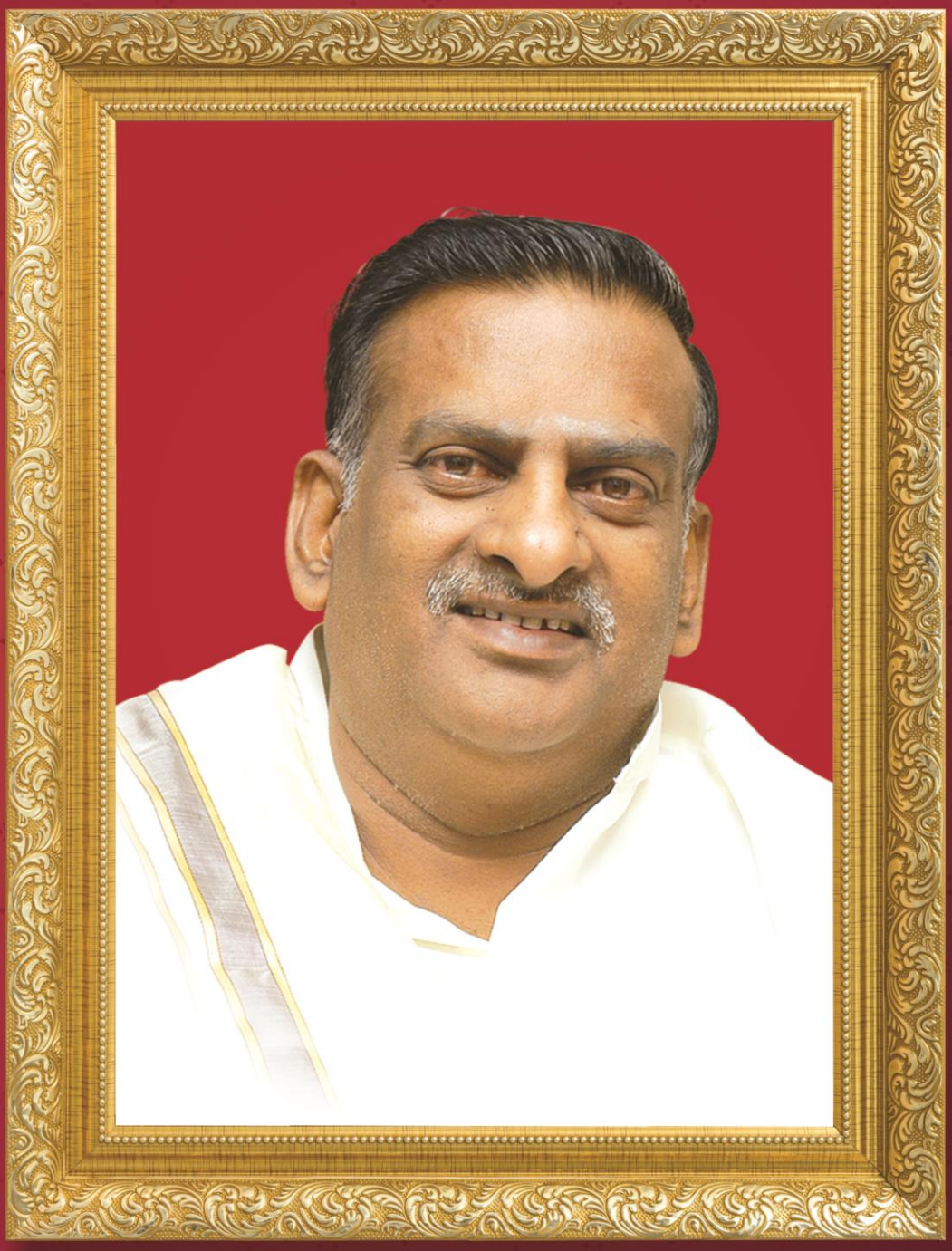

MJF. Ln. Leo Muthu

Founder Chairman - Sairam Institutions

The inspiration…

Born into a typical middle-class family, MJF**. Ln. Leo Muthu** began his career as a government employee and rose to become a highly successful entrepreneur Band made all his fortune from real estate business spread across south India.

Despite being a busy and highly successful businessman, he always found enough time and had the passion to serve the society. He always wanted to make a significant contribution to the society.

He was actively associated with the Lion's movement and was instrumental in starting "The Academy for Blind" and "Home for Aged" under the community service programme of the lions Club. Besides, he is also actively associated with a large number of educational, social and Medical activities in south India. It was his dream to build a school, and thus was born Sai matriculation school in the year 1989.it was established with the primary goal of providing educational services to all sections of society. And it marked the birth of Sairam Group of Institutions. It was just the beginning...

Many more institutions followed in the next few years. Sri Sairam College of Engineering was started in the year 1997 and ever since it remains as the flagship institutions of the Sairam group of institutions. In the span of two decades Sairam Group institutions has grown both in size and reputation. Today Sairam Group of Institutions with 23 institutions including 3 Engineering colleges, educate thousands of students every year in variety of subjects ranging from Engineering, Polytechnic to Indian System of Medicine and teacher training through exemplary and exceptionally skilled staff. Today, Sairam Group of Institutions has become a name synonymous with quality education.

Devoted and highly qualified faculty, well-equipped laboratories, full–fledged library, play ground, cafeteria and transport facilities are common features of Sairam Institutions. On the whole, a healthy atmosphere providing all-round education is what best describes a Sairam Institutions. MJF. Lion. Leo Muthu, has devoted his life to the cause Education and social activities. Through he is not with us today, the vision and values set by him will continue to guide us excel in the field of education.

In Short MJF. Lion. Leo Muthu is a man with golden dreams & a never–ending enthusiasm of converting dreams in to reality.

K.P. ANBALAGAN
MINISTER FOR HIGHER EDUCATION

SECRETARIAT
CHENNAI - 600 009.

Date.....

MESSAGE

It gives me an immense pleasure for the International Conference on "Computing, Communication and Control(ICCCC'20)" in association with IFERP organized by the Department of Information Technology, Electronics & Instrumentation and Instrumentation & Control Engineering of Sri Sairam Engineering College, Chennai to be held on 28th and 29th February 2020.

It is enthusing that the conference will no doubt provide you with a wonderful opportunity to integrate the innovative thoughts and developments in the field of information technology, electronics, instrumentation and control engineering. This portal incorporates the industry needs with the research ideas and innovations of the young minds. This will be a good opportunity for those who have thirst in learning the recent and emerging innovative technologies

This event is a platform to bring together the innovative minds towards the latest research and results of scientists (preferred students, post graduate students, research scholars and post-doc scientists) related to Information Technology, Electronics & Instrumentation and Instrumentation & Control Engineering.

I Appreciate the conference convenor and the team for organizing such a event, which would be a great platform for the students as it convergences networking and learning together.

K. P. Anbalagan 24/2/20

(K.P. ANBALAGAN)

ICCCC-2020

International Conference on Computing, Communication and Control

Chennai, Tamil Nadu

28th –29th February, 2020

Organized by:

Sri Sairam Engineering College

Chennai, Tamil Nadu

and

Institute For Engineering Research and Publication

Rudra Bhanu Satpathy.,
CEO
Institute For Engineering Research and Publication.

On behalf of ***Institute For Engineering Research and Publication (IFERP)*** and in Association with ***Sri Sairam Engineering College,*** Chennai, Tamil Nadu. I am delighted to welcome all the delegates and participants around the globe to ***Sri Sairam Engineering College, West Tambaram, Chennai, Tamil Nadu*** for the ***"International Conference on Computing, Communication and Control (ICCCC-2020)"*** which will take place from ***28th – 29thFebruary '2020***

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 **(SSEC & IFERP)** 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 ***Chennai, Tamil Nadu***

Sincerely,

Rudra Bhanu Satpathy

Preface

The "**International Conference on Computing, Communication and Control (ICCCC-2020)"** is being organized by **Sri Sairam Engineering College, Chennai, Tamil Nadu, India** in Association with **IFERP-Institute For Engineering Research and Publication** on the **28th - 29th February' 2020.**

Sri Sairam College of Engineering has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the divine city of Chennai in Tamil Nadu.

The purpose of this conference is to discuss applications and development in area of "Computing, Communication and Control" which were given international valves by Institute For Engineering Research and Publication (IFERP).

The International Conference attracted over 200 submissions. Through rigorous peer reviews 80 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 advise from our Advisory Chairs and Co Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

ICCCC-2020

MESSAGE

Sai Prakash LeoMuthu
Chairman & Chief Executive Officer
Sairam Institutions

I am very glad to appreciate the department of Information Technology, Electronics & Instrumentation and Instrumentation & Control Engineering of Sri Sairam Engineering College is organizing a International Conference on "Computing, Communication and Control(ICCCC'20)" in association with IFERP on 28th and 29th February 2020.

The world today needs ideal and novel ideas, as technology is rising very rapidly in all aspects. The theme of this conference is to bring together the innovative minds towards their emerging ideas and this conference serves a unique confluence of computing and communication technologies, internet of things, distributed computing and cloud computing, data analytics, circuit concepts under a roof. The main intention of this conference is to integrate interdisciplinary forum to deliver the best applications and research ideas.

Presenting the research community's innovative findings and exploring the network's imaginative discoveries is necessary for our society's growth, especially in research and development, as research plays a pivotal role in technolo gical development and thus guarantees improvement in the country's economic status.

I congratulate all the Steering Committee Chairs and members, Convenor & Co-Conveners and all other coordinators for their efforts towards organizing this International Conference admirably.

SAI PRAKASH LEO MUTHU

MESSAGE

Dr. A. Rajendra Prasad
Principal,
Sri Sairam Engineering College

I am very much delighted to observe that the department of Information Technology, Electronics & Instrumentation and Instrumentation & Control Engineering of Sri Sairam Engineering College is organizing an International Conference on "Computing, Communication and Control (ICCCC'20)" in association with IFERP on 28th and 29th February 2020.

ICCCC'20 has borne the mantle of technical improvements, committed to ensuring that the students have their own space to learn, grow and expand their perspective of information by revelling into differing spheres of learning. In our endeavour to highlight the standards of expectations, this technical International Conference will provide a prestigious international platform by bringing together local and overseas technical researchers and students to exchange their experienced knowledge and expertise issues relating to the dominating technology trends in order to meet with the changing needs of society.

I take this opportunity to welcome wholeheartedly and thank the distinguished keynote speakers, tutorial demonstrators and other delegates from various parts of the World for gracing this occasion. I congratulate the untiring efforts of the organizing team.

I WISH THE CONFERENCE ALL SUCCESS.

A. Rajendra Prasad

Dr. A. RAJENDRA PRASAD

MESSAGE

Dr. T. Sheela
Convenor & HOD/IT

Department of Information Technology, Electronics & Instrumentation and Instrumentation & Control Engineering of Sri Sairam Engineering College is proud and elated to organize the International Conference on "Computing, Communication and Control(ICCCC'20)" in association with IFERP on 28 th and 29 th February 2020.

The ultimate goal of organizing this conference is to share and enhance the knowledge of people belonging to various interdisciplinary domains. We have also provided a platform for those who have a thirst in learning the present technological developments and also share their ideas. Furthermore, this conference will motivate the participants to explore and share various novel ideas. ICCCC'20 offers a superior forum for scientists, scholars, educators, engineers and students to express their views and perspectives and provides an environment for the exchange of knowledge

On behalf of the ICCCC'20 organizing committee, I am glad to welcome all the participants from various part of the world to stimulate the global research, recent developments, challenges and emerging trends in the field of Information, Communication, Electronics, Instrumentation& Control Engineering.

I wish to thank all the eminent speakers of the various sessions and would like to extend my greetings to all the committee leaders and members for coordinating this event with their tremendous effort and thus making this conference a great success.

I hope all the participants find this conference informative and productive

Dr. T. SHEELA

Message from Convener

Dr.Adiline Macriga. G

Professor

Department of Information Technology

Sri Sairam Engineering College

MESSAGE:

It gives me a great pleasure and truly delighted to welcome all the delegates to the International Conference on "Computing, Communication and Control(ICCCC'20)" organized by the Department of Information Technology, Electronics & Instrumentation , Instrumentation and Control Engineering of Sri Sairam Engineering College in association with IFERP during 28th and 29th February 2020

I truly believe that this auspicious event would be a great platform for all with the same vision and mission, get together to share, discuss and network the emerging trends in the field of Information, Communication, Electronics, Instrumentation & Control Engineering. We are delighted to have you all here to participate and be a part of this International conference.

The conference aims to bridge the researchers working in academia and other professionals through research presentations and keynote addresses in current technological trends. It reflects the growing importance of intelligent Computing and communication systems as a field of research and practice

The theme of our conference 'Computing, Communication and Control, is to bring together the innovative minds towards the latest research and results of scientists related to Information Technology,Computer Science & Engineering, Electronics, Instrumentation and Control Engineering.

I would like to thank all the delegates who have come here all around the world to attend this grand event. On behalf of the committee, I would like to thank the management for being an upper hand and all ears to all our requirements and suggestions for this conference.

I thank the support of all authors, reviewers, IFERP office bearers and the committee members who have been the pillars of support for organizing this event with their incredible effort and thereby making this conference a great success.

Wishing all authors a pleasant stay in our campus and great success.

Dr.Adiline Macriga. G

ICCCC-2020

International Conference on Computing, Communication and Control

Keynote Speaker

Sanjay Hotwani

Senior Manager - Data Science

Cognizant Technology Solutions

Bangalore

MESSAGE:

I am very happy to be a part of the International Conference on Computing, Communication and Control (ICCCC -2020) I wish to convey my felicitations to the organisers and to all the participating delegates for their efforts into the planning of this two day conference among the scientists, engineers, and technocrats. It gives students/ scholars/ academicians/ industrialists/ experts from various agencies a right platform to have an insight into recent challenges in Engineering Technologies with regards to the present trend of cutting-edge developments, in true sense, a transdisciplinary applications for holistic and sustainable development of the world class society as a whole.

This Conference will provide an excellent international forum for sharing innovative views, knowledge and results in recent challenges in Engineering Technology. The aim of the Conference is to provide a platform for researchers and practitioners from both academia as well as industry to meet and share cutting-edge development to culminate and contribute holistically in all countries world over to deal with ever-increasing demand of the technological advancements for sustainable development of the world. With the acceleration in the efforts of interaction of almost all Industries and Institutes in the recent times by the initiative of various Government and Non-Government organizations throughout the world, I hope that this conference provides informative and innovative ideas to all the participants. Ground-breaking deliberations of various scholars and experts will further inspire the current and future generations to contribute their best. I look forward to the recommendations of the deliberations as useful inputs towards better understanding of the problems, issues, challenges and probable initiatives.

I extend my warm greetings and best wishes to Sri Sairam Engineering College, Institute For Engineering Research and Publication (IFERP) and all the participants for the grand success of the above Conference.

Sanjay Hotwani

ICCCC-2020

International Conference on

Computing, Communication and Control

28th – 29th February 2020, Chennai, Tamil Nadu

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ICCCC-2020

International Conference on Computing, Communication and Control

Chennai, Tamil Nadu
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ABSTRACTS

ICCCC-2020

Organized by

Sri Sairam Engineering College, Chennai, Tamil Nadu
and
Institute For Engineering Research and Publication (IFERP)

Sensor-Based System for Automatic Cough Detection and Classification

A. Jasmine, Department of Biomedical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai, Tamil nadu, India.
A.K. Jayanthy, Department of Biomedical Engineering, SRM Institute of Science and Technology, Kattankulathur, Chennai, Tamil nadu, India.

Abstract:--

Cough detection and evaluation are important tools for the analyzing case studies in chronic diseases. In written work, a number of approaches have been suggested for this aim. This paper introduces a new system that disposes of a prototype for data obtained, and software for utilizing the obtained data for cough detection, visualization and classification. Our prototype contains sensors such as Oximeter, ECG, Thermistor, accelerometer and audio microphones. The sensors are analyzed within the three features: Mutual information acquired by the features, it accesses to distinguish cough from other disturbance, it has the capability to detect the cough. The cough obtained are visualized and arranged accordingly to their resemblance in terms of audio belongings such as timbre, cough time span and signal energy.

Keywords:

Cough detection sensors: ECG, Oximeter, Data Acquisition, Audio Signal.

Design of Three Stage CMOS Operational Amplifier Using 180nm Technology

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Saahil Singh, Electronics and Telecommunication Engineering, Vidyalankar Institute of Technology, Vidyalankar Marg, Wadala(E), Mumbai
Nikhil Prasad, Electronics and Telecommunication Engineering, Vidyalankar Institute of Technology, Vidyalankar Marg, Wadala(E), Mumbai
Mukhtar Khan, Electronics and Telecommunication Engineering, Vidyalankar Institute of Technology, Vidyalankar Marg, Wadala(E), Mumbai
Satendra Mane, Electronics and Telecommunication Engineering, Vidyalankar Institute of Technology, Vidyalankar Marg, Wadala(E), Mumbai

Abstract:--
This paper presents step-by-step procedure to design the three stage CMOS operational amplifier (Op-amp) using 180nm technology. Operational Amplifier is highly used in analog and mixed-signal systems. Op-amp is categorized into three stages. The fundamental need of high input impedance at first stage and additional voltage gain with lower current gain by second stage may be full filled, so for improving the current gain three stage op-amp is used, as the third stage provides high voltage gain as well as high current gain.

Keywords:--
op-amp, CMOS 180nm technology.

Automatic Accident Detection System in Smartphone

Ayesha Naaz. Z, B.Tech (Information Technology), Department of Information Technology, School of Computer, Information and Mathematical Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, Tamil Nadu, India.
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Dr.L.Shakkeera, Assistant Professor (Selection Grade), Department of Information Technology, School of Computer, Information and Mathematical Sciences, B.S. Abdur Rahman Crescent Institute of Science &Technology, Chennai, Tamil Nadu, India

Abstract:--

In urban cities, as the usage of automobiles are cumulative extremely, the exposures of two and four wheeler vehicles are furthermore enlarged. The main reason for the misfortunes are due to high speed, drunk and drive by people, charming minds, over stress and tension because of the electronic gadgets like mobile phones and ipads. The poor emergency facilities offered in our country simply raise this downside. The proposed work is to develop the automatic accident detection system who is driving the vehicle carelessly. The proposed system implies accident alerting system that signals the individual who is driving the vehicle imprecisely. Suppose if the person in not in an extremely situation to manage the vehicle then suddenly accident happens. Once the accident transpires to the automobile, then the system sends the immediate info to the registered mobile number range. Vehicle accidents measure one in all the foremost leading causes of fatality. The time amongst an accident prevalence and therefore the emergency medical workforces' measure sent to the accident scene is that the necessary think about the survival rates once an accident. By eliminating that point between associate degree accident prevalence and therefore the paramount responders are sent to the prospect decreases humanity rates so that will save the lives of people. The proposed system is delineating the most application of that is early accident detection. During this system, at first the GPS ceaselessly takes input file from the satellite and stores the latitude and meridian values. Arduino board contains Vehicle Accident Alert System victimization GPS, GSM and measuring instrument. Measuring instrument detects the sharp amendment within the axes of auto and GSM module and sends the alert message on your mobile with the placement of the accident. The proposed automatic accident detection system created to save our day to day lives easier.

Keywords

Traffic accident detection; Onboard sensors; Smartphone; Emergency responder; Location tracker

A Knowledge Based Recommendation System for Psychological Issues using Sentiment Analysis with Sarcasm Detection

Dr. P. Sanju, Assistant Professor, University College of Engineering, Tindivanam
T. Deepa, UG Student, University College of Engineering, Tindivanam
S. Ishwarya, UG Student, University College of Engineering, Tindivanam

Abstract:--

All of us are very well aware of the Online Social Networks (OSN) that we are using in our daily life. It is a way of expressing our views and opinions on various themes. Hence it provides relevant information that can be used for recommendation purpose. This paper presents an implementational idea for an Effective Knowledge Based Recommendation System (EKBRS) that detects psychological issues like stress and depression. Based on sentiment analysis the EKBRS is activated to send motivational and happy messages and quotes to the users. It also includes a mechanism to inform people close to the users (friends and family) regarding their mental health via warning messages. In the existing paper there has been a limitation where sarcastic statements are not considered. Hence this paper focuses on detecting sarcasm in a sentence and then performing necessary steps to detect depression and sending the messages and quotes. The sentences denoting depressive or stressful content are detected using Convolutional Neural Network (CNN) and a Long Short-Term Memory (LSTM) - Recurrent Neural Networks (RNN).

Key words:

Deep Learning, Machine Learning, Recommendation System, Sarcasm, Sentiment Analysis, Social networks.

Design and Implementation of PSO based PI controller for Luo Converter

Dr.B.Achiammal, Assistant Professor, Dept. of Electronics & Instrumentation Engineering, Government College of Technology, Coimbatore
Dr. M.Dhinakaran, Associate Professor, Dept. of Electronics & Instrumentation Engineering, Government College of Engineering, Salem
N.Dhanasekar, Professor, Dept. of Electrical & Electronics Engineering, A.V.C College of Engineering ,Mayiladuthurai.

Abstract:--

Positive Output Elementary Luo converter (POELC) is one of the DC-DC converter. Due to the time-varying and switching nature of the converter, its dynamic behavior becomes highly non-linear. Conventional PI controller has unsatisfactory dynamic performance for such converter and Particle Swarm Optimization algorithm based PI (PSO-PI) controller has been developed to tune the PI parameters. In this paper, design and implementation of ZN-PI controller and Particle Swarm Optimization algorithm based PI (PSO-PI) controller using TMS320C5420 DSP have been developed and experimental results of the above converter under supply disturbances and load disturbances are presented and analyzed.

Keywords:

PID controller, DC-DC converter, Luo converter and Soft computing techniques and optimization techniques.

K-Means Clustering using Nature-Inspired Optimization Algorithms-A Comparative Survey

K. Durga Bhavani, Department of Computer Science & Engineering, Amrita School of Engineering, Coimbatore, Amrita Vishwa Vidyapeetham, India
Dr. Radhika N, Department of Computer Science & Engineering, Amrita School of Engineering, Coimbatore, Amrita Vishwa Vidyapeetham, India

Abstract:--

In the past few decades, an in depth and extensive research has been administered on K-Means to combine with genetic and nature-inspired optimization algorithms for clustering. As conventional K-Means have drawbacks of stalling out at nearby optima which is needy upon the arbitrary estimations of the underlying centers of the clusters. Optimization algorithms usually search the entire search space for an optimal solution by maintaining a strategic distance from the neighborhood optima. These help to accelerate the clustering procedure with various searching algorithms incorporating Firefly, wolf, ANT, Cuckoo and BAT are some of the strategies that the optimization algorithms use to move quicker to find the ideal solution. These purported bio-enlivened techniques have advantages and disadvantages based on the attributes they use in their search behavior. In this paper a detailed study of K-Means combined with optimization algorithm along with their performance metrics such as network lifetime, energy efficiency, intra-cluster distances, F-measure, accuracy and so on are explored. Findings specify that Whale Optimization algorithm alone gives better results in almost all the metrics specified in wireless Sensor Networks but did not excel in parameters of clustering such as intra-cluster distances, F-measure and accuracy. So, after keen study a WOA combined with K-Means clustering to select cluster heads in a Wireless Sensor Network is initiated for improvements in all the metrics.

Keywords:

Selection of cluster head, K-Means, Firefly, ACO Algorithm, PSO algorithm, Whale Optimization Algorithm, Wireless Sensor Networks (WSN), Network Lifetime.

Data Science Approach for Social Media Analytics

Kavya.V, Department of Computer Science and Engineering, Amrita School of Engineering, Coimbatore, Tamil Nadu, India
N. Harini, Department of Computer Science and Engineering, Amrita School of Engineering, Coimbatore, Tamil Nadu, India

Abstract:--
Today there is an exponential growth and widespread dependence of users on digital social media. Deep learning has gained increased attention because of its huge processing power and data analytics capability. Many works in the literature has focused on risks associated with sharing sensitive data using Machine learning models to understand human behavior. An attempt has been made in this work to evaluate the performance of Deep learning model to understand human behavior. The experimentation results clearly reveal that Deep learning models provide a better prediction for controlling the dynamics of information spread among peers.

Keywords:
Deep learning, Machine learning, digital social media.

Expert System Design for Offline Handwritten Character Recognition Using Bayesian Neural Network

N. Leo Bright Tennisson, Assistant Professor [Sr.G], Department of Computer Science and Engineering, SRM Valliammai Engineering College, Kattankulathur, Kancheepuram District

Abstract:--

Handwritten Character Recognition is one of the problem for which finding absolute or exact solution continues to be complex and difficult process. Moreover Offline Handwritten Character Recognition is less accurate compared to online Handwritten Character Recognition. In this paper, I propose a design of an expert system that takes into account various parameters as input through Bayesian Network, which analyzes these parameters based on threshold value and other mapping history if available for the particular Handwriting pattern, together with expert's decision parameter and then decides the character match using the Artificial Neural Network. The proposed process improves the accuracy of Character recognition and reduces the error when compared to previous works in this domain.

Keywords:

Offline Handwritten Character Recognition, Bayesian Network, Artificial Neural Network

Intranet Mailing Management System

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Judi Grace Raj S, B.Tech (Information Technology), Department of Information Technology, School of Computer, Information and Mathematical Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, Tamil Nadu, India.
Dr.L.Shakkeera, Assistant Professor (Selection Grade), Department of Information Technology, School of Computer, Information and Mathematical Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, Tamil Nadu, India.

Abstract:--
An internet mailing system is commonly used to establish communication between two users. This pay the way to communicate from any location at any time. But when it comes to an intranet mailing system, the system is to provide security to communicating data that have been exchanged by the uses in the day to day lives. Internet can be used widely by any people around the world and intranet mailing system is established inside an organization to provide highest security in exchange of data. Although electronic mail system using an internet is unique and important and thriving application service, nowadays in many organization they adapt intranet mail services for their application services. This happens because of the security provided to the exchange of data during the communication between the employees of different departments. The proposed intranet mailing system expedites mailing among the consumers of an intranet. We have intended and employed an SNMP manager and SNMP agent system that can accomplish the internet mail server systems. Size of an organizations are increasing rapidly. So according to the size of an organization there are many departments in it. Hence in a fast growing size of the organization the information are needed to be delivered debauched as possible. The information can be proficient by transient the information's so rapidly and this intranet mailing system also provides fast delivery of information's which will help the organization to get rid of delay and inconsistency of information's. The user can use this internet mailing system to send and receive messages they can also create their own account through which they can manage the mails they are receiving and sending. The main purpose of this proposed work is to progress efficient intranet mailing system inside an organization.

Keywords –
Intranet Mailing System; SNMP; MIB; MTA Server & Manger System

Prediction of Cutting Force in End Milling Process of AISI 304 Steel Using Response Surface Methodology

Muthiah A, Professor, Mechanical Engineering, P.S.R. Engineering College. Sivakasi, Tamilnadu, India
S.Kalidass, Professor, Mechanical Engineering, P.S.R. Engineering College. Sivakasi, Tamilnadu, India
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Kajihkumar, Professor, Mechanical Engineering, P.S.R. Engineering College. Sivakasi, Tamilnadu, India

Abstract:--

In the present study, an attempt has been made to experimentally investigate the effects of cutting parameters on cutting force in end milling of AISI 304 steel with solid carbide tools. Experiments were conducted based on four factors, five level central composite rotatable designs. Mathematical model has been developed to predict the in feed force in terms of cutting parameters such as helix angle of cutting tool, spindle speed, feed rate and depth of cut. Response surface methodology was employed to create a mathematical model and the adequacy of the model was verified using analysis of variance. The direct and interaction effect of the process parameters with cutting forces were analysed, which helped to select cutting parameters in order to keep cutting forces minimum, which ensures the stability of end milling process.

Keywords:

End milling; helix angle; in feed force; AISI 304 steel; Response surface methodology.

Ultra Low Power Implementation of Trivium Stream Cipher for IoT Hardwares

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G. Saravana Prabhu, UG Student, Department of Electronics and Communication Engineering, SNS College of Technology, Coimbatore, India
S. Rathish, UG Student, Department of Electronics and Communication Engineering, SNS College of Technology, Coimbatore, India
M. Vinnarasi, UG Student, Department of Electronics and Communication Engineering, SNS College of Technology, Coimbatore, India
G. Naveen Balaji, Assistant Professor, Department of Electronics and Communication Engineering, SNS College of Technology, Coimbatore, India

Abstract:--

Internet of Things (IoT) were expanding even as the devices it's composed of are shrinking, which brings with it a whole new set of challenges. Wireless sensors that can last months, years, even decades without running out of power are vital to the future of IoT. But it all depends upon of a combination of efficient hardware, smart software, and the right networking technologies. The major concerns of IoT are the security and privacy issues which consists of the huge amount of personal, sensitive, or safety-related data's that are being processed in these systems. Ensuring security in these IoT hardware systems poses additional challenges than in computers, because of power, area and cost constraints and physical accessibility by attackers. Hence with such posed challenges it can be solved by designing lightweight symmetric encoding and by implementing it in which is emerging in IoT low power applications with flexibility in the stream ciphers which are portable and simultaneously acting as wireless systems. The work done here describes the implementation of trivium stream cipher by using the method of parallelization techniques with efficient reduction in the power consumption and area.

Keywords:

IoT hardware, Wireless sensor, Networking, Trivium, Very Low power, Ciphers.

Surveillance based on Representation learning using Generative Adversarial Networks

Nibi Maouriyan, SRM Valliammai Engineering College
S Shanthi, SRM Valliammai Engineering College
Aravinth Krishna KN, SRM Valliammai Engineering College
Mukilan E, SRM Valliammai Engineering College

Abstract:--

Face recognition is one of the most widely studied topics in computer vision due to its wide application in law enforcement, biometrics, marketing, and etc. Recently, great progress has been achieved in face recognition with deep learning-based methods. However that it does not offer a high degree of pose variation—the variance that has been shown to be a major challenge in face recognition. The face recognition also fails when the Face is covered with arbitrary masks. To overcome these challenges,we propose a surveillance system using Disentangled Representation learning-Generative Adversarial Network (DR-GAN), which can be grouped into two categories. First, we employ face implanting which reconstructs an image which is masked or noisy. Second, some work employs face frontalization on the input image to synthesize a frontal- view face, where traditional face recognition algorithms are applicable, or an identity representation can be obtained via modeling the face frontalization/rotation process.Together they can be used to search/detect a human face with only masked or profile image as input.We use a self collected dataset of Indian Faces to improve accuracy on Indian Faces.

Index Terms:--

Representation learning, generative adversarial network, face inplanting, surveillance pose-invariant face recognition, face rotation and frontalization.

Comparative Analysis between Energy Detection Method and Matched Filter Detection for Spectrum Sensing in Intelligent Network Intended towards 3G/4G/VOLTE

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Abstract:--

Spectrum scarcity has been the major problem in this digital world, as there is an exponential increase in the wireless devices. Also, there is under-utilization of allocated spectrum by the primary users (PU). This problem can be overcome by an intelligent radio network called Cognitive Radio (CR). The CR helps in detecting the idle spectrum in the environment and thus allocating it to the Secondary Users (SU). Spectrum Sensing plays the vital role in the Cognitive Radio to allocate the idle spectrum for SU. The major and prominent spectrum sensing methods include Energy Based Detection(EBD), Matched Filter Detection(MFD), Cyclostationary Feature Detection(CFD), Covariance Based Detection(CBD) and Wavelet Based Detection(WBD). This paper discusses comparative analysis between Energy Based Detection and Matched Filter Detection for spectrum sensing. In energy detection method the power spectral density of received signal is compared with fixed value defined by receiver configuration whereas match filter detection based on dynamic allocation.

Keyword:

Cognitive Radio; Energy Detection; Matched Filter Detection; AWGN; Snr ; Power Spectral Density; Sensing Performance; Non Cooperative Sensing.

GUI Based Prediction of Breast Cancer Stages Using Machine Learning Method

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Abstract:--

Breast cancer (BC) is one among the foremost common cancers among women worldwide. Our analysis provides a comprehensive guide to sensitivity analysis of model parameters with regard to performance in detection of breast cancer stages by predicting result in the form of dataset attributes. The sample is taken by an invasive technique can be easily digitized and used for computationally based diagnostic. Using machine learning methods for diagnostic can significantly increase processing speed and diagnostic significantly cheaper. The analysis of dataset by machine learning algorithm to capture several information's like, variable identification, univariate analysis, bivariate and multivariate analysis, missing value treatments etc. The main objective is to predictive analytics model to diagnose breast cancer stages of patients with selecting the highest accuracy result of supervised machine learning algorithm to improvise the prediction by machine learning method. Additionally, discuss the performance from the given hospital dataset with evaluation classification report and identify the confusion matrix. The data validation, data cleaning/preparing and data visualization are going to be done on the whole given dataset. The result shows that the effectiveness of the proposed machine learning technique can be compared with best accuracy with precision, Recall and F1 Score.

Index Terms: –

Dataset, python, Prediction of Accuracy result.

Analysis on the Performance of Some Standard Deep Learning Network Models for Question Answering Task

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Abstract:--

Question Answering (QA) system is a field of Natural language processing, which allows users to post questions in natural language sentence and return a short and precise answer to the users rather than a set of documents. This work aims to evaluate three deep learning models RNN, LSTM and GRU on question answering tasks. The use of deep learning networks allows us to expand and apply these models to a variety of question answering tasks. In this work, we implement three deep learning model based question answering systems and evaluate their performance with a simple and complex question answering tasks from bAbI dataset. We will study the performance of training and testing with suitable metrics and find the difference in performance in the two question answering tasks.

Keywords:

NLP, QA, Deep learning, RNN, LSTM, GRU bAbI Tasks .

Energy based Voice Activity Detection algorithm for Speech Recognition using Python

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Abstract:--

Voice Activity Detection (VAD) is method to segregate the noisy speech signal into speech and non-speech signal chunks. This segregation helps in efficient understanding of the speech input that actually originates from the noisy background. More number of techniques and algorithms have proposed to enhance this method. The most prominent techniques that gives best results are those that are energy based methods that implements log normalization of the speech signal. During this normalization method the peak signals are estimated to be the noise and they are chopped in the denoised signal band. We propose a similar energy based method with more efficiency in chopping the noise signal and also this proposal ensures that there is a consistent reduction in the percentage of speech signal that usually gets chopped along with the noise pattern. The energy based VAD methods are comparatively simpler to implement and requires less computing steps. This proposal extends to implement the techniques using the speech recognition modules of python.

Index Terms -

VAD, webrtcvad, matplotlib, de-noise

Integrity Preserved Multifactor Authentication Based Automated Ticketing System

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Abstract:--

The growth of the new technologies and inculcated in services has enabled extension of manual service counters to technology-driven service counter without human intervention. Today, self-service technologies have attracted customers. This facilitates a user to avail services independent of employee involvement. Examples of self-service technology include ATM, vending machine e.t.c.An automated service that supports innovative ticketing is proposed in this paper. The proposed concept supports cloud-based storage of passenger, schedule and ticket details. To ensure data integrity the payment transactions are stored in the blockchain. The UI design has been built as a web app and tested with a selective group of users. The removal of the data entry part at the time of requesting/deleting a ticket is replaced with a QR scanning module to avoid wastage of time and human errors during user input. The system uses a tokenless factor (Mobile phones) to complete the ticket requisition and payment.

Keywords:

Transaction, Blockchain Technology, Bitstreams, Decentralization, Gensis Block, Qr-Code, Hash-Functions, Protocols, Distributed Ledgers.

Speech Enhancement using Spectral Subtraction for Noise-Suppressed Speech Signal

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Abstract:--

In this paper, we propose an intelligibility measurement, which can predict speech in noisy conditions. The aimed method depends on the spectral subtraction technique. Based on SNR loss measurement obtained in each critical band represents noise suppressed and clean speech signals after the noisy signal is processed through speech enhancement technique. A number of 440 processed speech samples were admitted in the correlations, three dissimilar types of background noise and speech distortions are introduced by speech enhancement algorithms. The objective assesses were tested in a total of 10 noisy environments which includes processed sentence. The proposed assesses are measured using a number of ten noisy circumstances. The ten circumstances admitted distortions introduced by dissimilar noise unprocessed and noise-suppression methods functioning at two SNR levels (0 and 5 dB). The scores found by human auditors in the circumstances (Hu and Loizou, 2007) were applied in the present analyze to assess aimed objective measures.

Keywords-

Spectral Subtraction on Signal Distribution, SNR Loss

Drillship response on different Loading Condition

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Abstract:--

A drillship is a self-propelled vessel, specially designed to perform the offshore drilling operation. The drilling operation performed through the opening from the continuous deck to keel, called moonpool. This moonpool opening and different loading conditions play a major role in vessel response. Through the opening, water can enter up to the main deck. This water entry to the deck makes the problem to the crew members working on the deck. The drillship is in different loading conditions like transit, harbor, operating condition, etc. All these conditions the draft of the vessel may change. The continuous changes in loading condition the response of the vessel get change with the encounter waves. During transit conditions, this moonpool opening increases the vessel resistance. This is due to the water motion inside the moonpool. In this paper, the vessel response is numerically calculated with the consideration of a rectangular moonpool and the results are compared with the bare hull response. Also, the response of the drillship is calculated with the consideration of different loading conditions. Numerical study shows that the loading condition of the drillship and the water motion in the moonpool are the key parameters of the vessel response.

Index Terms—

Response,Drillship,Moonpool,resistance

Predictive Modeling of Alzheimer's Disease using Machine Learning Methods

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Abstract:--

Now a days, in medical engineering field, image segmentation is a significant research challenge. To diagnose the brain tumors using medial image fusion technology. The classify Alzheimer disease which can be present or not, the segmented brain images very much useful to visualize the volume and analyze the structures. The advancement of Magnetic Resonance Imaging (MRI), the brain tissues has a use in neurosurgical research. The segmentation process refers to the labeling of pixels into different regions. Anatomical structures are labeled and grouped within different slices to produce 3D descriptions of these structures. The proposed method include pre-processing, segmentation, feature extraction and predictive modeling. The work focuses on to detect any subtle changes in the volume of the brain. Finally, a single fused image from integrating multiple sources images are used to reduce uncertainty and redundancy. With different vision, the CNN classification uses to irritability two images. When compared to source images, the merged images are more instructive. From merged images, the wavelet and texture features are extracted for classification. The classification method classifies the Alzheimer's disease from trained and tested features. The proposed system also discusses about predictive modeling with ensemble and deep learning methods. Experimental results proves that the proposed model illustrates improved performance analyze when associated with the predictable fusion and modeling techniques.

Keywords

Pre-processing; Fuzzy C-means; Feature Extraction; Convolutional Neural Network; Ensemble Learning; Predictive modeling; Deep Learning;

Investigation of Low Power Consumption Techniques in a Design of 8T Symmetrical SRAM Cell

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Abstract:--

Low power design has a vital role in the production of system on chips (SOC). So, every circuit is to be low power design. The Static random access memory (SRAM) is vastly used memory cell in consumer electronics. So, it is need to be a ultra-low power design. To obtain low power SRAM cell need to apply low power techniques. Firstly, Design the 8T SRAM cell check it's write and read operation for that 4×4 SRAM array is to be designed, The essential circuits required to design SRAM array are 2:4 Decoder, Pre-charge, Write Driver, Sense amplifier after this initiate the implementation of low power techniques to the SRAM cell. Here three low power techniques are designed i.e. Multi Threshold-CMOS, Variable Threshold-CMOS and Data Retention Voltage using 180nm CMOS technology. The simulation results and graphical plots demonstrate the most suitable low power technique to reduce the dynamic power consumption of 8T Symmetrical SRAM cell.

Keywords:

Low power, Static random access memory (SRAM), SRAM Array, Multi Threshold CMOS Technique, Variable Threshold CMOS Technique and Data retention voltage Technique and Static Noise Margin (SNM).

Evaluation of the Performance of Tiny YOLOv3 based Drone Detection System with Different Drone Datasets

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Abstract:--
There are increasing use of commercial drones everywhere. These drones are used for different purposes in different domains. A few of its uses are carrying goods, monitoring crowd, and providing security. Sometimes it may be used for capturing information from secured areas by trespassing. In our earlier work, to eradicate such security threats, we have analyzed the existing techniques for flying object detection and classification and designed a robust system based on YOLO object detection algorithm. In this work, we evaluated the performance of Tiny YOLOv3 based drone detection system with different datasets of different sizes. To measure the performance, we used different metrics. The arrived results proved the significant improvement of Tiny YOLOv3 in performance.

Index Terms
Convolutional Neural Networks, Deep Learning, Object Detection, Unmanned Aerial Vehicles, YOLO.

An Integrated Framework for High-Resolution Urban Flood Modelling Using Geospatial Technology: A Case Study of Adayar Sub Basin

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Abstract:--

Recently, the water disaster in cities especially in Chennai cities is more thoughtful, due to the coupling influences of waterlogging and regional floods. So, a need is felt to use high accuracy terrain data for accurate mapping in urban flood environment. With the advent of LiDAR technology accurate ground data i.e DEM of 1m resolution is prepared for flood risk mapping. In this study the main objective is to generate flood inundation maps using DEMs (LiDAR), hydrodynamic models for the preparation of flood risk mapping for the year 2005 and 2015 of Adayar sub basin. From the results it is found the runoff process of the existing drainage network, is significant which illuminates that the waterlogging risk in this zone of Thiru vi ka watershed is higher. Therefore, remodelling drainage pipeline network in the study area is performed. At last this research provides the flood mitigation solution by revising the size of the drains. The solution supports both technical and decision-making aspects to local storm flood management, also gives an insight for the similar cities.

Keywords:

Thiru vi ka watershed, Hydrodynamic model, Time area method, Flood mapping.

Implementation of Self Cascode based Efficient Charge Recovery Logic for Ultra Low Power Applications

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Abstract:--

Recent trend in VLSI design is reducing channel length of MOSFET continuously for small IC and due to this, the issue of power consumption is the subject of worry in ultra low power circuit design. An idea of self cascode based efficient charge recovery logic working in sub threshold regime is introduced for design of MOS digital library cells. This novel approach is efficient in low speed operations where power consumption is the pivotal concern instead of performance. In this paper, 70 nm technology model file available from predictive technologies is used to find power and delay results. These simulation results show comparison between different parameters such as power dissipation and delay and illustrate the proposed logic cell has improvement of 23.3 % and 27.9 % in terms of power dissipation at operating frequency of 0.5MHz and 0.01 MHz respectively . These improvements confirm that proposed logic i.e. SC-ECRL can significantly reduce the power dissipation in new design when compared to the original ECRL and conventional CMOS design techniques.

Keyword:

Charge recovery logic, Self cascode, Low power, ECRL

Support to farmers for getting maximum profit for their produce – A field to Market Application (F-M APP)

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Abstract:--

Agriculture contributes for about 18% of total GDP of India. But farmers tend to move away from their practices to find better income and economic growth in their life. The income of the famers has decreased drastically over the past years as they do not have the proper channel for marketing their produce. This has proved to be the factor that favours the landlords and money lenders to gain possession over their agricultural products at a very low cost and obtain a large profit from it. This also reflects the inability of farmers to obtain the righteous profit from their produce. Another major problem is the unavailability of transport at the right time to help deliver the products with a sustainable shelf life. The main aim of our paper is to reduce the unbalanced accumulation of the profit from perishable farm produces for the traders and the sellers and help maximize the income level of the farmers. This system has been implemented by considering the entire supply-demand eco system and it also helps avoid product wastage. Many unbalanced situations occur in the nation-wide marketplace, like heavy demand for certain products that are totally disregarded and wasted in some other place where the production is high, due to improper channelling.

Wireless Memory Access Point (W-Map)

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Abstract:--

Amount of Data generated and its access is a big concern today. Though the usage of cloud is very popular for Data storage, it requires the internet to access the repository. The purpose of this work is to make a device to share and stream data to peers of a wireless network without the internet. The Device acts as an access point so that other devices can connect to it and access the shared data. It works on the RDMA [1] (Remote Direct Memory Access) Principle of Zero Copy, by enabling the Created hotspot to transfer data and eliminating the need for copying data between the devices. Such transfers do not require CPUs, caches, or context switches of a dedicated device and the transferring continues in parallel with other system operations. The data to be transferred is fed into the fabricated device. The device acts as a server and makes the data available to the clients, connected to the network. It allows devices connected to the same network to access files as if they were on the user's local hard drive. Simultaneous data access and transfer is possible with the help of smb protocol. SMB [2] is a request-response protocol which transmits multiple messages between client and server to establish a connection. The device is perfect for meetings as the user can share business reports, presentations and other documents with the intended user. This device also acts as a virtual external hard disk with faster access which ensures large backup Memory.

Keywords-
RDMA, Parallel Access, SMB.

MOM [Mobile Operated Motorbike]

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Abstract:--

Both automobile sector and IoT sector will have a great demand in next few years. The end user demands for these products are as high as it will always be. We propose here an environmentally safe, smart bike powered by IoT. The proposed system will connect your mobile with the bike. These bikes will be GPS enabled and it will direct where your next charging station is, what the weather in your destination is, How much time you have till you run out of battery and most importantly the route to your destination. The proposed system also has an OTP and pattern matching functionality to open and lock the vehicle using IoT.

Keywords –

smart bike, IoT enabled bike, GPS enabled bike, OTP and pattern lock and unlock enabled safe electric bike

An Aid for Novice through Data Analytics

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Abstract:--

A huge number of methods to inculcate a thorough knowledge on a specific topic are available of which E-Learning or learning through online is mostly used. So, the need for an online tutoring system that would assist the learners to get information is growing rapidly. This system, we are going to assist learners in a way that they will get a clarification on any topic on which an ambiguity was upon through the use of data analytics. As same as E-Learning, it provides lucidity on a certain topic through the help of videos, but the videos are supervised by the emotions of the user. After playing the video, the emotions of the user are detected. After detecting the various emotions of the user, the analysis of these emotions take place of which the system then decides whether to activate a recommendation system or not. These videos, if recommended by the system will be in a more comprehensible level. This system is purely based on the emotions of the user at the time of the video is being played. The whole system is presented in the form of a web application to the user. There is also an option of choosing the language for the video to be played.

Keywords:--

Image recognition, emotion detection, data analytics, recommendation system, web application.

Child Labour Abasement Project (CLAP)

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Abstract:--

The main aim of our paper is to reduce child labour and make compulsory education for all children. When compared to urban areas, most of the children in remote areas are not attending school. Census for child labour is also taken only after 10 years. In our project, we identify the children who are not attending schools and census is also taken on a yearly basis so that we can ensure the growth of education system and the enrolment of children in schools. We create a login for all schools so that they can upload the birth certificate after which it is scanned and compared with the previously registered birth certificates given at the time of child birth. The certificates which are found unregistered are then scanned with the death certificates so that we can identify the children who are not attending schools properly and census can also be taken yearly once to ensure proper education for children. Every year we can identify the districts where child labour is more prevalent which will be reported to the Ministry of labour and employment.

Keywords:

Child labour, Census, Education system

Stress Buster and Depression RELIEF

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Abstract:--

Stress is a feeling of emotion or mental changes in the body. It comes from various activities like conversation, fight etc that cause you angry, nervous and feel annoy. Stress changes the people and makes the people demotivated to a challenge. In first stage of stress it can be positive and it helps you to avoid danger. Stress is the in build body's shielding against threat and creature. It exhibits the body with hormones to face or confront danger. This is called as the "fight-or-flight" mechanism. When we are in some problem, our body's response is physical. The body activates all the assets to keep us safe by preparing us either to keep calm and fight or to move away as soon as possible. Our body creates large quantities of the chemicals cortisol, adrenaline, and noradrenaline. These trigger an increased or higher heart rate, heightened muscle, wetness, and alertness. All these things increase the ability to respond to a difficult or challenging situation. In the environment the situation that activate this reaction are called stressors. Examples are increase in noice, harsh behaviour from people, a rash car, scary moments in movies etc. In this task, we give a result for assessing the stress experienced by a community, with the help of features imitated from phones and wristband. In precise, it applies facts collected from the user during their installation process of the app and heartbeat rate variability information poised at all time are used to evaluate the mood of the user. Here we are connecting the smartphones and the wristband with help of Bluetooth technology.

Keywords :

Stress, Smartphone, Wrist band , Heart rate sensor

Detection of Skin Cancer Using Neural Network Analysis

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Abstract:--

Skin cancer causing the huge rise in health care fields . Despite the fact that it is harmless if detected early, it still accounts for nearly 80% of all skin cancer related deaths.The problem arises in the fact that diagnosis is often up inorder to visualize the inspections of moles or time-consuming and expensive biopsies. Dermoscopy based early detection and recognition strategy is critical for melanoma therapy. There are three major types of skin cancers: basal cell carcinoma (BCC), squamous cell carcinoma (SCC),and melanoma. The first two skin cancers were grouped together known as non-melanoma skin cancers. To analysis and detect the skin cancer in the early stage can be done as using the low-cost thermistors (temperature sensors), by giving a skin bearable temperature we can identify the high penetrating cancers cells because while increasing the temperature generally cancer cells used to react accordingly and when they have been cooled it shows the different specified data. Also, by including a cancer detection nano-sensors it can identify the rate of tumours cells if the count rate of tumours cells increases then the general count rate by having the estimation the data is analysed by using a neural network which gives high skin lesion segmentation and cancer diagnosis with accuracy. If the rates match and it ensures it is cancer, the next several treatment processes are intimated to the patient and the queries of them are rectified by predefined data or else the experts in the diagnosis field are prescribed.

Index Terms

Skin Cancer,Heatmapping,Thermistors

Securing Data Transfer Through Human Body With Authentication

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Abstract:--

Now a day's electronic devices become smaller and lower in power Requirements, and they are less expensive. we have begun to adorn our bodies with personal information and communication appliances. Such devices include cellular phones, pagers and personal digital assistants and many more. But currently there is no such method for these kinds of devices to share data. Networking these kinds of devices can reduce functional I/O redundancies and allow new Conveniences and services. Human society is entering an era of modern computing, when networks are smoothly interconnected. The implementation of ubiquitous services requires three levels of connectivity: Local Area Networks (LAN), Wide Area Networks (WAN), and Human Area Networks (HAN) for connectivity to personal information, share data, media and communication appliances within the much smaller areas for communication. RedTacton is a technology that uses the surface of the human body as a high speed and safe network transmission path. So in this paper we are explaining the unique new functional features and enormous potential of RedTacton as HumanArea Networking technology. Here, the human body acts as a transmission medium supporting half duplex communication at 10Mbit/s.

Keywords:

RedTacton, Electric field sensing.

Device to Check Water Quality Using Internet of Things

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Abstract:--

The main idea of the paper is to make people drink good quality water. The paper aims to develop a device that would help us measure the purity of water by checking the presence of pollutants, harmful chemicals, plastic molecules, microorganism. The research for the paper is mainly based on the samples from the contaminated river bodies polluted due to the human throw-away and unconscious mind. The importance of the paper is to let people know what they drink and graph them how these water-borne diseases change human's life. The purpose of the paper is to make people aware of not only what they drink but it contains and stays safe from one's ignorance. The paper is developed in such a way that the various parameters of water contamination are identified initially and then its acceptance range provided by the BIS water quality standards are taken and ultimately a device to built that finds out what is present in the water before one drinks, at once the user dips the sensor into it. The device named "Poseidon" is built with IoT and Bluetooth feature and with the help of Android Application the user shall know what quality of water they take in.

Index terms:--

Water Quality, Internet of Things, pH, TDS, Android Application, Poseidon, Bluetooth.

Soil Scientist- Soil and Seed Analyzer

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Abstract:--

Agriculture is an important source of livelihood. The rising agricultural surplus is caused by increasing and improving agricultural production and productivity which tends to improve the public welfare, specifically in rural areas. Country like India, Agriculture is the backbone of the developing nation, the productivity and yield profit has impact on the financial development. Agriculture sector in India records for 18% of India's Gross Domestic Product (GDP) and provides employment to 50% of the country's workforce. India is the world's largest producer of pulses, rice, wheat, spices and spice product. Since the Indian Agriculture is plagued by several problems. The major problem is the SELECTION OF SEEDS that suits the soil considering the soil parameters such as pH value and type. Though the technologies available in the market help the farmer to test the soil parameters and the seed quality, selecting the appropriate seed is still a problem Farmers face a severe problem on selecting a crop based on the soil and seed aspect.so we suggest a solution for this problem. By selecting the right crop for the given soil conditions and climate, one can optimize yields and save requirements for irrigation. Without testing the seeds and directly cultivating may leads to the crop failure. To overcome this, we must test the seed quality. The quality of good seed is based on the germination (high percentage of normal seedlings) and vigourness. A single device that helps the farmer by measuring the soil parameters using IoT technology and suggesting the crop that suits the soil and also calculate the germination of the seed. This helps to increase the productivity rate.

A Survey on Future Wireless Technology: GIFI & LIFI

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Abstract:--

Wireless communication is the transmission of data over a distance without the use of wires. Integrated networks become a reality as wireless communication brings essential changes to networking and telecommunications. This paper elaborates on new and upcoming technologies like Gi-Fi and Li-Fi. It is a wireless technology that uses optics for the data transmission. It makes use of LED to send data over a distance. This takes out the adverse health effects of using electromagnetic waves. Transmitting data using Li-Fi is safe and data cannot be hacked until light is seen. Gi-Fi stands for Gigabit Fidelity which is a wireless communication standard capable of transferring data at a rate more than billion gigabits per second. When comparing with Wi-Fi, Gi-Fi offers higher data transfer rate, less cost and low consumption of power for small distance transmission. Gi-Fi comprises of a chip which has the capability to provide faster data transfer using CMOS process. It provides data transfer at a higher rate of 5 Gbps for 10 meters since it operates at a frequency of 60 GHz. Large media files can be transferred within few seconds using Gi-Fi.

Keyword:

Gi-Fi, Li-Fi, GBPS, Wireless communication

Footstep Power Generation Using Piezoelectric Sensor

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Abstract:--

The aim of this paper is to produce electricity through walking.Electricity is one of the essential factor nowadays.We are using electricity in our day to day life.But when we are unable to access electricity,it becomes one of theissue.To overcome this issue,this paper is presented.This paper describes the working of charging mobile phones with the help of our footsteps.This will be a suitable solution when we have no option of charging a mobile phone during any current shutdown.As walking plays a major role in our everyday life,this will be useful to charge a mobile.From our footsteps,charge will be given to the mobile phones without using electricity

CC-GLASS (Close Captioning Glasses)

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Prashanth T, Department of Information Technology, Sri Sairam Engineering College, Chennai, India

Abstract:--

CC-Glass is an offline speech to text transcription device for helping hearing-impaired people. The glass displays the transcripted text generated from the speaker in an OLED screen attached to the frame of the glass. An open-source toolkit for speech recognition is used in this device known as CMUSphinx. Acoustic models, phonetic dictionaries and language models are utilized by the CMUSphinx toolkit. To deploy this methodology, the speech signals from the speaker are fed as input to the speech recognition module with CMUSphinx installed. To attain maximum accuracy of the system, it is trained with multiple voices. The transcripted text is transmitted to the OLED screen attached to the glass. This device is not limited to only hearing-impaired people but can also be used in situations where language becomes a barrier. Hence, this work aims to present a speech-to-text module without the use of the internet for the benefit of deaf and hearing-impaired people.

Index Terms

Angled Mirrors, Voice recognition, Raspberry Pi, CMUSphinx, PocketSphinx, Speech-to-text

Plant Disease Detection Using Deep Learning and Convolutional Neural Network

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Abstract:--
Deep learning methods are greatly admired in the research field of agriculture. The fundamental basic key aspect of agriculture is soil for crop growing. Here we identify plant disease and provide remedies that can be used as a defence mechanism against the disease. The database obtained from the Internet is properly segregated and the different plant species are identified and are renamed to form a proper database then obtain test-database which consists of various plant diseases that are used for checking the accuracy and confidence level of the project .Then using training data we will train our classifier and then output will be predicted with optimum accuracy. We use Convolution Neural Network (CNN) which comprises of different layers which are used for prediction. And also we predict the name of the crops that can be cultivatable to their corresponding soil types.
A prototype is also designed which can be used for large agricultural fields images of the plants which will act as input for the software, based on which the software will tell us whether the plant is healthy or not. With our code and training model we have achieved an accuracy level of 78% .Our software gives us the name of the plant species with its confidence level and also the remedy that can be taken as a cure.

Keywords:
Disease, Predict, soil type, crops

elCare - A Tele Assistance For Elderly People

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Abstract:--

The Aim of the project is to create a product for remote monitoring of elderly people in their homes or inside proper care homes or hospitals. Poor conditions and indifferent society are some of the main causes that elderly people currently live alone and may suffer health problems or injuries. Thus, in those cases these people require an emergency service attention in their homes or care centers. However, in most cases, they cannot call for help due to their lack of access to technology, geographical location (rural areas) or by their physical limitations. Based on these conditions, this work presents the implementation of a Home Tele-assistance system, which can send personal information and geographical location through the network of elder or disabled people. This information is stored in a database and is sent to their relatives and the emergency services, in order to accelerate the time response in an emergency.

Double Inverted Pendulum Control in Matlab-Simulink using Quanser Rotary Double Inverted Pendulum Module

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Abstract:--
Double inverted pendulum is a conventional control problem. In control problem, there are two phases. The first phase involves the mathematical modelling of the double inverted pendulum system. The second phase involves implementing the model in simulink with Hardware In Loop(HIL). Second Phase was splitted into two parts. In the first part a model was implemented in simulink to investigate the performance of the model controller and the second part involves implementing the actual hardware and testing the controller in the actual environment.

Keywords:
state-space model, hardware in loop, linear quadratic regulator, DBPEN-ROT subsystem.

Smart Health Monitoring System for Soldiers Using Iot

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Abstract:--

In present era, the threat of enemies plays an important role in security policies of any nations. In this prospective, the military soldiers play an important and vital role. There are several considerations concerning the security of those soldiers in the Line of Control (LOC). In our Paper an IoT technology based health monitoring and tracking system for soldiers is developed to monitor the health status of soldiers and to forewarn them in case of unintentional crossing of border. The proposed system consists of soldier's module that can be mounted on the soldier's body to track their health status and current location using GPS as well as HUB module. Soldiers Module comprises of tiny wearable physiological sensors such as heartbeat and temperature sensor along with transmission modules. The Communication protocol used is LoRa WAN, which can be used for effective range of high-speed transmission. A Hub can be established for every 15 kilometers along the Line of Control. This hub comprises of a LoRa WAN and a Raspberry pi which acts as a gateway. The health parameters and the position of the soldiers are acquired and transmitted to hub. These information are then transmitted to the base station through IoT. Hence, with the use of the proposed equipment, it is possible to implement an accurate system to monitor the health conditions of the soldiers from remote areas.

Keywords:—

Internet of things; LoRa WAN; Raspberry pi

Reading Facial Expressions to Train Children with Autism Specific Disorder

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Abstract:--

Research proves that children with autism spectrum disorders (ASD) have difficulties in their ability to recognize facial expressions in themselves and others which can cause issues in the interpretation of the dynamics of social interactions. The ability to read facial expressions is a required skill for successful social interactions.The concept of face recognition that matches the input image and the image stored can be used in the application. The representation of face using Gabor features has created huge interest in computer vision, image processing, and pattern recognition and further.This can be explicitly used for training the children with autism spectrum disorder. The analysis of facial expressions has extensive variety of applications such as image understanding, psychological area, face animation, human computer interaction (HCI), etc.But building applications to train will help them learn to decipher faces and to handle the social communication actively.

Keywords-

Affective behaviour, Applied behaviour analysis, Autism, Emotion, Facial expression, Convolutional neural network, haar cascade

Electronic Health Record Management and Analysis

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Abstract:--

The idea of the paper is to make a way for storing our Health Records Digitally (Electronic Health Records). The purpose of the paper is to help people for flexible access and maintenance all of our Medical Records from birth and also it is easy to show your past records at low effort. This paper also promotes the usage of Electronic Health Records (EHR's) and promise better maintenance of public health data. Near Field Communication (NFC) is a standard-based, short range wireless technology which enables to store data reliably. In this case the need to identify the user and his/her record accordingly. In order to do so, we use NFC card or card to store the main information of the patient which can be scanned and that along with the user authentication is used to retrieve his/her record from the server, which stores the Medical Records of all people on a centralized server. The storing of health records is accompanied by data ownership and privacy. This also uses Software which acts as a middle layer between the hospitals and the server. This will definitely reduce the effort of storing the conventional paper-based health record. This massive amount of diverse Health Records can enable the usage of Machine learning methods for discovery of patterns in patient data for prediction purpose, such as risk evaluation. This also enables us to share the medical record to the respective person for cross evaluation/validation. The paper is developed for giving a effective and a better treatment of the individual based on all the available data.

Keywords:

Health Record, EHR, Medical Records, NFC, Health Information, Analytics, Machine Learning, Pattern Discovery

Antiquated Tracking of Diabetic Retinopathy Using Image Processing and SVM Classifier

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Abstract:--

Diabetes is an ineradicable disease which is caused by inadequate insulin in the body or inability of blood cells. Now a days, Tons of people are anguish from diabetes which causes severe eye diseases like diabetic retinopathy, Macular edema by destroying the blood vessels of the retina forming exudates close to the optic disc which undergo cataracts or vision loss. As eye disease like diabetic retinopathy which was sequentially increasing due to the cause of uncontrollable diabetes so we introduce a system to recognize disorder in budding stages. In our method, we tend to develop a system for tracking the diabetic retinopathy in early bird stages and also we analyze the severities based on stages which will save many lives. We decree to construct the retinal exudates from fundus photography to anticipate the severity by interpreting the blood vessel damage. Initially, we capture retinal fundus figure and using well-suited image pre-processing techniques. we use adaptive histogram equalization to increase the contrast and discrete wavelet transform to eliminate noise from the retinal fundus image. Then, using MF-FDOG to detect and extract the lineaments of blood vessels. The percolated information is stored in the distillated repository. The obtained blood vessel credentials are used to figure out the exudates formed around the optic disc by assigning k-NN classifier to detect the normal and abnormalities since, K-NN classifier will train the system based on the extracted lineaments. Further, we scrutinize the severities using an SVM classifier to forecast the disorder in stages based on micro aneurysms, soft and hard exudates present in the retina.

Key words:

Diabetic Retinopathy, Blood vessels, SVM classifier, k-NN classifier, MF-FDOG

Detection of Diabetic Retinopathy (Dr) Using Machine Learning

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Abstract:--

Diabetic Retinopathy (DR) is a very common eye disease that takes place due to long lasting diabetics in patients which causes blindness to the people affected by the disease. Mostly the people who are suffering from diabetes have been diagnosed with diabetic retinopathy. In early stages, diabetic retinopathy does not show any visible symptoms, hence it would result in the latent state that is total blindness. In order to detect these disease high specialized hospitals with fundus camera is required, which is considered to be costly for the people who are present in the rural areas, where they have to travel a very long distance and spare money and time in order to get a regular retina check-up. Hence our system helps the patient to detect whether he/she is affected by diabetic retinopathy or not by using an android mobile phone in order to replace fundus camera to capture the image of the retina and to convey at what stage of disease the person is affected by using machine learning.

Keywords:

Machine Learning, Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Hybrid Neural Network (HNN).

Periodic Key Change and Face Recognition for Cloud Security

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Abstract:--

The emerging development of computers has a dramatic change in the field of e-commerce and administrating field where it has made the data transactions more convenient, efficient and timely through the communication systems. These processing are done through cloud computing where the securing of data in the cloud database is challenging in the cloud computing services. Thus there is a need for the securing the data in cloud computing where there are several solutions and algorithms for securing data. In order to provide a secure and reliable storage of data ,one time password and face recognition are being used. There are various proposed solutions for the securing of data where they use algorithms like order preserving encryption schemes(OPEs). These algorithms are not secure since they do not preserve the mathematical and the logical ordering of the encrypted data. The biometric authentication(finger print) in the existing papers are not secured and it can be easily hacked by the hackers. The proposed solution uses random encryption algorithm where the mathematical and logical operations are not known externally. The face recognition is done for processing of each services. Once the OTP is entered the face recognition is done for providing the services. The convolutional neural network algorithm is used for face training and testing. Incase of any damage in the face , the new face can be registered by requesting the admin where the process is similar to the forgot password in gmail.

Index Terms
OTP ,Random Encryption Algorithm, Convolutional Neural Network, Face Recognition

AIDYS-Learning Aid For Dyslexics Based On Multisensory Approach

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Abstract:--

Dyslexia is a most common learning disability that causes difficulties with reading and writing in children. It mostly persists throughout the lifetime. It is identified that 5% to 17% of the world population are dyslexics. They have some serious problems like identifying speech sounds and learning how they relate to letters and words, processing graphic symbols. They find it difficult to spell correctly, read fluently and write when compared to other children of their age. But any of these difficulties does not make them less smart or affect their IQs. In fact, dyslexics are gifted people who have great creative and thinking abilities and problem-solving abilities. It is known that 50% of NASAs employees are dyslexics. This clearly shows that dyslexics are gifted with immense analytical and creative skills. This web application concentrates on helping dyslexic children to learn, read and write alphabets and evaluate them based on 3 criterions namely- visual, phonology and memory. This application uses cumulative and adaptive techniques in order to help the children learn and remember alphabets by not getting confused when they learn new chapters. This application has three modules- (i) Tutorial, (ii) Knowledge Analysis, (iii) Report. In the Tutorial, the child is taught to read and write an alphabet by a video. It can be played until the child is confident. Next in the Knowledge Analysis module three tests are conducted to evaluate various micro-skills of the child. Firstly, the child is asked to write the alphabet that is instructed, in a paper. It is captured and evaluated using OCR. Secondly, the child is asked to spell the alphabet that is displayed on the screen and record it. And finally, the child is asked to sequentially identify the alphabet in question from a paragraph. It is done to improve the visual tracking, visual discrimination skills of the child. When the child moves to further chapters, the previous lessons are cumulatively added to the Knowledge Analysis to improve memory. The Report gives the report of the child's performance in three categories analysing the micro-skills using machine learning. They are Visual, Phonology and Memory. A threshold is set for each test and if the child score below the threshold then tests are made to be adaptive so that the child faces more exercises in the part it is under performing. Thus, the AIDYS application helps dyslexics to learn, test and analyse their skills which will improve their letter recognition, visual tracking, visual discrimination, visual memory, auditory memory, auditory discrimination etc.

Keywords

dyslexia; OCR; visual; phonology; visual tracking; visual discrimination; visual memory; auditory memory; auditory discrimination.

Predictive Diagnosis of Cancer Using Machine Learning

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Abstract:--

Cancer is the second leading cause of death and is estimated to account for 9.6 million death around the world. According to current evidence, between 30% and 50% of cancer deaths could be prevented by a proactive system by modifying or avoiding key risk factors and by introducing a mechanism which enables detecting and predicting cancer at the earliest stage accurately. Technology-enabled smart healthcare is no longer a flight of fancy. Despite the fact, not all general hospitals have the facilities to diagnose cancer accurately through the results of biopsy. Waiting for diagnosing cancer for a long time may increase the possibility of the cancer spreading. Therefore, a computerized cancer diagnosis has to been developed to reduce the time taken to diagnose the cancer at the earliest stage with the greatest accuracy and reduce cancer recurrence and mortality. This paper summarizes the survey on cancer diagnosis using various machine learning algorithms and methods, which are used to improve the accuracy of predicting cancer.

Smart Surveillance Camera to Detect Theft Activities in ATM Centers

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J. Ranjani, Sri Sairam Engineering College, Chennai

Abstract:--

This paper deals with the detection of the human activities in ATM centers and detect the type of potential criminal activities. As such in the existing system we have to track the full CCTV footage to conclude that the criminal activity has been practiced. In our system we used an advanced human detection system using Open Computer Vision technique along with Artificial Intelligence in the python platform to detect the activities of the human and their categorization. We have included the modules like camera tampering, face masking, scary voice recognition, human collision (more than one person), long time tracking (person being in the ATM for long time). By these modules as such the datasets (videos and images) trained to the system of already occurred theft activities in the ATM centers the system sends a warning or alarm message to the nearby police station or the admin of the bank. Our system also supports not only in ATM centers, it can also be implemented in super markets, jewelry shops and also in banks. The system helps in decreasing the time complexity to great extent and also prevent the society from the criminal activities.

Index Terms

Face masking, Camera covering, Long time tracking, Human collision, Risky voice analysis

Terrain Specific OBD Data Anomalies Detection and Transmission using Carbon-Footprint Reducing Techniques and Route Prediction for Efficient Regeneration of Energy

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Abstract:--

This paper proposes a terrain specific OBD Data anomalies detection method with respect to ideal OBD values for the particular vehicle, previous drives' OBD dataset and driving behavior analysis in that specific terrain. The anomalies are transmitted using Carbon- footprint reducing techniques. A Route prediction technique for efficient regeneration of energy based on wheel's powertrain at various speeds and routes travelled is also affixed with the proposed method.The proposed method monitors the combustion engine and hydraulic tubes in case of Hybrid vehicles and eAxle(Motor/Generator & Converter and transmission), iBooster, high-voltage battery in case of Electrical vehicles and gets the OBD using OBD II UART and low-power system on a chip microcontrollers with integrated Wi-Fi . Then the data analytics employs AdaBoost algorithm and pattern recognition and comparison techniques to detect anomalies.The anomalies are encrypted by DES Algorithm, Storage virtualization and Storage convergence techniques are used during the transmission of the encrypted anomalies to the automakers. Based on the analytics of the anomalies, version upgrades are made more reliable and OTA (On the Air) software updates can be done in Electric vehicles.

The route based regenerative energy from wheels powertrain during the drives are estimated and displayed for efficient choice of routes by the user. This data also provides efficient for performance analysis of regenerative systems at that terrain. The proposed methodologies provides efficient for automakers to reduce recall expense, improve cybersecurity response time, increase product quality and operational efficiency, and deliver post-sale vehicle performance and feature enhancements.

Keywords:
Terrain Specific OBD Data Anomalies Detection, AdaBoost Algorithm, pattern recognition and comparison, On board Diagnostics(OBD), Regenerative energy based route prediction, DES Data Encryption, Carbon footprint reduced data transmission

"THE THIRD EYE"-A Wearable Device for the Visually Impaired – Guides the Blind to Pick the Objects

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Abstract:--

The main objective of developing "THE THIRD EYE" is to help the visually impaired to actually interact with the environment

To describe the environment to the blind	Rpi is integrated with 160 degree FOV wide angle camera
To make their input way easy through verbal command	Mobile app that has the feature of voice recognition is uesd.
In order to make the blind people to pick a specific object	Directional haptic feedback system with vibration motors is used.
In order to recognize face	Face recognition system is integrated.

Keywords:

Machine learning,Haptic feedback system.

A Diagnose system for Skin Lesion using Deep Convolution Neural Network (DCNN)

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Deepika sree.D, UG Scholar, Department of IT, Sri Sairam Engineering College, Chennai

Abstract:--

A Skin lesion is an abnormal lump, bump, sore or colored area on the skin. Skin lesion identification is a key step towards dermatological diagnosis. The proposed system uses multiple pre-processing methods to increase the accuracy of the automated labelling of the images collected. It characterizes the skin lesion by image acquisition, pre-processing and segmentation techniques to define the skin features. The pre-processed images are segmented using Gaussian Mixture Model (GMM). The features are extracted by digital image processing method called Principal Component Analysis (PCA). The extracted features are then classified using the Deep Convolution Neural Network (DCNN). Thus, deep learning helps in increasing the accuracy of the automated initial diagnosis and characterization.

Keywords:--

Skin Lesion, pre-processing, GMM, deep learning, PCA, CNN

Pulmonary Fissure Detection and Classification of Lung Ct Images Using SVM Classifier

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Abstract:--

Our paper deals with the earliest detection of cancer using pulmonary fissures in lung CT images. Cancer is a class of diseases characterized by out-of-control cell growth. Interpretation and diagnosis from the stack of sequential images of the CT is a difficult task for the doctors. Detection and segmentation of fissures is useful in the clinical interpretation of CT lung images to diagnose the presence of pathologies in the human lungs. So the detection of fissure in lungs is a very important one to found cancer at initial stage. In our project, the CT images are preprocessed using median filter to reduce the noise and to preserve edges in an efficient way. The ROI is segmented using Otsu's thresholding algorithm. It is a cluster-based image segmentation algorithm. First order statistical features are extracted from the ROI. Support Vector Machine (SVM)algorithm is used for classification of normal and abnormal pulmonary fissures. The performance of the SVM classifier is evaluated.

Keywords :

Pulmonary fissures, segmentation, median filter and SVM classifier.

A Novel Personalised Security System to Prevent Hacking of Various Process Control Schemes in Industries

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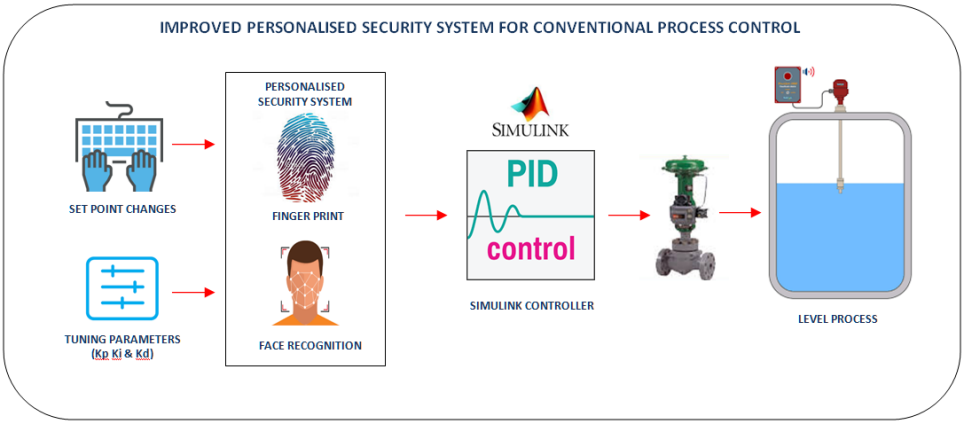
Abstract:--

In recent years sabotage of process plants by hacking into their control system has been increasing and also alarming. Even though many data encryption and online firewall has been provided: hackers are smart enough to alter the control parameters or start / stop any equipment without the knowledge of the operator in plant. This paper proposes a novel Personalised security system to prevent such hackers from altering or start / stop any process. The proposed system uses the Personalised data such as the face recognition and biometric data of the concerned operator in the plant and creates a physical interlock between the control scheme and security system. The face features and biometric data of all operators are stored in the system and the operator log is maintained for every shift. Only when the finger print and face of the particular shift operator is matched with the shift log the system will allow changing the control parameters or to start and stop the process. This allows better security such that the hackers may find difficult to hack into the control scheme



Smart Watch - An Assistant for Helping People with Respiratory Problems

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Abstract:--

Respiratory diseases like asthma, chronic bronchitis, and respiratory tract infections are on a rise today. A person's respiratory symptoms worsen if he or she forgets to take the prescribed medicines on time or if medication does not provide adequate relief. If the person has the proposed smart watch then the peak flow meter can detect the lung functionalities (like oxygen saturation, air volume etc.) and by pulse sensor can measure the heart pulse. By doing a comparative analysis of the sensor values, the person's condition is ascertained - if medicine can provide relief then by using the Sim card and GPS tracker, the smart watch will send a notification to the nearest pharmacy and the medicine will be delivered within a few minutes. If the medicine cannot provide relief then it will send a notification to the nearest hospital and they will send an ambulance and he or she can consult the specialist doctor. And it also consists of an accelerometer sensor to analyze the orientation & movements of the user . gyroscope sensor used to display navigation ,rotational velocity and acceleration measurement. A barometric pressure sensor used to sense humidity,measures pressure exerted by the atmosphere. oximetry sensor is used to sense oxygen blood level, accurate pulse rates...pulse sensor is used to measure heart beat information,heart rate .

Key words:-

peak flow meter, GPS Tracker, SIM Card, accelerometer sensor, gyroscope sensor, barometric pressure sensor, oximetry sensor etc.

Smart Scrutinizing System to Detect Trespassers and Alarm Ascendancy

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Abstract:--

Nowadays, where everyone needs to protect their valuables safe and secure, bank is the place that indicates higher security level for common people. So the locker room in the banking industry needs to be monitored continuously. Thus our smart scrutinizing system is specially designed to detect the illicit entrance of the intruders in the locker room of the bank that mostly happens during robberies. The major drawback of present system is that the CCTV cameras in the bank locker room are needed to be continuously monitored by a human being to find the illicit intruder which is a very difficult task. The video that are recorded using the webcam which consumes large amount of storage space and are also used only as the evidence to find the robbers after the robberies, though it cannot prevent thievery. To trounce this problem, we have come up with a new idea of smart scrutinizing system. Our system is mainly builded to ensure safety of the bank locker rooms in an better way by recognizing and monitoring illicit action in the bank locker room. In our system, webcam can continuously capture a frames for references instead of taking videos. It captures the frame and compares it with foreground frames using absolute differential method .As soon as any motion was found, system can instinctively activate the alarm to notify the alert the bank authorities. The system will communicate the image data continuously to the Data Processing Officers (DPO) and it send the alert short message service (SMS) to the user using Firebase Cloud Messaging(FSM) technique. So the user will feel more delighted and secure and be able to respond earlier when illicit entry is detected in locker room of the Banking Sectors. Using this system, user is able to recognize and capture the intruder red-handed.

Keywords

Cauchy Distributive Function, Absolute Differential Method, Firebase Cloud Messaging

Detecting the Abandoned Borewell Using Image Processing

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Abstract:--

The main objective of our project is to detect the abandoned borewells and report it to the corporation. Detection of uncovered borewells are carried out by processing a picture taken from a drone, the process is done by image processing techniques. The pre-processing of an image is based on the difference of clustering based image segmentation and
Gaussian-Filtering methods are implemented for better results. From the results,for the fastest computing time segmentation is based on K-Means clustering method and for specificity the segmentation is based on edge detection method. The main goal of this idea is to identify an efficient method when compared to the conventional methods.

Keywords:

Image processing and recognition, Edge detection technique,Fuzzy C-means clustering, Borewell Detection.

Orphanage Helping System

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Abstract:--

An orphanage is a residential institution devoted to the care of orphan-children whose parents are unwilling or unable to take care of them. The problem of orphan is acute due to urbanization and industrialization. Need for each of the orphanages varies in different categories such as food, money, clothes, medicine. Most of the people would like to help the orphanages but the major problem is that they have any idea on how to approach these orphanages. The main objective of this application is to develop a centralized site for orphanages. In our proposed system we try to create an interface between Orphanages\Old age Homes which are in need of charity and people/Volunteers who are willing to help these people. Volunteers can also approach the Orphanage managers regarding the help that they can afford. People can donate through Internet Banking or Online Money Payment applications.

Keywords:--

Orphanage, Volunteers, Centralized site, Charity.

Surveillance of Driver

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Abstract:--

Drowsiness and drunken driving causes the road accidents. This paper enhances the detection of driver's drowsiness as well as alcohol indication.The main aim of this proposed system is to reduce the number of accidents due to driver's Drowsiness and alcohol intake.This increases the transportation safety.This proposed system contains USB camera,Alcohol sensor (MQ-135)by which alcohol intake is detected and Arduino UNO.OpenCV is a machine learning software which analyse vision based applications is used to detect driver's drowsiness.GSM get triggered on and transmits alert message to the user.This will perform some task like the alarm notification and alert the customer by a mobile application.The primary purpose of this drowsiness and alcohol detection system is to develop a system that can reduce the number of accidents from drowsiness and can also denote the percentage of alcohol consumed by the driver.

Index Terms

Fatigue Detection,Alcohol intoxication,Arduino UNO, OpenCv and GSM

Heart Attack Detection Using Smart Phone

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Abstract:--

Heart attack is a global leading cause of death for both gender and the occurrence is not always known to us. The heart rate calculation has traditionally been conducted using specialized hardware or device. We propose a system capable of estimating the heart beat rate using pulse checker through camera lens, wherein the heart rate monitor assesses the heart pulse and categorizes it based on its severity, into which level it belongs to. Using GPS, the patient's location shared to the nearby hospital, after which ambulance arrives at the doorstep within 5-10 minutes, thus saving the person's life. Fuzzy Logic is used here, which is a part of Data mining, the expert problem solution for human illness.The advantage of this method is that the user does not need specialized hardware and he/she can take a measurement virtually in any place under almost any circumstance.

Keywords:

Data mining, Fuzzy logic, Heart rate monitor, Pulse checker.

Fault Detection of Power Cable & Mointoring Power Supply Unit

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Abstract:--

The main objectives is to monitor the fault occur in the electrical cable, it detects the fault occur by using the OHM'S LAW. When the fault is analyzed the relay will cutoff the power connection in the specific location where the fault occurred and is intimated to the board and the user in current location by using GSM through Application. The application intimates the user with power cut information and also the supply unit reading of the electricity consumption from anywhere.

Keywords—

NODE MCU, OHM's LAW, GSM, Relay, Bluetooth module, Voltage Divider.

Asthmatic Severity Analysis from Capnogram Signal

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Abstract:--

Asthma is a lung disease in which a person's airway narrows and inflames. The main aim of this project is to analyse the severity of asthma and classify them into different stages. A computer aided patient assistive tool has been developed, to analyse the severity. The inputs are given in the form of capnogram signals which is obtained from the patients database and knowledge regarding severity levels from an patient who is affected with asthma. Capnogram is a graph that displays the level of carbondioxide exhaled vs Time. These signals are preprocessed using two techniques, they are Median filter and windowing. These techniques are mainly used, in order to eliminate the unnecessary noise and to obtain a proper amplitude – time peaks. From this signals the statistical features are extracted, which gives us the amount of End Tidal Carbon-di-oxide(ETCO2), minimum point and average stem of Capnogram signal. Further, the End Tidal Carbon-di-oxide is compared with its standard range from which the severity of asthma is classified into three groups namely normal ventilation, hyper-ventilation(mild) and hypo-ventilation(severe). The Hypoventilation is further classified into three stages and this classification is done using Probabilistic Neural Network(PNN) algorithm. M-file program in MATLAB version 2009a is used for the implementation of Signal processing and classification algorithms. A graphical user friendly interface has been developed in order to the assist the physician to process the capnogram in a more effective way.

Keywords :-

Capnogram, End Tidal Carbon-di-oxide, MATLAB;