge and training in parenting skills. Preventing child abuse before it starts is possible and requires a cross-sectoral approach. In this project, we add up technologies such as IoT, NOIR camera and geofencing technique to reduce the child abuse ratio. This appears to be the best solution for parents to monitor their child activities and easy to find the abuser.

Key words:

Child maltreatment, Geofencing, IoT, ESP8266 Wi-Fi module, GPS module, NOIR camera, ThingSpeak.

Cloud based Real-Time Weather Monitoring System using Multi-hop Communication

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Abstract:--

Weather Monitoring plays a very important role in the growth and development of the human life. As the environmental conditions like temperature, humidity, air pressure, light intensity, etc., keep on changing every day, it is very important to collect and store this weather data for detecting changes in the climate and also feed the data as input into models which helps in forecasting the future changes in these weather parameters. The proposed work in the paper is an IOT based Weather Monitoring System to collect the real-time weather data and send the data to ThingSpeak server platform and simultaneously store the data to the Google cloud database known as Google Firebase. The objective is to design a system which is more energy efficient, comparatively economical, and requires minimal manual intervention. The main goal of the research is to use Multi-hop communication which is more energy as well as cost efficient method as compared to Single-hop communication for large scale Wireless Sensor Networks. Finally using "Node-Gateway" architecture we demonstrated Multi-hop communication as implementation of the IOT-based weather monitoring system. The system uses Wi-Fi as a medium for communication which makes the system consume very low power and requires less maintenance.

Key words:

Cloud, IOT, Multi-hop Communication, Weather Monitoring System.

Data Hiding Using Audio Steganography with Dwt Transform and Rc7 Encryption

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Abstract:--

Steganography is a process where the data will be ready to hide with a cover object is referred as so that the properties of the data which is hidden is going to change. Here the cover object that were using is an audio recording which is a speech signal and includes the RC7 encryption process for further better encryption of our secret message. Our project provides increased physical property since DWT reconstructs the signal info while not reducing or degrading the original content of the speech that has been used in this project. This proposed project is an extented version of ecisting FFT based steganography where we even added RC7 encryption for better encryption process and compared to the excisting project the proposed project algorithm is giving better results.

Keywords

MATLAB, Steganography audio, DWT transform, RC7 encryption

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