

Artificial Intelligence (AI) Based Advanced 3D- Intelligent Walking Stick to Assist the Blind People

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ABSTRACT:

Vision is a precious gift from God that one can able to see and enjoy this beautiful world. But many people throughout the world are deprived of this. According to October 2017 report of World Health Organization (WHO) an estimated 253 million people live with vision impairment: 36 million are blind and 217 million have moderate to severe vision impairment. Un-operated cataract is the main reason for blindness in low income and developing countries. Even in China by the end of 2017, the population over 60 will reach 241 million, accounting for 17.3 percent of the country's total population and nearly 40 million are disabled and semi disabled, according to data released by the Committee for the elderly in 2018. So, in this case most of the visually challenged people cannot afford an expensive device to use as their supporter. So, in this project we have proposed a cost-effective 3D intelligent Walking device. This is mainly depends on the sensors because Sensors can improve the world through diagnostics in many applications and it helps to improve performance. This device is implemented using ARM Controller, IR Sensors (For 3D), Vibration Sensor (Piezoelectric sensor is for Pressure and Acceleration) as well as GSM and GPS for location Sharing. Also we are introducing Voice module with this to give the directions through audio format. This Entered device is programmed by simple deep learning algorithms (AI) to optimize the machine.

Keywords: *Artificial Intelligence (AI), GSM, GPS, ARM controller, Deep Convolutional Neural Network Algorithm.*

1. INTRODUCTION

Independence is the important methodology in achieving objectives, dreams and goals in life. Visually impaired/blind persons find themselves challenging the dangerous paths to go out independently. There are millions of visually impaired or blind people in this world who are always need the help from others. For many years the normal walking stick became a well-known attribute to blind person's navigation and later efforts have

been made to improve the walking stick by adding remote sensor. Blind people have big problem when they walk on the street or stairs using normal walking stick, but they have sharp haptic sensitivity. The electronic walking stick will help the blind person by providing more efficient and convenient means of life. Moving through an unknown environment becomes a real challenge for the blind or impaired people. Those who go out from the house with the white stick, often use



LOGISTIC REGRESSION APPROACH FOR OUTLIER MINING IN HIGH DIMENSIONAL DATASET

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ABSTRACT

The most commonly used technique for finding infrequent/ exceptionally happening instances in the real world scenario is outlier mining. In the last few years, outlier detection becomes a significant research area in the data mining. The key objective and focus of this research article is to determine the objects/patterns in large datasets that are significantly differ from the normal patterns i.e. objects with unpredictable, dissimilar, infrequent and abnormal behavior w.r.to most of the datasets. Several algorithms have been projected to conquer the challenges as well as explorations in the field of outlier mining, but these methods unable to yields potentially higher accuracy results in such environments. Now a days, developing an efficient method for detecting the outliers in a huge database is a crucial task. In this research article, Lasso Regression technique is projected for outlier's detections in high dimensional datasets. The proposed methodology is implemented in the open source called NCSS statistical software. Here, the parameters like Sum of Squares Error 0.76343, Model R^2 0.10401, Mean Squares Error 1.07935081, Specificity 0.61000 Specificity 0.51556, RMSE 0.89333 and Coefficient of Variation 0.95889 are evaluated using synthetic dataset.



TSC: A Two-Stage Classifier for Network Intrusion Detection System on Green Cloud

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Abstract

This paper proposes a novel framework for a two-stage classification approach for Network Intrusion Detection System using Fast k Nearest Neighbor (FkNN) Classifiers with Least Variance Feature Elimination (LVFE) for feature reduction. FkNN is adopted for binary classification in the first stage to detect whether the request is an attack or a legitimate one. Further, if the right is identified as an attack, it will be processed in the second stage, where multiclass classification is used to classify its attack type. In the cloud environment, it is easy to implement the NIDS with knowledge on attack types to reduce the computational complexity of the detection mechanism and minimize financial loss. The performance of NIDS depends on two pre-knowledgeable issues regarding the network flow. They are i) Identifying whether the flow is attacked or not. ii) If it is an attack, identifying which type of attack it is? a two-stage classification methodology is proposed, which comprises two phases with adopting the CICIDS-2017 Dataset. Phase-I is the pre-processing data phase, in which data cleaning and normalization are carried out. In phase-II, the two-stage classification model is implemented to detect attacks along with attack type. The experimental results are presented, and conclusions are drawn.



2581-4575



ACTIVITY DETECTION IN UNCONSTRAINED VIDEOS USING CONVOLUTION NEURAL NETWORK AND BI-LSTM

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Abstract:

Nowadays as computation power increases as increasing with the amount of data to process. As most of the data is generated every day is multimedia data. In many different media types video is one of them. Where finding what happens over a video as it streams or recorded using a computerized method is more helpful in CCTV surveillance. We're attempting to continually detect activities in the video as it's streamed, in an online system. As videos are sequential frames, we use CNN we extract a buffer length of features for a buffer length of video frames. These buffers then used to train Bi-LSTM, and so this Bi-LSTM model and CNN models are accustomed to detect particular activities in unconstrained or streaming videos using multiprocessing for speeding up the feature extraction.

Keywords: Activity Detection, unconstrained video, Bidirectional LSTM, CNN Features

Introduction:

Images and videos became ubiquitous on the web, which has encouraged the event algorithms that will analyze their semantic content for various applications, including search and summarization. CNN's are shown to search out powerful and interpretable image features, where the networks have access to not only the looks information present in single, static images but also their complex temporal evolution. There are several challenges to extending and applying CNN's during this setting. One of the key motivations, which attracts researchers to work in action recognition, is that the vast domain of its applications in surveillance videos, robotics, human-computer interaction, sports analysis, video games for the characters of the players, and management of web videos.

Action recognition using video analysis is computationally expensive as processing a short video may take

protracted time because of its high frame rate.

Related Work:

Over the last decade, researchers have presented many hand-crafted and deep nets based on the approaches for action recognition. The sooner work was supported by hand-crafted features for non-realistic actions, where an actor accustomed to perform some actions during a scene with an easy background. Such systems extract low-level features from the video data, and so feed them to a classifier like a support vector machine (SVM), decision tree, and KNN for action recognition. g-based methods were also proposed in recent years. Deep learning has shown Besides hand-crafted features based approaches for action recognition, several deep learning significant improvement in many areas like to image classification, person re-identification, object detection, speech recognition, and



RECOGNITION OF GENDER THROUGH VOICE USING MACHINE LEARNING

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Abstract - Is a human's voice "UNIQUE"? This is actually a good question with which most of us are really ambiguous. Yes!! How much a fingerprint is unique that much a human's voice is also distinctive. Because of this uniqueness of the voice, the human voice can be used for various recognition processes. One of the most heard recognition processes is "gender". It is easier for an individual to recognize or identify a human gender by hearing the voice. So this paper is developed with a mindset to make the machine learn and identify the gender of the given voice(real-world input).

Key Words: Decision Trees, Gradient Tree Boosting, Gender Recognition, Random forests, Support Vector Machine(SVM).

1. INTRODUCTION

One of the most common means of communication in the world is through voice. In the real world, it is possible for a person to verify the gender of a person through voice. Voice is filled with lots of linguistic features. These voice features are considered as the voice prints to recognize the gender of a speaker. The recorded voice is considered as the input to the system, which then the system processes to get voice features. Examine the input and compare it with the trained model, carry out calculations based on the algorithm used and give the latest matching output. Gender recognition can be used along with various other applications. Some are:

- ❑ For detecting feelings like male sad, female anger, etc.

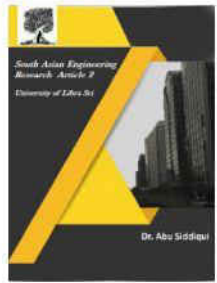
- ❑ Differentiating audios and videos using tags.
- ❑ Spontaneous salutations.
- ❑ Helping personal assistants to answer questions with gender-specific results etc.

2. METHODOLOGY

The dataset used for detecting gender from the audio files is retrieved from VoxForge, which is a free speech corpus and acoustic model repository for open source speech engines. It is a large-scale collection of voices of both genders. From the collected audio files the powerful discriminating features are extracted with which a CSV file is created. With this CSV file various models are trained using Support Vector Machine, Decision Trees, Gradient Tree Boosting, Random forests, and accuracy is



2581-4575



A HIGH CAPACITY DATA HIDING METHOD USING ADVANCE PVD

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ABSTRACT:

This project proposes a high capacity data hiding method using modulus function of pixel-value differencing (PVD) and least significant bit (LSB) replacement method. Many novel data hiding methods based on LSB and PVD methods were presented to enlarge hiding capacity and provide an imperceptible quality. A small difference value for two consecutive pixels is belonged to a smooth area and a large difference one is located on an edge area. In our proposed method, the secret data are hidden on the smooth area by the LSB substitution method and PVD method on the edge area. From the experimental results, the proposed method sustains a higher capacity and still a good quality compared with other LSB and modified PVD methods.

Keywords: Content-based steganography, least-significant-bit (LSB)-based steganography, pixel-value differencing (PVD), security, steganalysis.

1.INTRODUCTION

STEGANOGRAPHY may be a technique for data concealing. It aims to infix secret information into a digital cover media, like digital audio, image, video, etc. we will use digital pictures, videos, sound files, and alternative pc files that contain perceptually moot or redundant data as covers or carriers to cover secret messages. Once embedding a secret message into the cover image, we tend to get a supposed stegoimage. It's vital that the stego-image doesn't contain any detectable artifacts because of message embedding. A third party might use such artifacts as a sign that a secret message is gift. Once a third party will faithfully determine that pictures contain secret messages, the steganographic tool becomes

useless. Obviously, the less data we tend to infix into the cover image, the smaller the likelihood of introducing detectable artifacts by the embedding method. Another vital issue is that the alternative of the cover image. The choice is at the discretion of the one who sends the message pictures with a low number of colors, computer art, and images with unique semantic content (such as fonts) ought to be avoided as cover images. Some steganographic specialists suggest grayscale pictures because the best cover pictures. They suggest uncompressed scans of images or pictures obtained with a photographic camera containing a high variety of colors and think about them safe for steganography. In previous work, we've

SIGNIFICANT CONTEXTS IDENTIFICATION IN THE TOURISM DOMAIN OF ASIAN CONTINENT (2020)

Chinta Venkata Murali Krishna, Dr.G.Appa Rao , Dr. S.AnuRadha

JCR. 2020: 2585-2599

Abstract

Description

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Binary Image Classification using Parallel Neural Networks

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ABSTRACT

Image Recognition and Classification techniques drives the applied sciences of Image Processing and Computer Vision. Major challenges of image recognition and classification includes time-consumption, inefficient results, learning delay and poor accuracy in classification of images. Recent advancements in cutting-edge technologies address these issues to a greater extent in view of the software, hardware and technology used. Internet of Things (IoT) increases the demand of image classification using enhanced capabilities of Convolution Neural Networks (CNN). Deep Neural Learning capabilities enhances the accuracy rates due to optimized and shared parameters, reduces time consumed in processing due to the application of multiple filters by using pooling layers. Pooling layers outperform the defects of normalization layers. Stochastic Gradient Descent (SGD) optimizer optimizes the objective function by identifying proper smoothing parameters at low convergence rate. The current work performed using Transfer Learning (TL) using Mobilenet, sequential model using SGD optimizer over ReLU and softmax activation functions. Experimental results prove that the proposed method achieves promising classification accuracy for large data of images.

Key words: image classification, CNN, IoT, transfer learning, SGD;

1. INTRODUCTION

Computing in the real world based on emerging technology shows its importance in diverse fields of applications [16]-[19]. Technology holds language barriers using image processing. The use of various search engines like Google image search engine are proliferating the use of image data processing in various aspects of life. Current technology advancements are going to replace traditional text with

images, 3D-images and real time video in next few years [1]. Edge Computing demands the image processing and classification techniques to lower the cost of IoT System communication procedures [2]. Non-Parametric image classification techniques are important in view of multisource data classification [3]. Parametric models result in improved accuracy. Parallel processing techniques contribute for analyzing multiple parameters in less time. Deep Neural Networks are used for parallel processing of images using Convolution Neural Networks (CNN) [4]. Transfer learning helps to achieve improved accuracy in less time. Learning of one task can be used, to carry knowledge pertaining to learn similar tasks. This procedure of learning is called transfer learning. Stochastic Gradient Descent (SGD) optimizer replaces the actual gradient by estimates.

2. CONVOLUTION NEURAL NETWORKS AND TRANSFER LEARNING

Image classification using Convolution Neural Networks and Transfer Learning are discussed here.

2.1 Convolution Neural Networks

CNN computationally suitable for large data like images [5]-[7]. Objects in an image are identified and each of the object in the image are learnt to get differentiated and assigned some weights based on the hyper parameters. During the process of object detection, each of the object need to be pre-processed in order to attain its features to get mapped with the stored knowledge. In this process, various filters help to make classification easier. CNNs help in simplifying the learning process of characteristics of objects.

Applications of CNNs vary in terms of the kernel/filter applied in the convolution layer, operations are performed based on the choice of stride at various levels of depth either by using valid padding or same padding, the channels are



Key Decisions to Design a Secure Cluster in GKE Cloud

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ABSTRACT

Virtualization technologies and secure cloud on-demand services escalate the need of cloud orchestration. Numerous Cloud Service Providers enhance the orchestration of cloud services based on well-configured projects. Several factors make customers cross-fingered to host resources on cloud in terms of virtualization, security, cost, load balancing, resource deployment, utilization and more. High demand to on-cloud services tend towards security and policies. Google Kubernetes Engine migrates the resources from cloud to GKE and supports security policies. The major view of this study is to focus on the key issue in the design of the cluster and decisions towards network set up to secure user projects. Use of subnets and cluster design policies secure the cloud applications to a greater extent. The Kubernetes cluster architecture and design considerations are applied and implemented on GKE in GCP and the results are shown.

Key words : configuration, deployment, devops, GKE, orchestration, security, virtualization

1. INTRODUCTION

Computing on cloud become essential in order to address the situations of data deluge. Use of data generating tools grow exponentially during the situations of COVID-19. Physical transactions were on hold due to pandemic situations and almost for almost past eight months in India, all the business transactions run online. Many businesses started to run on cloud due to which concern towards security in cloud has become a mere concern [21-24]. Cloud security at various levels of application design in view of Iaas, Paas, Saas have different security concerns and design details to deal with [1]. In recent technological evolutions, cloud computing has numerous cloud orchestration frameworks at horizontal and vertical levels. Even the multi-cloud infrastructures have become the trend of technology usage [2]. Hybrid deployment models combine public and private clouds. Cloud services are provided by web host applications directly. This enhances the resource mobility [3]. Cloud orchestrations using containers

are lighter than the virtual machines. On-premise cloud orchestration using containers is another framework of cloud service. Set of container images are tested to be away from risk using image scanning tools [4]. Secure orchestration in hybrid cloud environment using OpenStack is another category of work in which the orchestration performed following few security policies within a data center [5]. Configuring a secure cloud is another complex task. Model-driven orchestrations whose concern is to design a secure-aware model in cloud [6]. Various cloud architectures and applications using cloud technologies were researched using various algorithms and techniques to deal with security issues [7]-[20].

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2. GKE KUBERNETES SERVER

GKE maintains some elements in the cluster and the container takes care of some other elements. User has a choice of options of elements from these two. Cluster Master runs the Kubernetes process. Master's life cycle is managed by GKE during the modifications in the cluster. Master is responsible deciding what runs on each work nodes and for containerized applications and managing life cycle of work nodes in the

Future of Work in Government Sector: APSRTC

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Introduction

ONE HUNDRED YEARS ago, employees were largely viewed as interchangeable cogs in a machine. An employee motivated to learn and grow can be much more valuable than a less interested coworker.

Many future-focused organizations today truly recognize the value of their people and devote considerable resources to creating an environment that unleashes their unique talents. These organizations aim to understand their employees and enhance their skills so they can be successful, both as individuals and as part of a team. They are reimagining the workforce to include people and machines, enterprise employees, and ecosystem talent, expanding the view of where and how work gets done.

Many of the most successful private sector firms are part of this trend, moving toward enlightened talent management. In the past, talent management was primarily about the logistics of personnel administration—tracking hours, pay, benefits, and the like. Then there is the public sector. Perhaps nowhere is the gap between the public sector and the private sector greater than in workforce management. While much of the private sector has transformed over the past two decades, the public sector, for the most part, has not. The reality is, government agencies are increasingly called upon to address society's most complex challenges

using workforce approaches rooted in the distant past. Public sector leaders know better than anyone that major changes are needed.

Change is possible—and beginning to happen.

The future of government work is unfolding along three dimensions:

Work. Developments such as advanced automation and cognitive technology will change the way public sector work gets done. These emerging technologies will help employees create more value for constituents and enhance their professional satisfaction.

Workforce. Enabled by technology, government will increasingly make use of more varied work arrangements, accessing more diverse pools of skills and capabilities, both inside and outside the organization.

Workplace. Technology, and new models for employing talent, will redefine the workplace and its organizational supports. These changes will impact physical workspaces (including remote work) along with policies that promote employee well-being and productivity.

Performance of Various SVM Kernels for Intrusion Detection of Cloud Environment

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ABSTRACT

This paper investigates the performance among the various kernel based SVM classifiers for intrusion detection in cloud environment. Several researchers have presented the different kernel functions of SVM for Intrusion Detection. There is always an ambiguity in choosing which kernel function is to apply for better detection rate to identify classification accuracy factor. This paper explores to achieve this objective to identify the popular kernel functions linear, polynomial, radial basis function and Sigmoid. The CIDDS-001 dataset is adapted because of it is a recently available benchmark dataset and generated with new types of attacks of cloud environment. To evaluate the performance of different kernel functions computational time and accuracy taken as QoS metrics with ten-fold cross validation. The numerical results are calculated and conclusions are drawn.

Key words: Classification, Intrusion Detection System (IDS), Support Vector Machine, Kernel, Cloud Computing.

1. INTRODUCTION

Cloud computing is one of the burgeoning and contemporary technology which plays a vital role in IT industry. It is Internet based distributed computing model where virtual shared servers provide computing resources with different deployment models catering to the needs of varied types of customers and also several popular delivery models where majority of them work on pay-as you-use basis [1]. Due to cloud computing technological revolution, the users can utilize scalable resources without any huge investments on physical infrastructure as well as software procurements [2].

Since cloud uses the Internet to deliver the services, it has become highly vulnerable to the various types of attacks and therefore security remains a major problem that haunts the community of users [24]. In order to increase the resources

utilization efficiently in better way and the tremendous rise in cyber attacks has caused the cloud network traffic to be distinguished as legitimate and malicious traffic. Network traffic analysis is therefore necessary for cloud-based Intrusion detection (ID) to monitor the cloud service provider's overall performance and to prevent violations of the Service Level Agreement (SLA) [3].

One of the major threats faced by the cloud platform is DDoS attack like any other predecessor technologies had experienced. It is a special type of DoS attack, where malicious users generates volume of network traffic needed to exhaust processing and connectivity resources which reduces the availability of resources to legitimate users [4]. The victims are surprisingly government agencies, military departments, trade organizations and also some popular websites like Facebook, GitHub, and Amazon who have experienced interruption in normal operations leading to financial loss, service interruption and also lack of availability [5].

Distributed Denial of Service (DDoS) attacks can affect availability of the cloud services. Therefore, this area has been chosen to be the research focus. By studying the nature of DDoS attacks and cloud, it has been found that it is difficult for attackers to succeed in affecting the cloud service due to the huge resources that the cloud has in its data centers, which are distributed globally. However, there is another way that adversaries can use to affect the cloud by carrying out traditional DDoS attacks against cloud customers. This point is explained by Christopher Hoff in 2008, and he named it Economic Denial of Sustainability (EDoS). It is the phenomenon that exploits the elasticity and scalability of the cloud to increase the amount of payments and therefore hit the cloud payment model (pay-as-you-use) by generating DDoS attacks against customers networks by sending a huge number of fake requests, leading customers to ask the provider, according to Service Level Agreement (SLA), to allocate them more resources. The result of such a technique will be

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The Effect of SVM Kernel Functions on Heart Disease Dataset

Syda Nahida, K. Swathi, Ch. Venkata Sandeep, P. V. Pavan Kalyan, G. Sai Harish

Abstract

The successful application of data mining in highly visible fields like e-business, marketing and retail has led to its application in other industries and sectors. Among these sectors, the healthcare environment is still information rich but knowledge poor. There is a wealth of data available within the healthcare systems. However, there is a lack of effective analysis tools to discover hidden relationships and trends in data. The project is mainly concerned about using the Support Vector Machine (SVM) and its kernels to predict heart disease. Each and every kernel uses different mathematical functions to identify the hyperplane. The hyperplane is usually a line or a plane that separates the instances.

Keywords: Support Vector Machine, scaling, machine learning, Radial Basis, Linear Kernel, Sigmoid Kernel, Polynomial Kernel.



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MANGO PLANT DISEASE DETECTION USING MODIFIED MULTI SUPPORT VECTOR MACHINE ALGORITHM

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Dr. P Rama Koteswara Rao, Dr. K Swathi, Mango Plant Disease Detection Using Modified multi Support Vector Machine Algorithm-Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(7), ISSN 1567-214x

Abstract: Identifying the mango plant diseases can be done by visualizing its leaf. Plant disease is one of the main problems in the field in agriculture which leads to waste of time and money. Mango plant disease identification at the early stage prevents loss of money and time to the farmers. The idea is to identify the disease and take proper measures to avoid the heavy losses in the mango crop yield. Manual process of identification takes lot of time if the field is very large. So, the sample images can be taken and given to the algorithm to detect the plant diseases. Plant diseases means to observe the leaf patterns of the plant. Health of the mango trees and early detection of diseases is very crucial for the farmers for good yields. By Manual observation it is difficult to judge the mango leaf disease. In these investigations, the SVM algorithm is employed to detect the disease of mango trees. Initially, the training set mango images will be given, where the neurons will updates the weights according to the training set. Later the test images are given and with more accuracy the mango leaf disease will be identified. This investigation is carried out on real-time images captured at NRI Institute of Technology, Vijayawada, Andhra Pradesh, India, comprises of 670 pictures from various mango trees. Infected and healthy images are included in the Database. The experimental results exhibits that the proposed model has the higher detection accuracy than the state-of-the-art methodologies.

Keywords: Image acquisition, Segmentation, feature extraction, histograms, image features, Classification, plant diseases, Leaf identification.

1. Introduction

Most of the Indian economy is a dependent on agriculture and cultivation. The agriculture dependable population is about 80% in this country. Farmers lead diversity to select different crops which suits their atmospheric conditions and used to find



ANTICIPATING APPRENTICE ACADEMIC PERFORMANCE

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Abstract:

Building schools worldwide have a moderately high whittling down rate. Normally, about 35% of the main year understudies in different designing projects don't make it to the subsequent year. Of the rest of the understudies, frequently they drop out or bomb in their second or third year of studies. The reason for this examination is to distinguish the components that fill in as great markers of whether an understudy will drop out or bomb the program. So as to set up early notice markers, head part examination is utilized to break down, in the main case, first-year building understudy scholarly records. These exhibition indicators, whenever distinguished, would then be able to be utilized adequately to detail restorative activity intends to improve the whittling down rate.

Keywords: performance prediction; student attrition; student academic performance; engineering education; principal component analysis

I Introduction:

Designing projects overall generally have a moderately high whittling down rate. There is no special case at the University of Victoria (UVic) in Canada[2]. Normally, there is a whittling down pace of over 30% after the initial two years in the Faculty of Engineering at UVic, which offers biomedical, common, PC, electrical, mechanical, and programming designing projects. Steady loss for our situation incorporates understudies intentionally dropping out of the program, being put waiting on the post trial process, and bombing out of the program. At UVic, the

first and second year of designing projects give the essential basic aptitudes and foundation to encourage understudies learning in more significant level and progressively specific courses. Along these lines, the normal learning result of first year courses is for the understudies to ace the essential abilities in arithmetic and sciences so as to be effective in their projects. Too, some first-year understudies accept this open door to discover progressively about the building calling and to choose whether it is a reasonable profession for them. Numerous instructors accept that there are

Multiclass Analyzer for Movie Sentiments using Machine Learning Techniques



JayanagBayana, K. V. Sambasiva Rao

Abstract - Gigantic volumes of content information are open in web. The fundamental rich assets of sentiments are from discussions, website evaluations, news and blog. Our point is to group the slants of clients focuses at mining the surveys of clients for a motion picture by removing the information naturally and characterize the conclusions into positive or negative sentiments. With the brisk making of Internet applications, incline course of action would have colossal opportunity to help people customized assessment of customer's notions from the web information. Customized feeling mining will benefit to the two clients and sellers. Up to now, it is as yet an entangled assignment with incredible test. Specifically, there is an abundance of content written in regular language accessible online that would turn out to be significantly more helpful to us were we ready to viably total and process it consequently by using the NLP techniques. The comments are pre-processed using NLP techniques like tokenization, stop word removal & stemming. Machine learning algorithms are used in opinion mining for product review data set to train the system based on the rules of the algorithm utilized where it is tested with test data set, both these train & test data sets are labelled unbalanced opinions.

Keywords: Sentiment Classification, NLP techniques, Machine learning algorithms.

I. INTRODUCTION

Web today contains a tremendous amount of printed information, which is developing each day. The content is pervasive information group on the web, since it is anything but difficult to produce and distribute. What is hard these days isn't accessibility of valuable data but instead separating it in the best possible setting from the tremendous sea of substance. It is presently past human force and time to seed through it physically in this manner, the examination issue of programmed arrangement and sorting out information is evident. Literary data can be separated into two fundamental spaces: realities and conclusions. While actualities center around target information transmission, the assessments express the estimation of their creators. At first, the

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examination has for the most part centered around the classification of the true information.

Today, we have web crawlers which empower search dependent on the watchwords that depict the subject of the content. The quest for one watchword can restore an enormous number of pages. For instance, Google look for "star trek" discovers more than 2.3 million pages. These articles incorporate both target realities about the motion picture establishment (for example Wikipedia article) and abstract conclusions from the clients (for example audit from pundits). As of late, we became observers of countless sites that empower clients to contribute, change, and grade the substance. Clients have a chance to express their closely-held conviction about explicit subjects. The instances of such sites incorporate sites, gatherings, item audit locales, and informal communities. We apply AI systems to characterize set of messages.

This paper displays an observational investigation of adequacy of AI methods in grouping instant messages by semantic significance. We use motion picture survey remarks from well-known informal organization as our informational index and arrange message by subjectivity/objectivity and negative/inspirational frame of mind. We propose various methodologies in separating content highlights, for example, sack of-words model, utilizing enormous motion picture audits corpus, limiting to modifiers and intensifiers, dealing with refutations, jumping word frequencies by an edge, and utilizing WordNet equivalent words information. We assess their impact on exactness of four AI strategies - Naive Bayes, Decision Trees, Maximum-Entropy, and K-Means grouping. We finish up our investigation with clarification of watched drifts in exactness rates and giving headings to future work.

II. LITERATURE SURVEY

P.Kalaivani et.al [1] Comparison taken place between three supervised machine learning algorithms of kNN, Naïve bayes, SVM for sentiment classification. Aim of the paper is evaluating the performance for sentiment classification about accuracy, precision and recall and their accuracy using SVM is greater than 80%

AkshatBakliwal et.al [2] they described a model for binary classification about reviews for multiple domains like Naïve bayes, SVM. They used a n-gram feature for processing stop word removal and stemming. At last the result was analyzed and efficiency was compared with Naïve bayes, SVM.



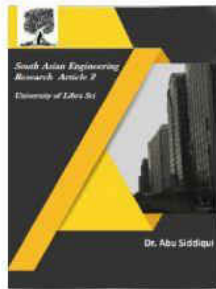


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IRIS GRATITUDEARRANGEMENT

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Abstract: In a biometric device someone is diagnosed routinely by using processing the particular features which are posed by way of the character. Iris Recognition is appeared as the maximum reliable and correct biometric identity machine to be had. In Iris Recognition someone is identified by way of the iris which is the part of eye using sample matching or photo processing the use of standards of neural networks. The purpose is to identify a person in actual time, with excessive efficiency and accuracy through analysing the random patters visible in the iris if an eye from a fewdistance, by way of implementing modified Canny facet detector set of rules. The most important programs of this generation up to now have been: substituting for passports (automatic global border crossing); aviation protection and controlling get right of entry to to confined areas at airports; database get right of entry to and laptop login.

Keywords: Iris popularity, biometric identification, sample popularity, segmentation.

I. INTRODUCTION

Iris has many capabilities along with existence-long invariance, forte, less complicated to gather and tough to copy and so on, consequently it's far extensively utilized in identification generation. Compared with fingerprint, face, voice and other biological traits, better accuracy may be accomplished by means of iris recognition era using the related reputation algorithm. Wrong and reject are hardly ever arise in iris identification, and the opportunity of blunders is the bottom of all biometrics [1,2]. Therefore the iris identity era is getting increasingly interest. Iris reputation consists of picture preprocessing, picture internal and periphery region segmentation, image normalization and feature extraction and matching.

The transmission and conversion method of digital pix will cause the image exceptional discount, so the picture preprocessing is needed to enhance image first-class. In order to take away the outcomes of eyelids, eyelashes, sclera and

other elements on the iris picture, and the have an effect on of light on the iris photograph excellent, the pictures were preprocessed by way of median filter out and advanced "salt and pepper".

The median filter is as following: first off, the order in which the pixels inside the location targeted on a positive factor are arranged

inside the order of the pixel values. Secondly, if the pixels factors within the location are odd, the center pixel price is taken as the gray cost of the center point, even as there are even pixels within the vicinity, the average of the center pixels are taken because the center factor of the grey fee.

The median filter out is ideal at eliminating the binary noise in the picture and preserving the brink texture statistics of the image. However, when the number of noise factors in the vicinity is greater than half of the width of the region, this approach is ineffective. For this trouble, "salt and pepper" filter can be used, because it can dispose of small noise, at the side of widely distributed and uneven distribution of noise.



COMPARISON OF MULTIPLE APPS AND POPULARITY PREDICTION BASED ON USER REVIEWS

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Abstract: In recent years, bike-sharing systems are wide deployed in many Brobdingnagian cities that provide a cost-efficient fashion. With the prevalence of bike-sharing systems, plenty of companies are a vicinity of the bike sharing market, leading to additional and additional fierce competition. To be competitive, bike-sharing companies and app developers have to be compelled to build strategic picks for mobile apps development. Therefore, it is vital to predict and compare the recognition of varied bike-sharing apps. However, existing works for the most part focus on predicting the recognition of one app, the popularity contest among altogether completely different apps has not been explored but. In this paper, we've a bent to aim to forecast the recognition contest between Mobike and Ofo, a pair of most well-liked bike-sharing apps in China. We've a bent to develop CompetitiveBike, a system to predict the recognition contest among bike-sharing apps. Moreover, we've a bent to conduct experiments on real-world datasets collected from eleven app stores and Sina Weibo, and so the experiments demonstrate the effectiveness of our approach.

Keywords: Bike-sharing app, Mobile app, Competitive analysis, Popularity prediction

1 Introduction:

In recent years, shared transportation has big enormously, that provides US an economical style. Among the assorted sorts of shared transportation, public bike-sharing systems [1], [2], [3] are wide deployed in several metropolitan areas (e.g. NY town within the US and national capital in China). A bike-sharing system provides short-run bike rental service with several bicycle stations distributed in a city [4]. A user will rent a motorbike at a close-by bike station, and come back it at another bike station close to his/her destination. The worldwide prevalence of bike-sharing systems has

galvanized millions of active analysis, like bike demand prediction [5], [6], [7], bike rebalancing improvement [8], and bike lanes designing [9].

More recently, station-less bicycle-sharing systems are getting the thought in several huge cities in China like national capital and Shanghai. Mobike¹ and Ofo² square measure 2 hottest station-less bicycle-sharing systems. In contrast to ancient public bike-sharing systems, station-less bike sharing systems aim to resolve "the last one mile" issue for users. Exploitation the Mobike/Ofo mobile app, users can search and unlock near bikes. Once users

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A Framework For The Identification Of Significant Contexts In Tourism Domain

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Abstract

The tourism industry has grown up to the maximum level from the last decade due to the affordable airline fares offered by many service providers. Growth of the tourism domain depends on how it satisfies the needs of all types of users who stay at hotels with various trip-types, primarily in the hotel sector. Many travel platforms nowadays are offering attractive tour packages throughout the year so that an ordinary person is also showing more interest in visiting new places. The socio-economic and cultural background of a customer plays a crucial for deciding in the selection of hotels from different classes. The selection of a specific hotel is made based on the reviews given by previous guests on the services availed. Users around the globe having different educational and cultural backgrounds, often want to stay in the hotel for various trip-types. The primary goal of any hotel administration is to fulfill the needs of versatile customers. The task of any travel platform is a tie-up with hotel management to collect the maximum number of reviews from all these types of customers naturally, and most comfortably. The majority of travel platforms will collect opinions from their users in a textual form and analyze them by using Content-based recommender systems. Users from ordinary educational backgrounds may feel difficult while expressing the opinions in textual form even in their native language during their stay. Hence, we are using a Context-aware model to collect opinions in a better manner. Context-aware or Multi-Criteria recommender systems are one of the most straightforward approaches for collecting user opinions. In this approach, ratings will be collected in the form of contexts from all types of users in a simple manner with little time effort. The Multi-Criteria recommender system will provide the ratings of each context given by various users. The same context may rate differently by users based on the hotel class and trip-type. A significant challenge facing any travel platform is not only using the Multi-Criteria recommender systems to collect the opinions but also how effectively they analyze the significant contexts from the existing ones in the model. Many travel recommender platforms recommending either all the contexts or only a few of them, which depends on the hotel not considering the Trip-Types, also playing a significant role in the recommender model, along with hotel class. The success glory of any travel platform depends on how it is merely collecting better opinions. The regression model used in this paper provides a framework for identifying

Deep Convolutional Neural Network based Image Steganography Technique for Audio-Image Hiding Algorithm



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Abstract: *Steganography is one expanding field in the area of Data Security. Steganography has attractive number of application from a vast number of researchers. The most existing technique in steganography is Least Significant Bit (LSB) encoding. Now a day there has been so many new approaches employing with different techniques like deep learning. Those techniques are used to address the problems of steganography. Now a day's many of the existing algorithms are based on the image to data, image to image steganography. In this paper we hide secret audio into the digital image with the help of deep learning techniques. We use a joint deep neural network concept it consist of two sub models. The first model is responsible for hiding digital audio into a digital image. The second model is responsible for returning a digital audio from the stego image. Various vast experiments are conducted with a set of 24K images and also for various sizes of images. From the experiments it can be seen proposed method is performing more effective than the existing methods. The proposed method also concentrates the integrity of the digital image and audio files.*

Index Terms: *Steganography, Least Significant Bit, Deep Learning, Deep Convolutional Neural Network*

I. INTRODUCTION

Now a day's computers and internet play an important role in this modern field especially in the field of information technology? Among those the important of data security plays a vital role. So much research is going in the field of data security. There are two main solution are existing for data security Cryptography and steganography. Cryptography is to protect the content of any message. Steganography is nothing but hiding of content in any of the media like image, audio and video etc. Under steganography have various types of steganography techniques. Image steganography, audio steganography and video steganography. Image steganography means hiding of secret data into an image. In audio steganography hiding the secret data into the image and in video steganography hiding the secret data in to the video. In this paper we implement the concept of audio-into-image steganography[1][2] which hides the secret audio in to the digital image.

When compared to hiding images to images hiding audio into image is more difficult because audio and image both are belonging to the different domains. In general audio data is in the form of one dimensional array and image is in the form of three dimensional arrays. Audio values are ranges from -2^{15} to $2^{15}-1$ and images values are ranges from 0 to 255. To eradicate these problems the proposed approach using deep convolutional neural network (DCNN) model. The DCNN model is capable of hiding audio and images.

The main contribution of this paper

1. The proposed work use DCNN to address the main problem of hiding the secret audio into the digital image
2. Comparing the proposed method on different images of various sizes.
3. Showing the proposed method is more effective than the traditional existing method.

The rest of the paper is organized is as follows. Section 2 presents literature review: it present brief review about various existing methods. In section 3 have proposed model architecture which is used for preprocessing of given data and hiding of given image into audio file. Section 4 has experiments results. And section 5 provides the conclusion and future scope for this proposed approach.

II. LITERATURE REVIEW

Steganography technique has a very long history. It is one of the oldest techniques. This technique can be found from many of the surveys and applications. All the methods in the existing steganography techniques are very basic in traditional steganography techniques[3][4]. These methods are very simple and can be easily detected by the third party with this as a result modern secured algorithm was introduced in digital signal processing. In the field of digital signal processing so many algorithms are developed to embed data in a secure manner. Mchaughn[5] proposed one of the earliest method which is used to embed secret data into 4 LSB bits of an cover image. Heranedz[6] proposed another technique for hiding data. In this technique data was hidden in different formats other than the image. In this for hiding use HTML, XML and EXE files. Hosmer[7] propose LSB technique for hiding the secret data. In this technique GIF and JPEFG format of an image and also this technique supports hiding of data in a music file also. The LSB based steganography techniques have major drawbacks. One of the main disadvantages of this mechanism is to lack of robustness, when we apply the process of steganalysis. To avoid these type of existing problems in LSB approaches, we can employ deep neural networks. Imran[10] proposed one of the technique related to deep neural networks.

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SMART MARKETING IN AGRICULTURE USING ANDROID

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ABSTRACT

Now-a-days it can be observed that, farmers are facing many problems. There is a lot of difference between price at farmer and marketing price. Because there are many people involving to sell their crop items in market and they are not getting profits for their crop items and also they are unable to store their crop items in a safe place in this context it is proposed to use IT as a tool to bridge the gap between farmer and buyer form open market. SMART application helps for farmers provide place to store their crop items. Many mobile applications are developed for the farmers. All the applications are developed for specific purpose. The functions are diverse ranging from crop items information, rates, sell crop items in online and news about agriculture. This is used to Farmer to get reasonable price for their crop items. By using this Farmer can directly connect to the customer. To develop this application we use Eclipse environment and we run the application by launching emulator.

Keywords— Eclipse, Emulator

1. INTRODUCTION

SMART MARKETING IN AGRICULTURE USING ANDROID is used to farmers to sell their product in market and earn remarkable profit. This application puts power into a farmers hand. This application uses tools like Android SDK, Glass Fish Server, etc. Farmers often struggle to sell their products with reasonable price. Some of them do not know basic information like, crop prices, information about crops and advices. By agriculture we can produce food and raw materials. India is one of the popular countries in agriculture. There is need to improve technology in agriculture. By using technology we can do our work easily. In Agriculture also we can use technology to get more profit. 'Green revolution' is found of pesticides and fertilizers. Agriculture sector of India has 20% of GDP (Gross Domestic Product) and 60% of total population of India farmers, which includes small scale producers, are unable to access information and technological resources that could increase the yield and lead to reasonable prices for their crops and products. It will put agriculture field to high point. The purpose of this application is to develop the

mobile phone application that helps in farmers, leads to agriculture yield improvement and helps in care or maintenance of the farms. Smart farming increases the production in almost every sector. The economy of some of the countries is mostly depends on agriculture and farming. A major part of the population is directly involved with agriculture and farming business. Income source of people are limited. most important to agriculture. In India most of the people are depend on agriculture. [2] India one of the large country in the production of rice, wheat, pulses and spices. [3] India is self- explanatory country. By using technology we can improve our agriculture system. To support farmer, government launches new schemes and policies. New technique and inventions help the agriculture domain. But these techniques are not reached to the farmer. The troubles come in the dissemination of this information not reaching to the farmer. So many farmers are uneducated. Some of the farmer does not know this invention. To help farmer government lunches many schemes. This will effectively helps the famer to sell their crop items at reasonable prices. By using this application farmer can easily upload



A NEW HYBRID ADAPTIVE E-LEARNING SYSTEM BASED ON LEARNERS' INFLUENCE PROPAGATION

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Abstract:

Customized courseware writing dependent on recommender framework, which is the procedure of programmed learning objects choosing and sequencing, is perceived as one of the most fascinating examination field in shrewd online training. Since the student's profile of every student is not quite the same as to each other, we should fit figuring out how to the various needs of students. Truth be told from the information on the student's profile, it is simpler to suggest a reasonable arrangement of learning articles to improve the learning procedure. In this paper we portray another versatile learning framework Learn Fit, which can consequently adjust to the dynamic inclinations of students. This framework perceives various examples of learning style and students' propensities through testing the mental model of students and mining their server logs. Right off the bat, the gadget proposed a customized learning situation to manage the virus start issue by utilizing the Felder and Silverman's model. Next, it examines the propensities and the inclinations of the students through mining the data about students' activities and collaborations. At last, the learning situation is returned to and refreshed utilizing half and half recommender framework dependent on K-Nearest Neighbors and affiliation rule mining calculations. The consequences of the framework tried in genuine situations show that considering the student's inclinations builds learning quality and fulfills the student.

Keywords— E-learning, Recommender system, Learning style, Collaborative filtering, Learning objects

I Introduction:

These days, improvement of looking through innovation gives students another approach to break free with the more conventional instructive models by investigating manners by which Web-based could adjust their conduct to the objectives, errands, premiums, and different attributes of clients. Because of individual needs, personalization in training encourages

understudies to learn better by utilizing various procedures to make different learning encounters. As of late, one of the new type of learning personalization that has been communicated as a need by a few investigations is to give suggestions for students so as to help and to help them through the learning procedure. Surely, recommender frameworks are getting

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Text Detection Using LoG Filter for Computer Vision Applications

Sowmya Koneru, A.YogaSaiAvinash, J. Prasanna, D. Harshini

Abstract

This paper describes the procedure of text localization and text detection in images and videos with complex backgrounds using LoG filter an edge detection process which will be useful for computer vision applications by approaching one of the most commonly used methodologies known as stepwise methodology.

Keywords: LoG filter, Text Localization, Text Detection, Computer Vision, Stepwise methodology.



How to Cite

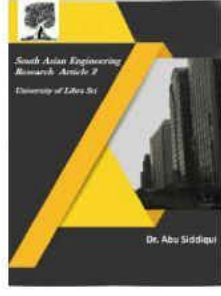
Sowmya Koneru, A.YogaSaiAvinash, J. Prasanna, D. Harshini. (2020). Text Detection Using LoG Filter for Computer Vision Applications. *International Journal of Advanced Science and Technology*, 29(06), 2996 - 3000. Retrieved from <http://sersc.org/journals/index.php/IJAST/article/view/13832>

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Section

Articles



A STUDY OF CYBER SECURITY MANEUVERS BUILT ON MACHINE LEARNING & DEEP LEARNING

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Abstract: In past decade system learning (ML) and deep studying (DL), has generated impossible to resist research interest and attracted remarkable public attention. With the growing integration of the Internet and social lifestyles, there may be exchange in how people research and work, but it also exposes them to extreme security threats. It is a difficult undertaking to protect touchy facts, information, community and computers connected structures from the unauthorized cyberattacks. For this cause, effective cyber protection is needed. Recent technology which include machine learning and deep studying are incorporated with cyberattacks to offer solution to this problem. The paper surveys machine getting to know and deep learning in cyber safety also it discusses the challenges and possibilities of the use of ML / DL and offers recommendations for studies directions.

Keywords: Cyber safety, Machine studying, Deep learning, Intrusion detection.

I. INTRODUCTION

Presently gadget linked by using net, which includes the hardware, software & records may be included from cyberattacks through cyber safety. Cybersecurity is a hard and fast of technologies and processes designed to protect computers, networks, packages and information from assaults and unauthorized get entry to, alteration, or destruction. As threats come to be extra sophisticated the most recent technology consisting of Machine mastering (ML) and deep learning (DL) are used inside the cybersecurity community to leverage protection abilities. Nowadays, cyber protection is a stimulating trouble within the cyber area and it's been depending on computerization of different software domains which includes budget, enterprise, scientific, and many other important regions [11]. To pick out various community attacks, specifically no longer formerly visible attacks, is a key difficulty to be solved urgently [1].

This paper offers with preceding work in gadget studying (ML) and deep gaining knowledge of (DL) techniques for cybersecurity applications and some applications of every approach in cyber safety operations are described. The ML and DL strategies blanketed in this paper are applicable to discover cyber

protection threats including hackers and predators, adware, phishing and network intrusion detection in ML/DL. Thus, extraordinary prominence is placed on an intensive description of the ML/DL methods, and references to seminal works for each ML and DL approach are supplied [1]. And speak the traumatic situations and opportunities of using ML / DL for cybersecurity. The rest of the survey is organized as follows:

Section II tells about cyber protection, Section III consists of Machine gaining knowledge of, Section IV consists of survey on Deep studying and Section V committed to similarities and differences between Machine studying & Deep getting to know.

II. CYBERSECURITY

Protection of networks, laptop connected gadgets, programs, and facts from malicious assaults or unauthorized get admission to the usage of set of technologies is called cyber security. Cyber safety can be usually referred as information era security. Information may be sensitive statistics, or other kinds of records for which unauthorized access leads to catastrophe. In the manner of synchronizing with new



2581-4575



BREAST CANCER DETECTION USING SOFT COMPUTING TECHNIQUE

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ABSTRACT

During a decade ago breast cancer is perceived as significant reason for death among ladies and the quantity of breast cancer disease patients is expanding. Mammography is the best technique for the early discovery of breast diseases. Finding a precise and powerful computer supported determination framework for arrangement of the variations from the norm in the mammograms as threatening or considerate still stays a test in the advanced mammography. The present work focus around the extraction of the element without expelling pectoral muscle in pre-processing stage utilizing another effective strategy and distinguish unusual region utilizing division and edge location. Database of MIAS mammography images was used to classify normal/ abnormal individuals and benign/ malignant cancer patients and the KNN classifier. Training on an enormous number of information offers a significant level of exactness. Be that as it may, because of the constrained volume of patients, the biomedical datasets contain a moderately modest number of tests. Information growth is along these lines a technique to expand the size of info information by creating new information from the previous information. The information increment has numerous structures; the one utilized here is the pivot. When manually cropping the ROI from the mammogram, the reliability of the newly trained DCNN design is 71.01 percent. Segmentation methods, the average region under the curve (AUC) attained was 0.88 (88%). In contrast, when using the CBISDDSM specimens, the DCNN reliability is improved to 73.6%. The accuracy of the KNN thus becomes 87.2% with an AUC equal to 0.94 (94%). Compared to previous work, this is the largest AUC value using the similar conditions.

Keywords—CNN, Mammography

1. INTRODUCTION

Breast cancer is caused by an abnormal breast cell growth. These cells are rapidly growing in benign and malignant tumours. Increasing number of cells in benign tumours stop at a defined stage, but in malignant tumours it continues to grow until all parts of the body are affected. The risk of breast cancer increased with early

menstruation in younger age, menopause in older age and late marriage. Nutrition and lifestyle are important factors in breast cancer, in addition to contraceptive drugs and hormone. Image processing is one of the key concepts in the fields of medical and biotechnology.

The purpose of these mechanisms is to enhance the relative quality of information



CROP YIELD PREDICTION BASED ON AGRICULTURE RELATED DATA USING MACHINE LEARNING

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ABSTRACT

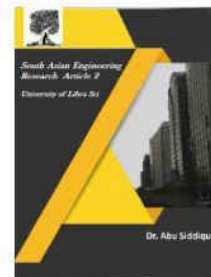
Agriculture is one among the main revenue producing sectors of India and a source of survival. Numerous seasonal, economic and biological patterns influence the crop production but unpredictable changes in these patterns cause an excellent loss to farmers. These risks are often reduced when suitable approaches are employed on data associated with soil type, temperature, air pressure , humidity and crop type. Whereas, crop and meteorology are often predicted by deriving useful insights from these agricultural data that aids farmers to make a decision on the crop they might wish to plant for the forthcoming year resulting in maximum profit. This paper presents a survey on the varied algorithms used for weather, crop yield, and crop cost prediction.

KEYWORDS: Agriculture, Crop yield prediction, Cost forecasting, Weather prediction.

I. INTRODUCTION

Agriculture is superior to citizenry , because it forms the idea for food security. Agriculture is that the main source of value for many developing countries [1]. However, for the developed countries, agriculture contributes a bigger percentage to their value . Agriculture is one among the main sectors to be impacted by different sources like climatic changes, soil attributes, seasonal changes etc., [2]. India is predominantly an agriculture based country, and agriculture is that the important occupation for many of the Indian families. In India, over 60.3% of acreage is agricultural land, it contributes about 17% to the entire Gross Domestic Product (GDP),

one-tenth (10%) of total exports and offers employment to 60% of the population. India's agriculture consists of various crops, with the main crops of rice and wheat. Indian farmers growing pulses, sugarcane and also, non-food items like cotton, tea, coffee, then on [3], [4].This scenario mainly concentrates on meteorology , crop yield prediction and crop cost forecasting [5]. These factors help the farmers to cultivate the simplest food crops and lift the proper animals with accordance to environmental components. Also, the farmers can adapt to climate changes to a point by shifting planting dates, choosing varieties with different growth duration, or changing crop



SECURITY CHARACTERIZATION AND QUANTIFICATION IN STATISTICS PUBLISHING

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Abstract

The expanding enthusiasm for gathering and distributing a lot of people's information as open for purposes, for example, clinical research, showcase investigation, and affordable measures has made significant security worries about person's touchy data. To manage these worries, numerous Privacy-Preserving Data Publishing (PPDP) procedures have been proposed in writing. Be that as it may, they come up short on an appropriate security portrayal and estimation. In this paper, we first present a novel multi-variable security portrayal and quantification model. In light of this model, we can break down the earlier and back antagonistic conviction about trait estimations of people. We can likewise examine the affectability of any identifier in protection portrayal. At that point, we show that security ought not to be estimated dependent on one measurement. We show how this could bring about security confusion. We propose two unique measurements for quantification of protection spillage, dispersion spillage, and entropy spillage. Utilizing these measurements, we examined probably the most notable PPDP methods, for example, k-obscurity, l-decent variety, and t-closeness. In light of our structure and the proposed measurements, we can discover that all the current PPDP plans have confinements in security portrayal. Our proposed security portrayal and estimation structure adds to better understanding and assessment of these systems. Along these lines, this paper gives an establishment to structure and examination of PPDP plans.

Keywords: Data privacy, data security, data publishing, big data, data mining, privacy quantification, privacy leakage

I)Introduction

The expanding enthusiasm for gathering and distributing a lot of people's information as open for purposes, for example, clinical research, showcase investigation, and affordable measures has made significant security worries about person's touchy data. To manage these worries, numerous Privacy-Preserving Data Publishing (PPDP) procedures have

been proposed in writing. Be that as it may, they come up short on an appropriate security portrayal and estimation. In this paper, we first present a novel multi-variable security portrayal and quantification model. In light of this model, we can break down the earlier and back antagonistic conviction about trait estimations of people. We can likewise examine the affectability of any identifier



ANALYSIS OF GUEST REVIEWS IN DIFFERENT STAR HOTELS AND TRIP TYPE AN APPLICATION IN SAO-PAULO

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Abstract :- Recommender Systems (RS) are proven to be very much beneficial on e-commerce sites by providing useful information to the customers in the decision-making process. The growth of computer mediated marketing has lead to increase interest in RS from past one decade Collaborative RS are the most popular type of these systems and they use ratings, i.e. the opinions of users on specific items, to determine neighbourhoods between users. Traditional RS like collaborative, content-based, knowledge-based, and hybrid systems use two dimensional ratings, i.e. the user and the item itself. But these systems omit much available information in some applications in which the contextual information plays a major role, for instance in the movies, restaurants or tourism domains. Contextual information has various forms like time, place, location, room, value, and etc. To acquire a dataset with the contextual information is not a simple task. For the purpose of analysis, we therefore consider a well-known e- tourism platform trip advisor (<http://www.tripadvisor.com>) which has many reviews given by different users with contextual information for various hotels across the city called sao-paulo The hotel industry in Sau-paulo is important, because number of fabulous events throughout the years, inviting visitors from all over the world as its guests. Hotels are primarily viewed as a service industry with intangible areas of guest experience and service. We focused on identifying the attributes that differentiate one hotel from another. The objective is to analyze the impact of contextual ratings on overall guest satisfaction & recommending potential segment with the help of multiple regression which is a part of Machine Learning. This analysis will help the hotel management(s). To concern the segments which are not highly co-related with overall rating. So that, they take the necessary steps to improve the concerns.

Keywords—contextual information, overall guest satisfaction, Multiple Regression, co-related

INTRODUCTION

Now a day's tourism Industry generates a significant portion of national income for many countries. Tourism industries are boost the country's economy and a large number of new job openings for the local people, and tourists spend money on a wide

range of services, including hotels, amusements transportation, food and medical Services, this way tourism yields an additional income, greatly supporting the country's. In South America, the tourism industry had an accelerated growth in



A NOVEL METHOD FOR FUZZY BAG-OF-WORDS BASED ON WORD CLUSTERS

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ABSTRACT:

One key issue in text mining and language process (NLP) is the way to effectively represent documents mistreatment numerical vectors. One classical model is that the Bag-of-Words (BoW). In a very BoW-based vector illustration of a document, every component denotes the normalized variety of prevalence of a basis term within the document. To count the amount of prevalence of a basis term, BoW conducts actual word matching, which might be considered a tough mapping from words to the premise term. BoW illustration suffers from its intrinsic extreme sparseness, high spatiality, and inability to capture high-level linguistics meanings behind text knowledge. To deal with the on top of problems, we have a tendency to propose a brand new document illustration methodology named Fuzzy Bag-of-Words (FBoW) during this project. Fuzzy Bag-of-Words model uses basis words for representation and clusters are formed as cluster-item pairs. Document representation is done by using this clusters. Since word semantic matching instead of exact word string matching is used, the FBoW could encode more semantics into the numerical representation. In addition, we propose to use word clusters instead of individual words as basis terms and develop Fuzzy Bag-of-WordClusters (FBoWC) models.

INTRODUCTION:

As the net grows, an outsized range of text data is currently out there within the kind of machine readable electronic documents. The method of Automatic data Retrieval so got abundant importance in recent years because of the exponential growth of the amount of documents in digital kind. Text classification or Text categorization is that the method to reason the digital documents into individual classes that describe the contents of the documents. Every document will belong to

1 or a lot of clusters supported by their contents. The Preprocessing step is followed by a Text classification rule in a very Text Categorization method. Feature extraction and have choice area unit the 2 main steps of Preprocessing. In Feature extraction, tokenization, stop word removal and stemming area unit carried. In Feature choice, the term coefficient strategies area unit administrated to search out the foremost relevant data from a collection of documents. For text classification, there area unit completely



ASSIMILATE CUSTOMERS BEHAVIORS FOR EFFECTIVE LOAD FORECASTING

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Abstract:

Load forecasting has been profoundly examined due to its basic job in Smart Grid. In current Smart Grid, there are different kinds of clients with various vitality utilization designs. Client's vitality utilization designs are alluded as client practices. It would significantly benefit load forecasting in a lattice if client practices could be considered. This paper proposes an inventive strategy that totals various sorts of clients by their identified practices, and afterward predicts the heap of every client bunch, to improve load forecasting precision of the entire matrix. Space Continuous Conditional Random Fields (SCCRF) is proposed to adequately recognize distinctive client practices through learning. A progressive grouping process is then acquainted with total clients as per the identified practices. Inside every client group, a delegate SCCRf is fine-tuned to anticipate the heap of its bunch. The final heap of the entire lattice is gotten by adding the heaps of each bunch. The proposed strategy for load estimating in Smart Grid has two significant points of interest. 1. Learning client practices improves the expectation precision as well as has a low computational expense. 2. SCCRf can successfully show the heap determining issue of one client, and all the while select key highlights to distinguish its vitality utilization design. Tests led from alternate points of view show the upsides of the proposed load determining strategy. Further conversation is given, showing that the methodology of learning client practices can be reached out as a general system to encourage dynamic in other market areas.

IndexTerms:Load Forecasting, Customer Behaviors, Continuous Conditional Random Fields, Sparse CCRF, Demand Prediction.

IndexTerms:Load Forecasting, Customer Behaviors, Continuous Conditional Random Fields, Sparse CCRF, Demand Prediction.

I. Introduction:

Load forecasting aims to predict the energy demand of customers under the influence of a series of factors, such as time, price and weather conditions. Load forecasting can benefit Smart Grid in several aspects. Accurate load forecasting helps to determine the amount of energy to produce, thus to improve the efficiency of energy usage and keep the grid away from the risk of too much surplus energy. Brokers in Smart Grid

markets rely heavily on load forecasting to make decisions on how much energy to purchase, in order to keep a good supply-demand balance and make more profit. This study focuses on short-term load forecasting, i.e. Prediction of hourly power demand over the next 24 hours of a smart grid with various types of customers. Formally, the input data $X = [x_1; x_2; \dots; x_n]$ is a $n \times D$ matrix, representing n steps and D features in each step. The output y is a n -dimension vector,



2581-4575



PREDICTION OF TYPE-2 DIABETES USING PREDICTIVE MODELLING

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ABSTRACT:

In today's world diabetes is the significant wellbeing challenges in India. It is a gathering of a disorder that outcomes in as well much sugar in the blood. It is an extended condition that influences the manner in which the body motorizes the glucose. Avoidance and forecast of diabetes mellitus is progressively picking up enthusiasm for clinical sciences. In this paper the purpose of using Predictive Modeling for presumptive diagnosis of Type 2 Diabetes Mellitus based on symptomatic analysis is the optimization of the diagnosis phase of the disease through the process of evaluating symptomatic characteristics and daily habits, allowing the forecasting of Type 2 Diabetes without the need of medical exams through predictive analysis.

I.INTRODUCTION

Globally, many chronic diseases are prevalent in developing and developed countries. Diabetes affects the different parts of the human body parts like eyes, kidneys, heart, and nerves. DM is one of the most common endocrine disorders, affecting more than 200 million people worldwide. The onset of diabetes is estimated to rise dramatically in the upcoming years. Diabetes Mellitus is defined as a group of metabolic disorders mainly caused by abnormal insulin secretion and/or action. Insulin deficiency results in elevated blood glucose levels and impaired metabolism of carbohydrates, fat and proteins. The ordinary recognizing process is that patients

need to visit a symptomatic focus, counsel their primary care physician, and hold on for a day or more to get their reports. Also, every time they need to get their finding report, they need to squander their cash futile. Diabetes leads to serious complications or even premature death. In any case, to diagnosing diabetes, a few tedious tests and examining basic elements are finished. Presently AI calculations are utilized to arrange and analysis the maladies, so as to dispense with the issue and diminish the necessary expense. Other than that, utilizing the AI calculation lead to significant and precise choices. Hence, the prevention and detection of disease in the early



ATTACK AWARE ROUTING WITH GRAPH-COLORING BASED ON WAVELENGTH

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Abstract

Security issues and assault the executives in straightforward frequency division multiplexing (WDM) optical systems have happened to prime significance to organize administrators due to the high information rates included and the vulnerabilities related with straightforwardness. Purposeful physical-layer assaults, for example, powerful sticking, can truly debase arrange execution and must be managed proficiently. While most methodologies are centered around the growing quick discovery and response instruments activated if there should arise an occurrence of an assault, we propose a novel methodology to help manage these issues in the system arranging and provisioning process as an anticipation component. To be specific, we propose to course light paths so as to limit the potential harm brought about by different physical-layer assaults. We present a new target basis for the directing and frequency task (RWA) issue, which we call the most extreme Light path Attack Span, and figure the steering subproblem as a number straight program (ILP). We test it on little systems to get an understanding into its multifaceted nature and contrast it with a plan that limits blockage. Results demonstrate that our detailing accomplishes altogether better outcomes for the while getting close ideal or ideal blockage in all cases. For bigger systems, we propose a tabu quest calculation for assault mindful light path directing, in blend with a current chart shading calculation for frequency task. Testing and contrasting and existing methodologies from writing demonstrate its predominance with regard to the and average light path load, yet at the cost of to some degree higher blockage. In any case, this is advocated with the acquired improvement in arrange security

Keywords:—Integer linear programming (ILP), physical-layer attacks, routing and wavelength assignment (RWA), tabu search, transparent optical networks

I INTRODUCTION

Straightforward optical systems dependent on frequency division multiplexing (WDM) can abuse the tremendous limit of optical filaments by partitioning it among various frequencies. All things considered, they

have been built up as the enabling innovation for the present fast spin systems, meeting shoppers' ever-expanding data transmission requests. In frequency steered or straightforward optical systems, all-

DETECTION OF FAKE ONLINE REVIEWS USING SUPERVISED AND SEMI SUPERVISED LEARNING

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Abstract—In present era, in brand selection we mainly depend on online reviews and review sites are more confronted with the spread of misinformation, i.e., opinion spam, which aims at promoting or damaging some target businesses, by misleading either human readers, or automated opinion mining and sentiment analysis systems. For this reason, in the last years, several data-driven approaches have been proposed to assess the credibility of user-generated content diffused through social media in the form of on-line reviews. Distinct approaches often consider different subsets of characteristics, i.e., features, connected to both reviews and reviewers, as well as to the network structure linking distinct entities on the review-site in exam. This article aims at providing an analysis of the main review and reviewer-centric features that have been proposed up to now in the literature to detect fake reviews, in particular from those approaches that employ supervised machine learning techniques. These solutions provide in general better results with respect to purely unsupervised approaches, which are often based on graph-based methods that consider relational ties in review sites. Furthermore, this work proposes and evaluates some additional new features that can be suitable to classify genuine and fake reviews. For this purpose, a supervised classifier based on Random Forests have been implemented, by considering both well-known and new features, and a large-scale labeled dataset from which all these features have been extracted. The good results obtained show the effectiveness of new features to detect in particular singleton fake reviews, and in general the utility of this study.

I. INTRODUCTION

The social Web and the increasing popularity of social media have led to the spread of multiple kinds of content (i.e., textual, acoustic, visual) generated directly by users, the so called *user-generated content* (UGC). By means of Web 2.0 technologies, it is possible for every individual to diffuse contents on social media, almost without any form of trusted external control. This implies that there are no means to verify, a priori, the reliability of the sources and the believability of the content generated. In this context, the issue of assessing the credibility of the information diffused by means of social media platforms is receiving increasing attention from researchers.

In particular, this issue has been deeply investigated in review sites, where the spread of misinformation in the form of *opinion spam*, and

the negative consequences that it brings, are particularly harmful for both businesses and users. In this context, opinion spam detection aims at identifying fake reviews, fake comments, fake blogs, fake social network postings, deceptions, and deceptive messages [1], and to make them readily recognizable. Detection techniques to identify *fake reviews* have been proposed in particular for specific review sites such as TripAdvisor¹ or Yelp, ² where users' reviews have a powerful effect on people visiting the Website for advice. Therefore, a recommendation of a product or a service such as a restaurant or a hotel based on false information can have detrimental consequences.

Most approaches that have been proposed so far to detect fake reviews in these social media platforms rely on supervised machine learning

A MODEL TO DETECT SOCIAL NETWORK MENTAL DISORDERS USING AI TECHNIQUES.

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Abstract:

Nowadays the users of social network are increasing drastically worldwide. This platform become very useful for sharing information, discussing on various issues, Even majority of their active time they are spending on social medias like tweeter, face Book etc. Due to this physical human relations are damaging, and users are addicted to internet and frequent checking of tweeter, Facebook etc, Net compulsion. Recent surveys telling that there is a relation between mental health and social network behaviour. Still it is unclear how this mental illness and social networks are related. In this paper we are going propose a model to find out mental disorders using social network data analysis, in this work we have collected the data from twitter and manually labelled that data into two classes one is depressive and other is normal then then data pre-processing was performed then it is divided into training and testing sets, training data is used to build the model by making naive bayes classifier to learn from the data. Once model is build it was tested with the testing set and obtained results with high Accuracy around 92.3. So usually doctor need to find metal disorders they will fire some questions to the patient based on that doctor detects mental illness but in this model we can able to detect mental disorders without consulting patient based on their social network behaviour analysis.

1. Introduction

Social network is nothing but an internet based software application which allows family members, friends, colleagues, clients connect to one other to share information like photos, videos, messages, Documents, Location etc altogether it changes entirely the way we are communicating. In recent years the popularity of social media increases drastically throughout the world. Even it is reaching to common man , uneducated persons also can able to use these social media comfortably. Here information exchange is very fast with in no time any information can reach throughout the world. Various kinds of social media available in current market are shown in Fig.1.



Fig.1 Different Social media in Current Market



SPAMMER RECOGNITION AND COUNTERFEIT USER CREDENTIALS ON SOCIAL GRIDS

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ABSTRACT: Social networking websites have interaction tens of millions of users around the sector. The users' interactions with these social websites, inclusive of Twitter and Facebook have an exceptional effect and sometimes unwanted repercussions for each day life. The distinguished social networking web sites have turned into a target platform for the spammers to disperse a huge amount of irrelevant and deleterious records. Twitter, as an example, has end up one of the most extravagantly used structures of all instances and consequently lets in an unreasonable amount of unsolicited mail. Fake users send undesired tweets to users to promote services or websites that no longer only have an effect on legitimate users but also disrupt aid consumption. Moreover, the possibility of expanding invalid data to customers thru fake identities has extended that outcomes inside the unrolling of dangerous content. Recently, the detection of spammers and identification of fake users on Twitter has grown to be a commonplace region of studies in contemporary online social Networks (OSNs). In this paper, we perform a review of techniques used for detecting spammers on Twitter. Moreover, a taxonomy of the Twitter unsolicited mail detection processes is offered that classifies the strategies based totally on their capacity to discover: (i) faux content material, (ii) unsolicited mail based totally on URL, (iii) spam in trending topics, and (iv) faux users. The offered techniques are also compared primarily based on numerous capabilities, along with user features, content material features, graph functions, structure features, and time features. We are hopeful that the provided look at may be a beneficial aid for researchers to discover the highlights of recent developments in Twitter junk mail detection on an unmarried platform.

INDEX TERMS: Classification, faux consumer detection, on-line social network, spammer's identification.

I. INTRODUCTION

It has become quite unpretentious to reap any sort of records from any supply across the world through using the Internet. The accelerated demand of social sites lets in users to acquire ample amount of statistics and records about users. Huge volumes of information available on those sites also

draw the eye of faux customers [1]. Twitter has unexpectedly grow to be an online source for obtaining real-time statistics about customers. Twitter is an Online Social Network (OSN) where users can share whatever and everything, inclusive of news, reviews, or even their moods. Several arguments may be held



STRUCTURED EVENTS EVENT-DRIVEN STOCK PREDICTION

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Abstract

We propose a deep learning method for event-driven stock market prediction. First, events are extracted from news text, and represented as dense vectors, trained using a novel neural tensor network. Second, a deep convolutional neural network is used to model both short-term and long-term influences of events on stock price movements. Experimental results show that our model can achieve nearly 6% improvements on S&P 500 index prediction and individual stock prediction, respectively, compared to state-of-the-art baseline methods. In addition, market simulation results show that our system is more capable of making profits than previously reported systems trained on S&P 500 stock historical data.

1 Introduction

It has been shown that the financial market is “informationally efficient” [Fama, 1965] — stock prices reflect all known information, and the price movement is in response to news or events. As web information grows, recent work has applied Natural Language Processing (NLP) techniques to explore financial news for predicting market volatility.

Pioneering work mainly uses simple features from news documents, such as bags-of-words, noun phrases, and named entities [Kogan et al., 2009; Schumaker and Chen, 2009]. Although useful, these features do not capture structured relations, which limits their potentials. For example, representing the event “Microsoft sues Barnes & Noble.” using term-level features f“Microsoft”, “sues”, “Barnes”, “Noble”g alone, it can be

difficult to accurately predict the price movements of Microsoft Inc. and Barnes & Noble Inc., respectively, as the unstructured terms cannot differentiate the accuser (“Microsoft”) and defendant (“Barnes & Noble”). Recent advances in computing power and NLP technology enables more accurate models of events with structures. Using open information extraction (Open IE) to obtain structured events representations, we find that the actor and object

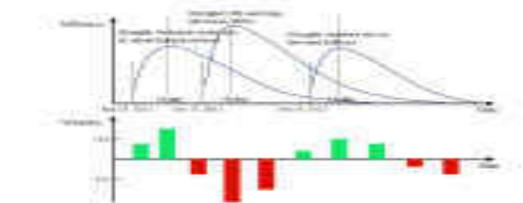


Figure 1: Example news influence of Google Inc.



2581-4575



PREDICTION OF PLANT DISEASES USING IMAGE PROCESSING AND MACHINE LEARNING ALGORITHMS

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Abstract -Healthiness of plant is always monitored by healthiness of leaves, stem, flowers and fruits. Now-a-days people have no idea about all those things. This paper talks about how the problem is solved with computerized version generally there are few systems like k-means and different classification algorithm which identifies the diseases but not up to the mark so, the paper discuss a new technique called Convolution Neural Networks[CNN] in image processing which involves many hidden layers when compared to ordinary neural network techniques so that the project will return accurate results. This project considers some of the plants which are locally grown in India viz., tomato, corn, grape, potato and apple and their related diseases are predicted using image processing and machine learning algorithms. In this project the plant leaves are taken as pictures and these pictures are feed to the model which is main part of the work which predict whether given leaf is effected or healthy. Later the farmers provide fertilizers for the crop to control the disease.

Keywords:Machine Learning, Neural Networks, Convolution Neural Networks, plant disease prediction

1.INTRODUCTION

Agriculture is the backbone of Indian economy. Nearly 17-18% of GDP depends on Agriculture. Most of the rural population depends on agriculture and its related activities i.e, about 60% of the total population directly or indirectly depends on farming for their livelihood. There are many sectors in agriculture like crop production, livestock, forestry, fishing and aquaculture.

This project mainly focuses on crop production. Basically the crop yields depends on environmental factors like weather,soil, rainfall, seed quality, fertilizers and pesticides used along with these factors the main important issue to be considered is detection of plant diseases in specified time otherwise it shows more negative impact on the crop yields.

Generally the diseases can be identified when they become severe which reduces 20-30% of crop yields. So, the farmer should identity the disease in earlier stages, it may not be possible through

optical observation of experienced persons. Now, the work is to make this process as easy as possible and to help the farmers in identifying the plant diseases so that it helps in reduce the damage caused by the disease which in turn increase the crop productivity.

2 Literature Review

Detection of plant disease is the major issue of the computer vision and machine learning. There are many phases like pre-processing, extracting the features and classification. The support vector machine(SVM) classifies the image into two categories. In the existing technique support vector machine is used for the classification. According to Simranjeet, et al.,[2019] the proposed methodology is based on the region based segmentation, textual feature analysis and k-nearest neighbor method is applied for the classification.

A new image recognition system based on multiple linear regression is proposed by Guiling Sun, et al., [2018]. There are many techniques

PREDICTION OF RAINFALL USING ARTIFICIAL NEURAL NETWORK

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Abstract--- In this paper, we present a prediction model for rainfall ahead of time by using Artificial Neural Network. The resultant prediction rainfall can be used to maintain the BER on the communication Link in acceptable range for the constant flow of data. The approach used in this paper is BackPropagation Algorithm which is very famous for predictions. The model which is designed to predict rainfall based on current weather details where the model is trained based on the given hourly data of a particular region which the user wants. For our model validation we used very powerful and trendy validation function that is Sparse Categorical Cross Entropy(SCCE), gives the error rate in a acceptable levels.

Keywords--- Rain fall event, Back Propagation Algorithm, Artificial Neural Network, Current Weather Details

I. INTRODUCTION

As we are in the era of 4G Technology which is fully based on Optical Fiber Network in Communication area. But, in future we are going into new era of 5G Technology which is constructed on "SATELLITE COMMUNICATION" which means very fast access. At present the Network Trafficking is increased rapidly because everything is Digitalized. Now it is bit harder to control the traffic and also providing a good service. So we are stepping into 5G. Providing best Quality Service we have to monitor so many factors like Channel Utilization etc. There are so many mitigation techniques have employed to ensure that channel is available to the user so many channel conditions. In general we have no. of techniques like BPSK, QPSK, OPSK etc. We got so many advanced techniques to provide service to the user. But, what the main problem is while we are using Satellite Communication there are so many factors shows their affect on the Communication Link. Different factors like Natural factors like Wind, Rainfall and some Physical factors like type of modulation techniques used, How strong it is Encoded and Decoded etc. Above explained mitigation techniques monitor the signal level on the link and then use the appropriate feedback channel back to the transmitter to indicate the state of channel for an action to be

effected as is the case with frequency diversity and power control. But, what we considered is to reduce the buffer time during a rain event.

This paper presents a predictive model which focuses on implementing a predictive system that predicts the future rainfall ahead of time. The level of rainfall that was predicted results in selecting an appropriate Digital Modulation Technique that will provide availability on link and good Quality service.

This paper was explained in 5 Sections with

Introduction	Section-I
Literature Review	Section-II
Artificial Neural Network	Section-III
Back Propagation Algorithm	Section-IV
Results	Section-V

II. LITERATURE REVIEW

After referring so many reference papers we got so much of knowledge about ANN and BER.

Many researchers do their studies about Rainfall Prediction by using Artificial Neural Network based on weekly, monthly, yearly. Thomas J [1] use Artificial Neural Network for prediction of Rainfall rate, in that they used a specific Location in Durban for training and prediction. And they classifies whole data into 4 different classes based on the rate of rainfall they captured from the data. They got the results with >23% accuracy.

From another study, Kothyari [2] they explained full description about the Bit Error Rate (BER) like reasons why this problem rises and what are the factors those effect this. We have an equation to estimate the value of BER also, that was explained here.

After analyzing all these papers we decide to develop a model using ANN with Back Propagation algorithm.

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Accomplishing Data Truthfulness and Confidentiality in Large Scale Data Markets

K. Swathi, C. V. K. Rajasree Alekhya, J. Bhanu Chandar, K. Pravallika

Abstract

Due to the advent of new technologies, devices, and communication, the data generated by the human is growing rigorously, along with the data, the use of person-specific data is increasing. The service provider extracts basic data from the contributors and trades it for the data consumers. But the major problem is the data truthfulness. To overcome this problem, this paper introduces a framework called Truthfulness and confidentiality in Data Markets (TCDM), which verifies the truthfulness in data collection as well as in data processing and provides quality-added data to the consumers. Most of the contributors do not want to reveal their private information to the data consumers. TCDM provides security to the contributors by using a meddle proof-device. TCDM provides truthfulness and confidentiality using homomorphic encryption and identity-based encryption. TCDM follows Encrypt-then-Sign fashion to attain truthfulness. It simultaneously, provides batch verification, outcome verification, data processing, etc. Finally, TCDM can achieve all the tasks with low computational and communicational overheads.

Keywords: Data truthfulness, meddle-proof device, confidentiality, Privacy, encryption.



How to Cite

K. Swathi, C. V. K. Rajasree Alekhya, J. Bhanu Chandar, K. Pravallika. (2020). Accomplishing Data Truthfulness and Confidentiality in Large Scale Data Markets. *International Journal of Advanced Science and Technology*, 29(06), 3020 - 3029. Retrieved from <http://sersc.org/journals/index.php/IJAST/article/view/13836>



DRIVER DROWSINESS MONITORING AND WARNING SYSTEM

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I. ABSTRACT

Driver Drowsiness monitoring and Warning System has been developed employing a non-intrusive machine vision based concepts. The system uses a touch monochrome security camera that points directly towards the driver's face and monitors the driver's eyes so on detect fatigue. In such a case when fatigue is detected, a alarm is issued to alert the drive . This report describes the thanks to find the eyes, and also the thanks to determine if the eyes are open or closed. The system deals with using information obtained for the binary version of the image to hunt out the edges of the face, which narrows the planet of where the eyes may exist. Once the face area is found, the eyes are found by computing the horizontal averages within the world. Taking under consideration the knowledge that eye regions within the face present great intensity changes, the eyes are located by finding the many intensity changes within the face. Once the eyes are identified, measuring the distances between the intensity changes within the eye area determine whether the eye s are open or closed an out sized distance corresponds to eye closure. If the system detects the eyes are found close for twenty consecutive frames, the system gives the conclusion that the driver is falling asleep and issues an alarm. The system is additionally able to detect when the eyes cannot be found, and works under reasonable lighting conditions.

INDEX TERMS: nap detection, capture processing, face identification

II INTRODUCTION

The Biggest problem regarding the increased use of vehicles is that the rising number of road accidents. Road accidents are undoubtedly a worldwide menace in our country. The frequency of road accidents in India is among the very best within the world. The fatalities, associated expenses and related dangers are recognized as serious threat to the country. of these factors

led to the event of Intelligent Transportation Systems (ITS). ITS include driver assistance systems like Adaptive control, Pedestrian Detection Systems, Intelligent Headlights, Blind Spot Detection Systems, etc. Taking under consideration of those factors, the driver's state may be a major challenge for designing advanced driver assistance systems. Driver recklessness and



MASTER CARD FRAUD DETECTION USING ARBITRARY FOREST

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Abstract:

The task is for the most part focused on MasterCard extortion location in genuine world. An incredible development in the quantity of MasterCard exchanges has as of late prompted an extensive ascent in deceitful exercises. The object is to get products without paying, or to get unapproved assets from a record. Execution of effective extortion location frameworks has gotten basic for all charge card giving banks to limit their misfortunes. One of the most vital difficulties in making the business is that neither the card nor the cardholder should be available when the buy is being made. This makes it unthinkable for the shipper to confirm whether the client making a buy is the credible cardholder or not. With the proposed plot, utilizing irregular timberland calculation the exactness of identifying the extortion can be improved can be improved. Characterization procedure of arbitrary backwoods calculation to investigate informational collection and client current dataset. At long last advance the exactness of the outcome information. The presentation of the procedures is assessed dependent on exactness, affectability, and explicitness, and accuracy. At that point handling of a portion of the qualities gave recognizes the misrepresentation location and gives the graphical model perception. The presentation of the procedures is assessed dependent on exactness, affectability, and explicitness, and accuracy.

Keywords: Master Card, Fraud Detection, Random Forest

1 Introduction:

There are different fake exercises discovery procedures has executed in charge card exchanges have been kept in specialist psyches to techniques to create models dependent on computerized reasoning , information mining, fluffy rationale and AI. Visa extortion discovery is fundamentally troublesome, yet additionally mainstream

issue to fathom. In our proposed framework we fabricated the MasterCard misrepresentation location utilizing Machine learning. With the progression of AI strategies. AI has been recognized as an effective measure for extortion recognition. A lot of information is moved during on the web exchange forms, bringing about a twofold outcome: certified or false. Inside

Robot Assisted Brain Wave Sensor Network in Smart Home Environment for Elderly Persons

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Abstract-Human brain consists of millions of interconnected neurons. The patterns of interaction between these neurons are represented as thoughts and emotion-al states. According to the human thoughts, this pattern will be changing which in turn produce different electrical waves. A muscle contraction will also generate a unique electrical signal. All these electrical waves will be sensed by the brain wave sensor and it will convert the data into packets and transmit through Bluetooth medium. Level analyzer unit (LAU) will receive the brain wave raw data and it will extract and process the signal using MATLAB platform which is shown in data processing unit. Then the control commands will be transmitted to the robot which is the assistive robot. With this entire system, we can move a robot according to the giving instructions to the robot and it can be turned by blink thoughts and it can be turned by blink muscle contraction. Electroencephalography (EEG) is the measurement of electrical activity in the living brain. In this project we used a brainwave sensor to analyze the EEG signals . This design discuss about processing and recording the raw EEG signal from the Mind Wave sensor in the MATLAB environment and through WIFI transmission control commands will be passed to the Robot section. Mind wave sensors are not used in clinical use, but are used in the Brain Control Interface (BCI). The BCI is a direct communication pathway between the brain and an external device to provide direct communication and control between the human brain and physical devices by translating different patterns of brain activity into commands in real time . This project work consists of a Processor using brain wave sensor and alert unit obstacle detection unit as hardware parts and an effective brain signal system using Matlab platform. Now, the owner has to check whether the robot move or not. If he is a not walking then the robot will automatically start. But if he is normal mode then the vehicle will run and there is no alert. Once the car received blinking command it will stop regardless the place. Further, if the owner wants to move the vehicle he has a need to come normal mode. This will help to avoid the movement during in person. The existing system is not having any remote control operation. Depend on others to operate and No muscle contraction sensing and the proposed system is having the Brain wave analysis for the signal which are taken from the human brain as shown in the block diagram, is having controlling of the robot using Human thoughts, Self controlled and operating facility for not to depend on others to operate. This project at Matlab, explains that silent speaking in the sense of this platform is “conscious effort to say a word, characterized by subtle movements of internal speech organs without actually voicing it.” The process captures signals from the brain to the muscles when the user intentionally vocalizes internally. The device later connects such signals with an external computing device. Similar to speech recognition systems, it allows the user to make orders to such devices, but without saying anything.

Keywords-Brainwave sensor EEG, Wi-Fi, brainwave visualizer, Smart Sensors, Processors, Assistive Robot, Care givers.

I.INTRODUCTION

In India, the elderly population around the world is steadily increasing. The number of people 60 years old and older increased to almost 900 million in 2015 and forecasted to reach 2 billion by 2050. In India, at present, the total count for male and female is 51 mil-lion and 53 million. Existing hospitals, care centers and other institutions currently provide care for many physically

disabled and elderly patients. These are very expensive and feasible. Older and patients would prefer to stay in the comfort of their home where they feel more confident than moving to any expensive adult care or healthcare facilities. Hence, if older adults are able to complete self-care activities on their own, it will encourage them to maintain independence and provide them with a sense of accomplishment and ability to enjoy independence longer. The best way to support them is to provide a physical environment that promotes active aging through the use of innovative technologies, such as Artificial Intelligence

A Compression Algorithm for DNA Palindrome Compression Technique

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Abstract:

Data Compression in Cryptography is one of the interesting research topic. The compression process reduces the amount of transferring data as well as storage space which in turn effects the usage of bandwidth. Further, when a plain text is converted to cipher text, the length of the cipher text becomes large. This adds up to tremendous information storing. It is extremely important to address the storage capacity issue along with the security issues of exponentially developing information. This problem can be resolved by compressing the ciphertext based on a some compression algorithm. In this proposed work used the compression technique called palindrome compression technique. The compression ratio of the proposed method is better than the standard method for both colored and gray scaled images. An experimental result for the proposed methods is better than existing methods for different types of image.

Keywords: DNA Cryptography, Plaindrome, Data Compression, Encryption, Decryption

Introduction:

The cryptography plays a vital role to provide security in the field of network or any storage media. There are various cryptographic techniques available now a days. Out of which, DNA cryptography is new born field in the field of Cryptography. While encrypting the cipher text using DNA,

one will get very long length sequences of ciphertext. In order to provide efficient storage for the ciphertext there is a need to compress the generated DNA sequences[1]. The compression process reduces the amount of transferring data as well as storage space which in turn effects the usage of bandwidth. Reducing the size of data leads to reduction in the transmission time of data in a network. There are two types of data compression techniques available. One is Lossless and Lossy Compression techniques. Examples of Lossless Compression are Runlength Coding, Huffman Coding and LZ77[3]. Examples of Lossy Compression techniques are picture transformation, picture resizing and quantization. This chapter discuss the compression technique which will be used for providing efficient storage for cipher text.

Related Work:

Amikov proposed compression algorithm based on the tree modelling for color map images. It works with the phenomena of n ary context free model with complex binary tree structures of n color map images. The major thing present in this is it is suitable for the color images only with



IMPACT ON GUEST REVIEWS AND RATINGS IN DIFFERENT HOTEL CLASSES AN APPLICATION IN TOKYO

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Abstract:

The business in Tokyo is a significant piece of the accommodation and the travel industry foundation and a key piece of Tokyo's development story. Inns are principally seen as a help industry with impalpable regions of visitor experience and administration levels. The exploration goal of this paper is to all the more likely comprehend the inn visitor fulfillment and the regions that lodging the board can change, so as to show signs of improvement results. For this reason, an investigation of inn visitor fulfillment evaluations dependent on traits, for example, Location, Sleep quality, Rooms, Service quality, Value for cash and Cleanliness was performed. Further, text examination of client audits was additionally performed to all the more likely comprehend the positive and negative assessments of lodging visitors. We concentrated on recognizing the characteristics that separate one inn from another, and afterward utilizing these ascribe bits of knowledge to make suggestion to lodging the executives, on how they can improve their tasks, visitor fulfillment and by and large separate themselves from their opposition. Information from an online site, Trip Advisor, was utilized to dissect and analyze client evaluations and surveys on five inns. Factual information investigation methods were utilized to recognize the key traits that are generally significant in picking lodgings and are basic to concentrate on so as to guarantee visitor fulfillment desires are met. In light of text examination, the key outcomes from this investigation demonstrated that lodging visitors search for a decent room and an inn with a pool and great assistance. In view of the evaluations examination, the most significant qualities for visitor fulfillment ended up being Rooms, Value for cash and Location.

Keywords:Hotel Guest Satisfaction, Hotel Reviews, Hotel Industry, Service Quality, Hotel Ratings, Text Analytics, Tokyo

1.0 Introduction

With the simple access to innovation and data, IT has empowered all parts of the inn business with decision and recognizable proof of a lodging, inn proposals and booking of inn settlement utilizing web and

portable based applications. Audits, value examinations and quickened appointments have furnished inns with a possible rich wellspring of visitor information. Utilization of this information is giving profound buyer social bits of knowledge.

RECOGNITION OF FACIAL EXPRESSION (RFE) BASED RESTAURANTS RATING SYSTEM USING DEEP LEARNING TECHNIQUES

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Abstract:

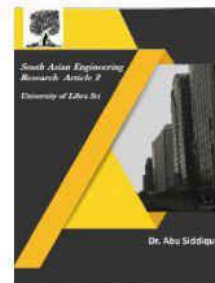
The advent of artificial intelligence technology has reduced the gap of human and machine. Artificial intelligence equips man to create more near perfect humanoids. Facial expression is an important tool to communicate one's emotions non verbally. This paper introduces a new methodology of deep neural networks for classifying facial expressions in an effective manner. Extensive attention facial expression recognition (FER) has received recently as facial expressions are considered as the fastest communication medium of any type of information. Facial expression recognition gives a better understanding towards a person's thoughts or views and analyzing them with the currently trending deep learning methods boosts the accuracy rate drastically compared to the traditional state-of-the-art systems. This project gives a brief about various application fields of FER and publicly available datasets used in FER and reviews the latest research in the field of FER using Random Forest Algorithm, Convolutional Neural Network (CNN) and deep learning. Lastly, it concludes the efficient method among them.

Key Words: Facial expression recognition, Feature extraction, Deep learning, Convolutional neural network.

I. INTRODUCTION

Now-a-days in advance countries automated unmanned restaurants are more popular as this restaurants will not have any human power to take customer feedbacks about food quality and service and to automate this process author has introduced a concept called 'Deep Learning Facial Expression Recognition Based Scoring System For Restaurants' where customers will be asked to give rating to food and upload his photo and based on user facial expression application will inform whether customer was satisfied or not.

To extract facial expressions from photo we are using CNN (Convolution Neural Networks) machine learning algorithm. Our Main objective of this project is to predict 3 different expressions from photos such as satisfied, neutral or disappointed.



SAVAGE OF AQUATIC LIFE THROUGH REAL TIME MONITORING (SOAL-RTM) SYSTEM USING ARDUINO BASED IOT

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Abstract : Agriculture is the backbone of Indian economy. There are many sectors like livestock, crop production, aqua culture etc. Now, our analysis is mainly focuses on aqua culture. The aqua culture depends on environmental parameters like temperature, pollutants in water. Water contains chemicals from industries that chemicals damage the health of aquatic animals and also those who eat them. Farmers then started aqua farming to reduce the effect of these chemicals in water, they took some land and dig a pond and started cultivating the fishes. But this became a burden for them to go and check the water pollutants and the condition of fishes. In this context there may be a loss of fish. So, by taking this as a major issue, we thought this problem can be solved with an IOT device. We considered the environmental parameters of aqua life like temperature and pollutants in water. To control and monitor these parameters we have sensors in IOT. In this project we use different sensors embedded with micro controller. So, this will help the farmer to continuously monitor the pond or Aquarium.

Index Terms—Arduino, GSM, IOT, Sensors.

1. Introduction

Aquaculture involves the cultivation of fishes under controlled conditions. To maintain these conditions we are using IOT technology. In IOT we are using different sensors embedded with micro controller. The aim of our project is to increase the production of fishes. The fishes to be cultivated without facing any problems due to the swings in climate mainly temperature and pollutants in water. As fishes live in water so that environment should be under control. When fishes were healthy then the dependents may also gain good health.

Now a days farmers are facing huge loss due to manual monitoring, this would reduce the production of fish. But sea food can cure many diseases because they contain high quality protein, iodine, various

vitamins and minerals. Aqua farming is gaining popularity rapidly because of the increasing demands of protein and health benefits of fish. So, by using IOT we are controlling the environment which is suitable for fishes which increase the economy and productivity of fish.

2. Literature survey

Aqua culture mainly depends on the environment. To maintain that environment there should be manual monitoring. But manually it is impossible to maintain the environment. So, to control that environment different methodologies were used. According to Nocheski S and Naumoski A [2018], fishes are of different species require certain conditions. To maintain these they have used Wivity modem that communicates with IOT via Wi-Fi connection.

The methodology proposed by Kamuju Sai Divya,

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Automatic Discovery of Online Harassment in Social Network with Machine Learning Techniques

Dr. Y. Vijay Bhaskar Reddy, Mr.Yalanati Ayyappa, K.Swathi, Mr.Panibhate Neelakanteswara,



Issue

[Vol. 63 No. 5 \(2020\)](#)

Section

Articles

Abstract

The social system provides a standard space for interaction between countless individuals (usually teenagers and young people). Social platforms such as Facebook and Twitter enable everyone to communicate with people from all over the world. Faced with so many network-based problems, such as social harassment and crime, these problems have become more and more serious. To prevent these situations, we need a proper identification tool to detect harmful messages as early as possible. Artificial



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PROFILING AND MONITORING DATABASE ACCESS PATTERNS ANOMALY DETECTION OF QUERIES TO ELIMINATE THE DENIAL OF SERVICE

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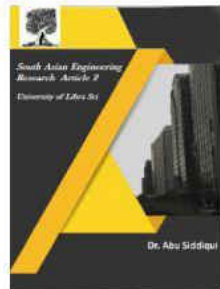
Abstract: Protection of information are critical to the associations particularly the individuals who have testing business contenders. The information is defenseless against a few sorts of assaults that may introduce by the aggressors living outside or may originate from inside the association. get to control instruments are utilized to make sure about the database against an unapproved access by either a gatecrasher or extruder. Right now utilized systems are either standard or they bombed extensively to make sure about the database from approved and pernicious clients. There were different strategies, utilized beforehand to identify SQL abnormalities and to obstruct the inquiry from execution. In spite of the fact that the arrangements were fitting somewhat, there was no obvious and troublesome shield open to leave a solid objectives against the entertainment of requests to confine the occasion of repudiation of organization DoS. Various reasons are there for the occasion of refusal of organization DoS in the database. The DoS may happen when a SQL question is recognized as odd and got by the database. k proposes a procedure of SQL mixture area and cleans those requests from the malignant codes, commonly implanted by interlopers

Keywords — Anomaly Detection, Application Profile, SQL Injection

INTRODUCTION

Thusly, revamp made applications which availability databases do an extra Layer of access control. Consequently, ensuring about a data-base alone isn't about enough for such applications, as aggressors focusing at taking data can benefit by vulnerabilities in the bolstered applications comparatively as make these applications to give harming data-base requests. A straightforwardness control gadget can essentially impede application programs from getting to the information to which the exercises are not affirmed, yet it can't stay away from abuse of the information to which application programs are endorsed for openness. Hence, we require a framework prepared to

find toxic lead rising up out of once in the past approve applications. In this paper, we give the arrangement of a variation from the norm disclosure instrument, Det-Anom that expects to fix such issue. Our methodology is based on the assessment and profiling of the application so as to make a brief portrayal of its correspondence with the data-base. Such a record saves a trademark for each sent inquiry and in like manner the equal limitations that the application program need to fulfill to send the request. Later on, in the discovery stage, at whatever point the application gives a request, a segment gets the inquiry before it arrives at the information source just as approves the coordinating signature just as limitations



PRODUCT REVIEW CLASSIFICATION USING DEEP LEARNING

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Andhra Pradesh, India

Abstract: Product reviews are valuable for upcoming buyers in helping them to require decisions. Different opinion mining techniques are proposed to evaluate a review sentence's orientation. We propose a very unique deep learning framework for product review classification. The framework consists of two steps: 1. Embedding space which captures the sentiment distribution of sentences through rating information. 2. Upon adding Classification Layer on Embedding Layer make Supervised Learning much easier and more accurate. during this paper we used a preferred supervised learning algorithms they're 1.support vector machine Or svm. it's used for classification moreover as Regression problems. The goal of svm algorithm is to make the most effective line Or decision boundary. 2.Random forest which is employed for both classification moreover as regression. It creates decision trees on data samples so gets the prediction from each of them and eventually selects the most effective solution by means of voting.

Keywords: sentiment analysis, classification, embedding space.

I.INTRODUCTION

With the booming of e-commerce, people are becoming wont to consuming online and writing comments about their purchase experiences on merchant/review Websites. These opinionated contents are valuable resources both to future customers for decision-making and to merchants for improving their products and/or service. However, because the volume of reviews grows rapidly, people should face a severe information overload problem. To alleviate this problem, many opinion mining techniques are proposed, e.g. opinion summarization opinion polling, and comparative analysis . The key challenge is a way to accurately predict the sentiment orientation of review sentences. Popular sentiment classification methods generally fall under two categories: (1) lexicon-based methods and (2) machine learning methods. Lexicon-based methods typically take the tack of first constructing a sentiment lexicon of opinion words . Despite effectiveness, this sort of methods require substantial efforts in lexicon construction and rule

design. Furthermore, lexicon-based methods cannot well handle implicit opinions. As known during this is additionally a very important sort of opinions. Factual information is sometimes more helpful than subjective feelings. Lexicon-based methods can only pander to implicit opinions in an ad-hoc way . After that, most research during this direction revolved around feature engineering for better classification performance. Different varieties of features are explored, e.g. n-grams, Part-of-speech (POS) information and syntactic relations , etc. Feature engineering also costs plenty of human efforts, and a feature set suitable for one domain might not generate good performance for other domains.

II. ALGORITHMS

Support Vector Machine Algorithm:

Support Vector Machine or SVM is one of the most popular Supervised Learning algorithms, which is used for Classification as well as Regression problems. However, primarily, it is used for Classification problems in Machine Learning.

Conference Paper [PDF Available](#)

Wearable Technology and its Role in Education

December 2020

Conference: International Conference - 2020 on Distance Education and Educational Technology (ICE-CODL 2020) · At: Jamia Millia Islamia(Central University), New Delhi

Authors:



Venkata Subrahmanyam Vampugani
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Kailasam Swathi
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Abstract and Figures

These days we find technology being used to its full extent in education domain. It is changing the face of education with smart devices and smart learning objectives. Ranging from laptops and smartphones to iPods and watches, wearable technology is leaving its footprints in our lives. Due to its feasibility and convenience, these days this technology has become very popular among teaching and learning. It has left a positive impact in education domain, as there are list of wearable technologies to ponder over which can be used extensively by teachers and students. This paper is aimed to discuss role of wearable technology in education including its current market size, various wearable gadgets, ways to use in education and some case studies of its current presence in education. Issues and challenges of this technology will be discussed towards the end of this paper.



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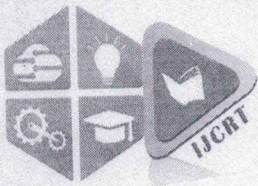
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Applying digital pedagogical techniques using student and faculty interaction system through web application

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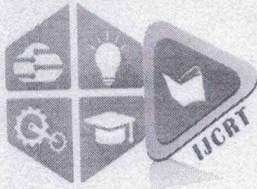
ABSTRACT -Student-Faculty Interaction System is a web based service for students and faculty members for effective communication. The main objective for designing this website is to interact the faculty and students at outside of a class. It is a software application to manage student and faculty data and Student questions play an important role in meaningful learning. These relationships remained after controlling for student-faculty interaction at campus location. Recommendations regarding specific teaching practices are provided [1]. The Student-faculty interaction reflects on student's intellectual and personal (including social) educational outcomes gains during academics. Faculty can clear the doubts whatever the students can ask, they try to increase the confidential levels of students from their effective answers. The study found that all student racial groups have their unique patterns of student-faculty interaction in terms of its levels, effects on student outcomes, and causal directions related to student outcomes[2][8]. The effects of four aspects of student faculty interaction (abundance of formal and informal interaction, the way of faculty advising the students, the effective answers given by faculty to student queries, helpfulness of faculty) on a variety of student outcomes[13]. The use of Web-based learning technologies has increased dramatically over the past decade providing new opportunities for students to interact with their professors virtually using computer-mediated communication (CMC) technologies[7]. The main objective of the work is to provide an effective system between students and faculty members via this web application [15].

KEYWORDS: Student-faculty interaction, effective communication, abundance of formal and informal interaction, educational outcome gains, PHP, MYSQL, HTML, CSS, General effects Conditional effects Direct effects Indirect effects Reciprocal effects[3].

1. INTRODUCTION:

Student-faculty interaction is an important component to faculty and student members; right now it is more important to students. Long year ago, it is typically difficult to interact both faculty and students with each other. Now it is possible to interact outside the classroom. It improves the quality of study by knowing new aspects from faculty not only related to academic, it have a chance to learn out of a box. This web application i.e. student-faculty interaction system builds a bridge between students and faculty members, learn something new outside of a class. It shows a positive experience to faculty to teach and students shows a very much interest to learn, it improve career choice, personal growth and persistence in students. Furthermore, it has been suggested that informal interaction with faculty members outside of the classroom may leads for intellectual on students. Without understanding the quality of those interactions between student and faculty it is impossible to account for the related student outcomes what they expect before. Their study revealed that academic and non-academic related student-faculty interaction significantly and positively related to students overall satisfaction with college for all social class categories, but the association was significantly stronger for upper-class students than middle-class students[5].

As faculty increasingly embrace computer mediated communications and become more proficient in the use of CMC, its value in extending the boundaries of the traditional classroom has become more pronounced[6]. This web application is one of the innovative system allow, faculty to share important data to students and guide them to step on into a right side world. It consists of a faculty login,



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

An enhancement and implementation of today's online examination system

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Abstract -Online Examination System is a software solution, which allows a particular company or institute to arrange, conduct and manage examinations via an online environment. It is a web based application for technical evaluation and its goal is to evaluate the questions thoroughly with the help of an automated system which helps in giving accurate results. The existing system disadvantage is that it very time consuming. The proposed system advantage is that it takes less time. To protect the system from unauthorized access to data password protection facility is also incorporated. The administrator prepares the questions for the exams and immediately after the completion of exam the answers will be published.

The evaluation of theory answers is done by administration panel and according to the answer type the marks are awarded to the student. We can also define our own customized assessment. Candidates can appear for the exam using any desktop with the help of a browser. Exam results can be generated instantly for objective type of questions. Examination questions are randomized from the available pool of the question bank based on the pre-defined criteria. It can simplify overall examination management and result generation activity which helps in time management.

KEYWORDS: online examination, HTML, java script, SQL, portable, secured, negative marking.

1.INTRODUCTION

Online examination system has been widely applied in the exams. It is a technology to simplify examination activities like defining exam timer, objective/subjective question sections, conducting exams using computer in paperless manner and also cost effective. In this, the candidate is allowed to type an answer for any theory question in the subjective exams.

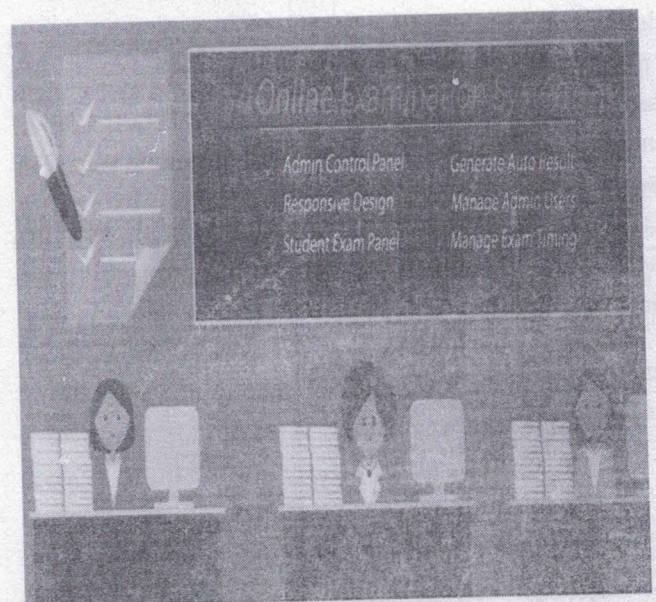


Fig: 1. Online Examination System.



AN ADVANCED HARD DISK DRIVE FAILURE PREDICTION

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ABSTRACT

Failures or unexpected events are inevitable in critical and complex systems. Proactive failure detection is an approach that aims to detect such events in advance so that preventative or recovery measures can be planned, thus improving system availability. Machine learning techniques have been successfully applied to learn patterns from available datasets and to classify or predict to which class a new instance of data belongs. In this paper, we evaluate and compare the performance of 21 machine learning algorithms by using the m for proactive hard disk drive failure detection. For this comparison, we use WEKA as an experimentation platform and benchmark publicly available datasets of hard disk drives that are used to predict imminent failures before the actual failures occur. This project implementation of Random forest, the results show that different algorithms are suitable for different applications based on the desired prediction quality and the tolerated training and prediction time.

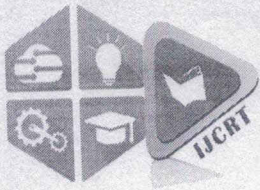
keywords:

Failure prediction, random forest, Clustering algorithm, Hard disk drives

INTRODUCTION

Reliability is one of the most important factors of critical systems to maintain its functionalities and provide services without disruption. In complex systems, most components are communicating with each other and a failure of one component may lead to a failure of another component. If the problem of a component persists and cannot be resolved, it might propagate to other parts of the system and cause a total failure. The traditional approach is to prevent system failures in a reactive manner: when an internal misbehaviour is detected, a monitoring agent triggers a recovery procedure—to avoid or alleviate the problem—and a human operator maybe informed. This method, however, is performed after a

misbehaviour has occurred, which may require some additional time until it is detected. This implies that when the recovery procedure starts, the problem may already have caused some damage to the system. Proactive failure detection [39], on the other hand, aims to foresee an imminent problem by detecting early signs instead of detecting the problem itself. These signs include unusual behaviours of system parameters, such as, system load, CPU utilization, memory usage, network traffic, and hardware temperature. When a failure can be detected in advance, one or even more recovery actions can be carefully planned, analysed, and evaluated to find the best solution for failure prevention [35]. Furthermore, in an extreme case when a failure cannot be avoided, other solutions, e.g. warming up



An Analysis of Agriculture Information Retrieval System Using Pin-Code

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ABSTRACT - Agriculture sector is the backbone of Indian economy. The major challenge in agriculture is to promote the cultivation in the farm and deliver it to the end consumers with the best possible quality. Agriculture is a one of the most important sectors of India. . Agriculture is the art and science of cultivating the soil, growing crops and raising livestock. This particular application has been designed to give and aid to the farmers. This has been designed to retrieve the agricultural information. When any user enters his pin-code the application gives the information about the soil type , the best suited crop , the amount of crop required basing on the demand of the crop and the details about the expected expenses, expected yield time and the nearby store details. The application also gives the information about the soil moisture required for the crop and the humidity of that place.

KEY WORDS: Agriculture Information, Retrieval System, Pin code, HTML, CSS, Java Script, SQL+, PHP, PC(personal computer) , Internet, System.

1. INTRODUCTION :

Smart farming represents the application of modern information and communication technologies into agriculture to increase the amount of production and economic returns, often also with the goal to reduce the impact on the environment. It includes the preparation of plant and animal products for people to use and their distribution to markets. Agriculture

provides most of the world's food and fabrics. Cotton, wool, and leather are all agricultural products. Agriculture also provides wood for construction and paper products. In this application we are giving the information about the crop based on the pin code. If any user gives the pin code this application gives the information like soil type, the best suited crop, the amount of the crop required based on the demand of the crop, the details about the expenses and the yield time and nearby store details. It is purely based on the pin code. In this the software requirements used are HTML, PHP, CSS, SQL+ and Java Script. HTML is heavily used for creating pages. CSS is used to create the webpage colorful and attractive. PHP is used to login, to send any alert messages, day to day information about the agriculture. In this the Hardware Requirements are Personal Computer (PC), Internet. We cannot get the agriculture information without the internet. We cannot get the information without the Internet.

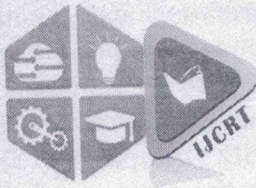
1.1 HTML:

HTML is heavily used for creating pages.

HTML is the standard markup language for Web pages.

With HTML you can create your own Website.

HTML is easy to learn



An Identification of Future Scope to reliable Profile-Upload the suitable Jobs for JobsGuru.com.

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Abstract -In this competitive era, the education among the people is so increasing that the jobs for them are now decreasing. The companies even want the people who are best in their fields. At that time, it becomes difficult to find the people who are intelligent enough to be hired. The work for the companies also increases to find the people who can fulfill their requirements. Thinking about these problems, one can think about the process which can handle this process and make the work less complex. This project is about the recruitment process which is done online. The recruitment process here is handled by the system. [1]. We also find positive and significant relationships between the evaluations of involvement and affect toward the Web site. Further, we find that the Web site's information-specific properties moderate the relationship between information profile of the consumer and his/her utilitarian evaluation of involvement. [2]. As automobiles have emerged as the leading product category on eBay, research focused specifically on eBay Motors is an important extension to this line of research. This study builds on past research by examining research questions using a sample of 126 eBay Motors exchanges along with benchmark pricing data from Kelley Blue Book. [3]. This chapter presents the case study of a successful dot-com venture in India, Naukri.com, in the job search

market. We begin by providing an overview of job search methods in both general and the specific Indian contexts. [4]. this chapter integrates theory and research from user-centered design with theory and research from marketing on value and goal-directed behavior to develop and support a model of online customer value.[5].Marketers now use numerous electronic communication vehicles in which the collection and use of personal information can influence the development of relationships between firms and individual consumers.[6].Effective advertising, good usability, and creating value are important in an e-commerce environment to attract and retain customers. In the human-computer interaction (HCI) literature, research into the success or failure of business to consumer (B2C) e-commerce sites has primarily focused on usability. [7]. For example, the control of communication in case of online brand management lies with both the brand manager and the consumer, whereas from the traditional branding perspective, the control by and large rests with the brand manager only. [8]. The investigation concerns in particular • marketing performance: this section illustrates what are the best performance indicators for measuring the activities carried out by an e-commerce project. [9]. Due to the global nature of the Internet, relatively little research explicitly accounts for the differences



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Aperture of Cobweb Signal by Browser

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Abstract: Now a days people are very busy in their works especially software people. Every work they have are highly important. So in their busy schedules there may be a chance to forget the task to do at a particular time i.e any work based on time especially.[1] Additionally, the system allows storing complementary information such as name, comments, and mechanism of action, as well as other data[1]. Web alerts are user-defined monitor conditions for the public internet information in which message as notifications are send are sent to users whenever their alert conditions are met.[2]The alert may include a link such that, once actioned upon, web content may be presented to the user in addition to the linear broadcast or in the place of the linear broadcast[2]. In this cobweb signal the time and the link called URL (Uniform Resource Locator) will be given and it will work accordingly on it in the background till that particular time occurs. Even though when we are in a busy with another work it will run in background and the alert i.e displayed directly or it will take directly to that particular webpage or URL at that particular set time. [3]Methods of automatically updating content on a web site, allowing web site visitors to request notification of updates to the content of a web site, and notifying persons of updated content on a web site are disclosed[3]. If we decided some task to do it at some time then by setting time and task which is based on web then directly with the set time the webpage will be directly opened and displayed. After displaying the targeted work exactly then at that time simultaneously the before work which we are working will not be saved directly.[4]The ERAS requires information integration from various governmental departments and public services through Web services, such as maintaining the databases of transportation information and traffic conditions[4]. So for this there will be a simple pop up alert for some particular time before the final target is displayed.

Keywords: COBWEB, PRE-SPECIFIED, SIGNAL, URL, NOTIFICATION, NETWORK, WEBPAGE.

1.INTRODUCTION: Python is an object oriented language. It is a high level programming language with an integrated dynamic is used for web and app development.[5] Service contracts and warranties can

provide some assurances. However, they provide traditional recourse, rather than timely alerts of impending problems[5]. It is extremely attractive in the field of Rapid Application Development. It offers dynamic typing and dynamic building options. It is simple and easy to understand .Python requires a unique syntax. It focuses on readability.[6] Recently, there has been a dramatic increase in the use of XML data to deliver information over the Web[6].



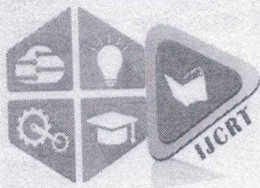
Fig: 1. Python

Python is easier than the other language. Languages like C, C++, Java, etc. In this Python Programming the cost of program and maintenance was less. In this python the tem work is collaborative without using any significant language and barriers. In python programming the syntax are very simple and easy .In this do need to declare the variable because it dynamic typed language [Fig:1].

1.1.Python Features:-

They are 12 features in python:-

- Easy to code
- Free and open source
- Object oriented language
- GUI(Graphical User Interface) programming support
- High level language
- Extensible features
- Python is portable language
- Python is integrated language



A NOVEL DESIGN OF SENSOR BASED LINE FOLLOWER ROBOT WITH OBSTACLE APPREHENSION

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Abstract - Arduino microcontroller using line follower robot is an auto driven vehicles. Line follower robots are one type of mobile robot having ability to follow a line very accurately which have an onboard hardwired control circuit [1] and [2]. It is just follow the line under the robot vehicle. It reduces the accident which is made by the drivers at factories (or) Industries. As a consequence, a line follower robot is designed using artificial intelligence for autonomous driving and to stay on the line [3]. Several components are put together to ensure the proper working of this design. It contains an Arduino board, motor shield, infrared IR sensor, DC motors, battery & some connecting wires etc. Used for designing this line follower robot vehicle. The Arduino board is responsible for the motion of robot vehicle. The DC motors are controlled by the motor shield and the reflectance sensor is used to identify the line. Nowadays it is useful & safety product for labour. Because, in factories the large raw material packages are transported by vehicles are known as mini excavator trucks. These trucks are not easy to drive. In that case we use these types of line follower robot vehicle it is very useful. Like previous method this design procedure is capable of tracking destination and avoids collision among each other through sensors. A mobile robot

controlling algorithm is developed having the ability of avoiding barriers [4]. Not only in industries but also in a work place to transport heavy files and documents and in hospitals for serving medicines for patients and more.

Keywords: *Arduino, Infrared sensor, DC motor, photodiode.*

1. INTRODUCTION:

A Robot is any machine which is completely automatic, i.e. it starts on its own, decides its own way of work and stops on its own. It is actually a replica of human being, which has been designed to ease human burden. It can be controlled pneumatically or using hydraulic ways or using the simple electronic control ways [Fig 1].

A NOVEL APPROACH TO PROVIDE PROTECTION FOR WOMEN BY USING SMART SECURITY DEVICE

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Abstract - In today's world it's very unsafe to travel alone, especially for ladies. Since many unexpected, and shameful incidents are happening round the globe. Problems may come from anywhere and anytime, as women are also growing equally like men so for that purpose they have to travel alone at night wherever they go, they have to travel alone publicly transport also, and for that reason we'd like to know and solve this problem of girls in order that they also shouldn't feel any fear regarding their safety. This report represents an android application which can serve the aim to rescue the ladies from unsafe conditions. As we all know that these days every individual carry their own smart phones and therefore the uses of android applications are increased rapidly so it's better to possess such an android application which can provide a secure environment publicly transport

Keywords: QR CODE, TEXT MESSAGE, GPS, NETWORK, XML, ANDROID STUDIO, PHP, MY SQL.

1.INTRODUCTION

If we are to fight discrimination and injustice against women we must start from the house, for if a woman can't be safe in her own house then she cannot be expected to feel safe anywhere. A recent article in India claimed that India is that the fourth most dangerous place for ladies to require conveyance and therefore the second worst for safety while travelling at night. The awful Delhi bus gang rape in 2012 is simply the tip of the iceberg when it involves the risks of taking conveyance as a lady. This rape incident occurred on 16th December 2012 at an area Munirka, an area in south Delhi which was a fatal assault. A 23 year old woman a physiotherapist was hit by a gang while she was travelling during a conveyance (bus) with a male friend. Another such incident of TCS programmer happened at Bhandup where the body has been found after two days near Kanjurmarg suburb, this incident was parallel to the one evoked by Nirbhaya case in Delhi. One more case taken place in Mumbai where woman was travelling to her native place and she or he got kidnapped and killed. This is the tiny contribution taken which can provide safety android app for ladies. Users

will allow to scan the QR code placed inside the vehicle and the number plate of it will be sent in the text message format to the contacts which the user selects. It lets your family and friends know your current via GPS tracker if your android device is connected to the network.

2.EXISTINGSYSTEM : The existing system of others application provides the user alerts to your closed ones or bystanders with your location in a situation of distress or emergency. And will inform and update your closed ones if

Apps Name	Requires Internet	Alert	Send SMS	Gives Precautions	Without Internet
Sauver app	Yes	Yes	Yes	No	No
ISafe app	Yes	Yes	Yes	No	No
Abhaya app	Yes	No	Yes	No	No
SafeTipin app	Yes	No	Yes	No	No
Women's Security app	Yes	YES	Yes	No	No

you're stuck in an unsafe place.

Table:1. Mobile apps references table

2.1 Sauver App: This app can be activated by a single click when the user feels she is in danger. This application communicates the user's location to the registered contacts for every few seconds in the form of message [Table-1].

Thus, it acts sort of a sentinel following behind the person till the user feels she is safe. The key features of this application are along with the user's location, one of the



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A Web Based Strategy on Enhancement of Student Fee Management System Using Web Development Technologies

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Abstract: The Fee Management System is a desktop system based on maintaining student records and their details. It is an integrated system that manages the gathering of student fees, issuing fee receipts, maintaining and generating due fee reports leading to untroubled, convenient and paperless management. It provides a comprehensive manner of managing the finance department of institutes with none work. It is time-saving and additional economical. It conjointly prevents frauds in transactions. This management system needs less force. The main advantage of this management system is secured information of accounts. It provides a simple interface to support of student fee knowledge. it would be utilized by instructive universities or faculties to stay up the fee records of scholars effectively. College Fee Management could be a sample fee management system. In this project for login authentication OTP or SMS is employed. on every occasion once a student pays a fee, Associate in Nursing SMS can sent to varsity management and principal. Admin has full management of the system, he/she will read student fees reports and manage fees from the system. The project conjointly includes a Fees report of scholars in Report module, which displays Fees info. He/she will add, edit, delete, read Branch. Whereas adding Branch, he/she needs to offer Branch Name, Address, and Detail. Likewise, whereas adding students, he/she needs to offer Personal info like Name, Contact, branch, DOB, Fees info like Total Fees, Advance Fee, Remarks and facultative info like regarding student and Email id. to require Fees for a student, the user needs to offer Paid quantity, date and Remarks. Once paying fees of the coed, that individual name is far from Fees module. Another feature is that the users will modify the positive identification by getting into recent positive identification, New positive identification and make sure positive identification from the Settings. a straightforward dashboard is provided in admin panel for the simple management of the system. All the vital options that square measure needed is ready for this project. style of this project is pretty and responsive so user won't notice it tough to grasp, use and navigate. To run this project, we want to put

in virtual server i.e., XAMPP on your laptop (for Windows). Fees sought by educational institutes from persons responsible for costs associated with the attendance of a student come in many forms and often are reduced by grants, by financial aid awards, and by other discounts. [1]

Keywords:

Database, PHP, SQL, Fee Management System, html, CSS, JAVASCRIPT, XAMPP, bootstrap.

1. Introduction:

Fee Management System suggests that Managing the dues or fee reports in a very system manner. Fee management is that the vital feature of an academic establishment because it maintains a whole track of fee paid by the scholars [Fig.1]. Earlier, fee assortment and management was essential and error prone because it needed manual power and was conjointly it's terribly time intense. The system can establish the scholar, his current standing, his fees history and on the idea of the Fee History records it'll calculate the collectible quantity mechanically. Thus the choice creating at clerical finish is eliminated. Organization needn't to fret concerning recent records too. Any reasonably recent record that is inserted within the system may be generated through reports at any time in future. Establishment will get the fees quantity on-line via Payment entryway. Through the out there reports Administration will get an even bigger image of the organization and decide the financial gain. during this approach, the choice creating ought to reform can become additional quicker. All the vital options that are needed is ready for this project. style of this project is pretty and responsive so user won't realize it tough to grasp, use and navigate. The invention relates generally to information System transactions over a communication network and, more particularly, to Systems and methods for transacting fees associated with intellectual property filings and/or



SUPERVISED LEARNING BASED HARD DISK FAILURE PREDICTION

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Abstract

Hard disk failures can be catastrophic in large scale data centres. It can lead to potential loss of all important and sensitive data stored in these data centres. To alleviate the impact of such failures, companies are actively looking at ways to predict disk failures and take pre-emptive measures. If companies are able to predict the failure of their hard-drives, it would reduce the economic impact incurred by the company due to these failures greatly, and protect data thereby maintaining customer trust. Admittedly, there are situations such as electricity failure in the server, natural hazard, etc. where the failure of disks cannot be predicted. However, most of the hardware failures don't happen overnight and hard disks starts to show significant reduced performance over the last few days of their lifetime before failing. Uncovering these patterns, recognizing features that may be attributed to the failure of a hard disk, and predicting the event of hard disk crash through machine learning, is the main goal of our project. Our project explores unsupervised and supervised learning techniques to predict and analyse hard drive crashes. The objective of using both supervised and unsupervised algorithms is to make a comparison between them.

Keywords: Random Forest Algorithm, Decision Tree Algorithm

Introduction

The task of hard disk failure prediction has been the primary focus of many researches over the recent few decades. Traditional approaches used a threshold-based algorithm. These however, were successful in predicting drive failures only 3-10% of the time [1]. Thus, we saw a shift to more proactive, learning-based algorithms that use S.M.A.R.T attributes to make predictions. These attributes are different hard drive reliability indicators of imminent failure.

In "Predictive models of hard drive failures based on operational data" [4], Nicolas and Samuel proposed using Random Forest and its variants for hard disk failure prediction. They achieved a

very high accuracy of 99.98% and reported precision of 95% and recall of 67% when using Random Forest on the 2014 Backblaze dataset. The gradient boosted trees also performed similarly well, reaching a precision of 94% and recall of 67%. They used a subset of the S.M.A.R.T parameters (5, 12, 187, 188, 189, 190, 198, 199 and 200). [3] explores classification trees, recurrent neural networks, part voting random forests and random forests. They trained their algorithms for one hard disk model from the Backblaze data set. Part voting random forests were able to attain a failure detection rate of 100% and a false alarm rate of 1.76% for model ST3000DM001. Select features of this

IOT based IDOL Security and Tracking System

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Abstract

Today, the growth of technology is rapid and provides all necessary and effective solutions for the requirements. One of the most important areas of concern is security. In this scenario, IOT based Idol tracking system is developed to increase the safety of temples. Arduino and Wi-Fi module connected with internet. This module is placed with the idol to be tracked which sends GPS data to blynk application. If the object being tracked moves out of its position, an alert notification will be sent to specified guardians through Global System for Mobile communication. Further the location of the object can be tracked whenever required through Global Positioning System. In addition, sound and vibration sensors are used to sense human behaviour like loud voice and movement of human body. If the sensor reading exceeds threshold value, messages are sent to specified mobile application.

1.1 INTRODUCTION

An embedded system is a computer system designed to perform one or a few dedicated functions often with real-time computing constraints. It is embedded as part of a complete device often including hardware and mechanical parts. By contrast, a general-purpose computer, such as a personal computer (PC), is designed to be flexible and to meet a wide range of end-user needs. Embedded systems control many devices in common use today.

Embedded systems are controlled by one or more main processing cores that are typically either microcontrollers or digital signal processors (DSP). The key characteristic, however, is being dedicated to handle a particular task, which may require very powerful processors. Since the embedded system is dedicated to specific tasks, design engineers can optimize it to reduce the size and cost of the product and increase the reliability and performance. Some embedded systems are

mass-produced, benefiting from economies of scale.

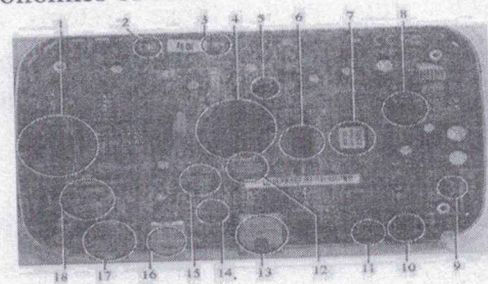


Fig 1.1: A modern example of embedded system

1.1.2 NEED OF EMBEDDED SYSTEM

The uses of embedded systems are virtually limitless, because every day new products are introduced to the market that utilizes embedded computers in novel ways. In recent years, hardware such as microprocessors, microcontrollers, and FPGA chips have become much cheaper. So when implementing a new form of control, it's wiser to just buy the generic chip and write your own custom software for it. Producing a custom-made chip to handle a particular task or set of tasks costs



Spammer Detection and Fake User

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ABSTRACT

Social networking sites engage millions of users around the world. The users' interactions with these social sites, such as Twitter and Facebook have a tremendous impact and occasionally undesirable repercussions for daily life. The prominent social networking sites have turned into a target platform for the spammers to disperse a huge amount of irrelevant and deleterious information. Twitter, for example, has become one of the most extravagantly used platforms of all times and therefore allows an unreasonable amount of spam. Fake users send undesired tweets to users to promote services or websites that not only affect legitimate users but also disrupt resource consumption. Moreover, the possibility of expanding invalid information to users through fake identities has increased that results in the unrolling of harmful content. Recently, the detection of spammers and identification of fake users on Twitter has become a common area of research in contemporary online social Networks (OSNs). In this paper, we perform a review of techniques used for detecting spammers on Twitter. Moreover, a taxonomy of the Twitter spam detection approaches is presented that classifies the techniques based on their ability to detect: (i) fake content, (ii) spam based on URL, (iii) spam in trending topics, and (iv) fake users. The presented techniques are also compared based on various features, such as user features, content features, graph features, structure features, and time features. We are hopeful that the presented study will be a useful resource for researchers to find the highlights of recent developments in Twitter spam detection on a single platform.

Introduction

Twitter spam has become a critical problem nowadays. Recent works focus on applying machine learning techniques for Twitter spam detection, which make use of the statistical features of tweets. In our labeled tweets data set, however, we observe that the statistical properties of spam tweets vary over time, and thus, the performance of existing machine learning-based classifiers decreases. This issue is referred to as "Twitter Spam Drift". In order to tackle this problem, we first carry out a deep analysis

on the statistical features of one million spam tweets and one million non-spam tweets, and then propose a novel Lfun scheme. The proposed scheme can discover "changed" spam tweets from unlabeled tweets and incorporate them into classifier's training process. A number of experiments are performed to evaluate the proposed scheme. The results show that our proposed Lfun scheme can significantly improve the spam detection accuracy in real-world scenarios. Information quality in social



Analysis of Three Phase 3-Level NPC Voltage Source Converter for AC-DC Conversion

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ABSTRACT

The use of power electronic converters influences the generation of harmonics and reactive power flow in power system. Therefore, three-phase multilevel improved power quality AC-DC converters are gaining lot of popularity in power conversion applications. This work deals with critical problem of multilevel structure i.e neutral point potential (NPP) variation. In this paper, a simplified current controlled scheme is presented to ensure unity power factor operation. Neutral point potential (NPP) of three-phase, 3-level NPC AC-DC converter is controlled by modifying control signal in the controller using NPP regulator. An auxiliary circuit is being presented in this paper as an alternative option for controlling the neutral point potential of the converter. Comparison has been carried out between these control techniques in terms of power quality. A complete mathematical model is presented for better understanding of both techniques used for NPP control. The presented control techniques has been verified through simulation investigations and validated

KEYWORDS: AC-DC converters, Active Front End Converter, Multilevel Converter, Neutral Point Clamped Converter, Unity Power Factor Controller (UPC).

INTRODUCTION

AC-DC power converters have been widely used in various applications like front end converters in adjustable speed AC drives, High Voltage DC Transmission, Switch Mode Power Supply, utility interface with non-conventional energy source etc. [1]. Traditionally uncontrolled rectifier or SCRs used for AC-DC conversion suffer from some inherent problems like drawing harmonic currents and reactive component of the current from the source and offering highly nonlinear characteristic. Current harmonics generated by these nonlinear loads further result in voltage distortion which is becoming troublesome for the operation of many sensitive equipment and other consumer loads [2-3].

Therefore, high power factor converters (HPFC) has become the inherent part of AC-DC conversion because of its important features like conversion at unity power factor with higher efficiency, reduced size and well regulated dc output [4-8]. But these high power factor converters using high voltage rating devices are having limitations such as large dv/dt , large voltage stress across switching device, large common mode voltage generation, high switching frequency etc. [9-12]. A new age of converters i.e. multilevel structure is gaining lot of popularity because of its excellent performance in terms of improved power quality, less ripple in regulated dc output voltage, reduced voltage stress across switch, reduced dv/dt and low electromagnetic interference with neighbouring

An Improved Swarm Optimization Algorithm-Based Harmonics Estimation and Optimal Switching Angle Identification



M. Alekhya, S. Ramyaka, N. Sambasiva Rao, and Ch. Durga Prasad

Abstract In this paper, harmonic parameters are estimated using an improved particle swarm optimization (IPSO) algorithm and extended the concept for identification of correct switching angles of inverters to minimize the total harmonic contents. Initially a power system voltage signal with multiple harmonic components is considered in the presence of noise, and the parameters such as amplitude (A) and phase angle (φ) are estimated by using conventional PSO and IPSO. Later an objective function is framed for such voltage for cascade H-bridge inverter to identify the precise switching angles which reduces overall harmonic contents. Comparisons show the effectiveness of the IPSO in both cases to identify optimal solutions.

Keywords PSO · Harmonics · Optimal switching · Inertia weight

1 Introduction

The structural changes in integrated power system with renewable energy resources, converters, and inverters along with highly nonlinear loads inject harmonics and lead to poor quality of electrical power [1]. These injected harmonics need to be estimated and mitigated with proper solutions since they will result in some adverse effects on regular functions of relays and other devices. The estimation of harmonics in the

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Power Quality Improvement in Grid Connected DFIG-Wind System using ANFIS

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ABSTRACT

This paper proposes a concept of ANFIS based DFIG controller to variable speed wind turbine system for power smoothing. Power fluctuations due to the unpredictable nature of the wind are eliminated by introducing battery energy storage system in the dc link between two back-to-back connected voltage source converters. The design of BESS is presented for feeding regulated power to the grid irrespective of the wind speeds. The control algorithm of the grid-side converter is implemented with ANFIS for feeding regulated power to the grid. Rotor-side converter is controlled for achieving MPPT and unity power factor operation at the stator terminals. And also to improve the efficiency of WECS an MPPT controller is proposed in this paper. The ANFIS based DFIG system is to be implement in MATLAB.

Key Words: Grid Control, micro-grid, wind power generation, ANFIS.

INTRODUCTION

Over the past few years, the growth in the use of nonlinear loads has caused many power quality problems like high current harmonics, low power factor and excessive neutral current. Nonlinear loads appear to be current sources injecting harmonic currents into the supply network through the utility's Point of Common Coupling (PCC). This results in distorted voltage drop across the source impedance, which causes voltage distortion at the PCC. Other customers at the same PCC will receive distorted supply voltage, which may cause overheating of power factor correction capacitors, motors, transformers and cables, and mal-operation of some protection devices [12].

The Distributed Energy Resources are one of the power generations systems in small scale range such as renewable energy resources examples of photovoltaic cell, wind energy generation system or hydro energy. Placing the microgrid concept near to the load centers have the advantage of improving efficiency by reducing the transmission line losses or voltage drops.

By increasing the domestic and commercial appliances and increasing demand of critical or sensitive loads causes the growing electricity consumption. In this paper a micro grid concept based single stage AC-DC converter is proposed for reducing processes of multiple reverse conversions in an individual ac or dc grid and to facilitate the connection of various renewable sources and loads

ENERGY MANAGEMENT OF BESS OF EV VEHICLES TO CONTROL MMC BASED ARM DRIVE BY FLC CONTROLLER

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ABSTRACT

This paper proposes a modular multilevel converter (MMC)-based switched reluctance motor (SRM) drive with decentralized battery energy storage system (BESS) for hybrid electric vehicle (HEV) applications. In the proposed drive, a battery cell and a half-bridge converter is connected as a submodule (SM), and multiple SMs are connected together for the MMC. The modular full-bridge converter is employed to drive the motor. Flexible charging and discharging functions for each SM are obtained by controlling switches in SMs. Multiple working modes and functions are achieved. Compared to conventional and existing SRM drives, there are several advantages for the proposed topology. A lower dc bus voltage can be flexibly achieved by selecting SM operation states, which can dramatically reduce the voltage stress on the switches. Multilevel phase voltage is obtained to improve the torque capability. Battery state-of-charge (SOC) balance can be achieved by independently controlling each SM. Flexible fault-tolerance ability for battery cells are

equipped. The battery can be flexibly charged in both running and standstill conditions. Furthermore, completely modular structure is achieved by using standard half-bridge modules, which is beneficial for market mass production. Simulation carried out on a three-phase 12/8 SRM confirms the effectiveness of the proposed SRM drive.

Keywords – MMC converter, SRM drive, BESS system

I Introduction:

With clean energy requirements in urban transportations, electric vehicles (EVs) and hybrid EVs (HEVs) have received much attention owing to their fuel-efficient performance and protection of the environment against exhaust emission, which have been significantly supported all over the world [1]-[5]. However, considering the driving range anxiety issue and control flexibility, HEVs have been a compromise solution for EVs and traditional petrol vehicles. For HEV power train systems, permanent magnet motors are popular due to high torque and high efficiency. However, permanent magnets that made from rare-earth materials should

Fuzzy based Vector controlled Induction Motor Drive for Solar Water pumping System

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Abstract— This paper deals with vector controlled induction motor drive for water pumping system by using fuzzy logic controller. The proposed system includes solar photovoltaic (PV) array, a three-phase voltage source inverter (VSI) and a motor-pump assembly. An incremental conductance (INC) based MPPT (Maximum Power Point Tracking) algorithm is used to harness maximum power from a PV array. The smooth starting of the motor is attained by vector control of an induction motor. Results were compared to classify the difference between Conventional and Proposed (FLC.) The desired configuration is designed and simulated in MATLAB/Simulink platform.

Keywords- Field-Oriented Vector Control (FOC), Photovoltaic (PV), INCMPTT Algorithm, Induction Motor Drive (IMD), Water Pump.

I. INTRODUCTION

Solar photovoltaic (PV) energy converters earlier have been inefficient with the efficiency as low as 5-6 % and highly costly. However, with increased technological research and advancements, the efficiency of PV array, at present, has reached 15-16%. Moreover, the prices have been reducing gradually. Today, PV energy conversion is viewed as one of the promising alternatives to fossil fuel based electricity generating systems, as there are no toxic emissions, no greenhouse gases emission, no fuel cost involvement, least maintenance cost, no water use etc. . The solar water pumps are gaining the popularity in rural areas, where the electricity is not available. Moreover, solar PV fed water pumps are the favored in remote areas for irrigation, water treatment plant, and agriculture purpose. Country like India, where 70% population depends upon agriculture, therefore, irrigation is necessary for good yield. There is large number of water pumps in the world running with electricity or with non-renewable energy sources. The acquisitions of solar PV based water pumping systems are more convenient as compared to diesel based water pumping systems in

respect to the cost and pollution. The design of a motor drive system powered directly from a PV source, demands creative solutions to face the challenge of operation under variable power restrictions and still maximize the energy produced and the amount of water pumped. In PV pumping (PVP) systems, an induction motor drive (IMD) shows good performance as compared to other commercial motors because of its rugged construction.

II. DESIGN OF EXISISTING SYSTEM

The system configuration for PV water pumping system is depicted in Fig. 1. It consists of a PV array followed by a boost converter. A VSI is used to provide pulse width modulated voltage input to the motor and pump assembly. The power from a PV array is regulated using an incremental conductance method to attain its maximum value with available radiation. The V/f control is used to give reference speed to IMD.

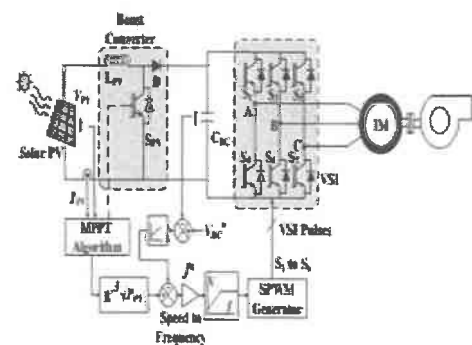


Fig.1. System architecture for the standalone solar water pumping system

A .Design of Solar PV Array

1.PV Module : Solar PV Module Solar panel absorbs the the photon energy from the sun and converts it into electricity using the photovoltaic (PV) effect



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A NOVEL INTEGRATED HIGH GAIN DC-DC CONVERTER WITH SUDDEN SWITCHING CONDITIONS USING CLOSED-LOOP CONTROLLER

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Abstract- This paper presents modeling, design and implementation of a high gain integrated high gain DCDC converter is proposed with closed loop control in this paper. The proposed converter with closed loop control is the combination of Quadratic boost and SEPIC topologies and act as a high step up DC-DC converter. In this proposed with closed loop control topology single switch is used for the converter combination. The proposed converter provides high voltage gain without extreme duty ratio. The proposed with closed loop control novel integrated high gain dc-dc converter reduces the ripples in input current and it maintains the constant dc output voltage and hence the overall efficiency is increased. The performance analysis of the proposed Integrated

Quadratic boost SEPIC converter (IQBSC) with closed loop control is compared with quadratic boost and SEPIC converters. The simulations have been implemented using MATLAB/Simulink.

Keywords- Conventional DC-DC Converter, Quadratic boost converter, SEPIC converter, Integrated Quadratic Boost SEPIC Converter, Voltage gain.

1. INTRODUCTION

Global energy consumption tends to grow continuously. To satisfy the demand for electric power against a background of the depletion of conventional, fossil resources the renewable energy sources are becoming more popular. According to the researches despite its fluctuating nature and weather dependency the capacity of renewable resources can satisfy overall global demand for energy. The international investments and R&D efforts are focused on reduction of Renewable energy production

cost. The conversion of the distributed energy sources like wind energy, fuel cell and photovoltaic's into the useful energy such as a dc power source increasing day by day in order to meet out the global energy requirement[1]. Earlier the environmental issues have accelerated the use of more efficient and energy saving technologies in renewable energy systems, here comes the importance of DC-DC converters. In the recent years, the high step up dc-dc converters are playing a vital role

FUZZY LOGIC BASED CONTROLLER TO ENHANCE THE POWER QUALITY IN PV INTEGRATED DSTATCOM

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ABSTRACT: This paper proposes a novel control methodology like FLC for controlling the DC-link voltage of Distribution Static Compensator (DSTATCOM) in light of burden compensation essential using Reduced Switch Count Multi-Level Converter (RSC-MLC) consolidated with Photo-Voltaic (PV) structure. The proposed system is prepared for amendment of reactive power, unbalance and frequency requested by three phase linear and non-linear loads related with the distribution side, fast upgrading of power quality. It is also capable for giving real power support to the load and right now source from getting over stacked at whatever point required. During off peak loads, the DC-link voltage can be brought down to a lower regard, which will reduce the voltage-stress across switches of inverter and limits the trading disasters. The assortment of DC-link voltage is given using RSC-MLC which requires DC voltage supply. These methods use boundless resources of imperativeness, for instance, daylight based cells as the DC voltage source. The output voltage of PV exhibit is continue to a higher worth using High Gain Boost Converter (HGBC) and given to RSC-MLC. The maximum power point tracking (MPPT) of PV sheets is practiced by using Perturb and

Observe (P and O) algorithm. The results have been checked through simulation considers.

KEYWORDS: FLC, Distribution Static Compensator (DSTATCOM), Reduced Switch Count Multi-Level Converter (RSC-MLC), High Gain Boost Converter (HGBC), maximum power point tracking (MPPT).

INTRODUCTION: The expansion of non-linear, inductive and uneven loads in the distribution system has instigated two or three power quality issues [1]. It is a consequence of snappy move in the utilization of delicate mechanical assembly in current, close by and balance applications, for example, switched mode power supplies, PCs, fridges, TVs, and so on. The use side sales controlled load of power which fuses the use of intensity electronic converters. The generators produce a sinusoidal voltage in any case the streams drawn by such loads are wound and unequal. This effects the feeder voltage and prompts isolating of different loads related with a near feeder. Several custom power devices (CPD) have been utilized to beat these issues [2], [3]. Out of these CPD, Distribution Static Compensator (DSTATCOM) are extensively utilized for calming the current-based power quality issues which unity power factor, conflicting streams and expanded impartial current.



A Methodological Approach For Usage Based Allocation Of Transmission Loss In Deregulated Power System Under Open Access Environment

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ABSTRACT

This task presents an utilization based approach of transmission misfortune assignment in liberated influence frameworks under open access. This new methodology figures the part of genuine force transmission misfortune commitments from the generators and all the while the segment of genuine influence transmission misfortune allotted to the heaps utilizing their agreement commitments with the generators in the open access condition. A force stream technique is utilized to compute power misfortune in the framework. It is alluring to produce network misfortune results of infusion influence at every hub for computing commitment of transmission misfortune by every generator and misfortune designated to loads dependent on its legally binding commitments with buyer. Misfortune is consistently present in transmission lines and transformers in light of protections. All out misfortune in transmission framework normally sums just to the degree of 3–5% of the complete age. Despite the fact that this figure is little, it is critical as far as amassed impact on income. Any proposition for rebuilding without an answer for the issues due to misfortune is fragmented and unsuitable. The misfortune portions have impact on dynamic of the power market members for their budgetary duties and their benefits. There is a need to discover the commitment of misfortune by every generator and appropriate the equivalent among market members. As a rule, each exchange ought to incorporate a lot of transmission misfortune. Fundamentally, the net age should approach the whole of the requests and the transmission deficit brought about by the exchange. The all out transmission misfortune brought about by all the exchanges on the organization can be either estimated or determined. The issue of distributing the transmission-dynamic force misfortune among the influence framework clients has gotten more significant with the expansion in the opposition level in power markets. Business issues identified with charges for power misfortune are contemplated, subject to dealings between purchasers/dispersion utilities and creating organizations. Subsequently, this task centers around the allotment of misfortune where generators mutually keep up the legally binding commitments with shopper/Discom organizations in an open access framework.

KEYWORDS: Force Stream Technique, Transmission Misfortune, Transmission Lines And Transformers.

I. INTRODUCTION

In the open access framework, shoppers/Discom organizations require a reasonable and evenhanded valuing structure that reflects both the portion of intensity devoured in the organization and the expense of dynamic transmission misfortune, in view of misfortune that they cause. Misfortune is consistently present in transmission lines and transformers due to protections. All out misfortune in transmission framework regularly sums just to the degree of 3–5% of the complete age. Despite the fact that this figure is little, it is critical as far as amassed impact on income. Any proposition

for rebuilding without an answer for the issues due to misfortune is fragmented and unsatisfactory. The misfortune portions have effect on dynamic of the power market members for their monetary responsibilities and their benefits. There is a need to discover the commitment of misfortune by every generator and disseminate the equivalent among market members. All in all, each exchange ought to incorporate a lot of transmission misfortune. Generally, the net age should rise to the entirety of the requests and the transmission shortfall brought about by the exchange. The complete transmission misfortune brought about by all the exchanges on the

ENHANCING THE POWER QUALITY BY ANFIS CONTROLLER WITH CUSTOM POWER DEVICE

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ABSTRACT:

In this paper, a three-phase series hybrid active filter (SEHAF) interconnected with photovoltaic (PV) system and dc-dc boost converter is proposed to minimize sag, swell, and harmonics caused due to nonlinear power electronic loads. The SEHAF consists of a voltage source inverter (VSI) with a capacitor connected across it to provide consistency in managing and compensating the reactive power. This minimizes the sag, swell, and harmonics present in the source and load voltages. With the integration of PV, the voltage across the dc-link capacitor of VSI is controlled effectively, which helps in better compensation. Reference current generation is done using the proposed robust extended complex Kalman filter (RECKF) technique. The performance of the PV-integrated-HAF is analyzed using a synchronous reference frame with proportional-integral (PI) as well as fuzzy logic controller (FLC) and is compared with the proposed RECKF technique. The PV-integrated hybrid power system is developed using MATLAB/SIMULINK. It is observed that the proposed control scheme provides better

harmonic compensation compared to conventional PI and FLC.

KEYWORDS: FLC, Voltage sag, Voltage swell, ANFIS, Kalman filter.

I.INTRODUCTION: POWER quality (PQ) is an important issue in commercial and industrial establishments for delivering its clients a consistent and cost-effective supply. Problems associated with power quality are highly spawned using switch mode power supply (SMPS) devices. These loads uphold non-linearity, generate harmonics [1], [2] and affect the efficiency of the utility network. PQ depends upon the supply system and the category of loads in the distribution system [3], [4]. Distortions and harmonics in voltage and current are treated as serious issues in PQ analysis. Harmonics in the utility network can be decreased by compensating techniques so that the total harmonic distortion (THD) remains within the specified limit [5].

Recently, many researchers have proposed numerous techniques and theories to improve the quality of power. PQ can be improved by suppressing the harmonics using active filters (AFs) [6]. But, AFs



Reactive Power Control for Single-Phase Grid-Connected PV Inverter using Fuzzy Controller

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ABSTRACT

This paper proposes grid system and its controlling techniques to regulate the continuous changes in operational requirements and deregulation problems. In the present scenario, the distribution energy systems play an important role in maintaining the power system reliability and stability in distribution domain. The proposed grid is a structure of PV and hybrid system. To achieve the maximum operation from the renewable sources an MPPT methods is proposed. This paper also proposes a concept for controlling of reactive power in single phase grid connected PV system. In order to achieve this reactive power control, this paper is implemented with different current regulated controllers such as conventional PI controller, PR controller, ASDM controller and Fuzzy Logic Controller. This proposed system with different controllers are tested and verified in MATLAB environment.

KEYWORDS: PV System, Grid Interconnected, Proportional Integral and Proportional Resonant Controller, ASDM and Fuzzy Logic Controller.

INTRODUCTION

Generally, the utilization demand of electricity will increase rapidly from 2010. The solution to overcome these problems is only increasing of more power plants. The main problem with utilization of these conventional plants causes pollution and greenhouse emissions and also damages the environmental conditions. To overcome this effects, a renewable energy systems are chooses. Increasing the supply of non-conventional sources reduces the carbon-intensive energy sources and significantly reduce the global warming emissions.

In the present scenario, the utilization of renewable energy has been increased rapidly due

to available nature conditions. In this paper a PV and Wind energy systems are considered as input sources and connected to the grid, during this interaction between grids and Distributed Sources a power quality problem arises. In small-scale power plants, the Distributed Energy Sources play a key role, for example, non-conventional power source like, photovoltaic cell, wind systems hydro sources designing the microgrid idea close to the load center have the advantage of improving effectiveness by decreasing the transmission line misfortunes or voltage drops.

The photovoltaic system is one of the most convenient renewable energy system as compared to all other renewable sources. Photovoltaic

IMPLEMENTATION AND DEVELOPMENT OF DATA AND SENSOR SIGNAL ANALYSIS BASED NATURAL RESOURCES OF PV-WIND AUTOMATION SYSTEM.

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Abstract

The sun and wind based generation are well thoroughly considered to be alternate source of green power generation which can mitigate the power demand issues. As sun powered and wind power advancements are entrenched and the infiltration of these Renewable Energy Sources (RES) into to network is expanding dynamically, testing errand is to keep up the voltage and frequency of the power generated from RES consistent as they specifically relies upon environmental conditions. So as to outline a legitimate control and to harness power from RES the learning of natural conditions for a specific area is fundamental. With this fundamental information of the environmental conditions, a suitable Photovoltaic and Wind power generations can be chosen to extract maximum power from the conditions. PSO based Maximum Power Point Tracking (MPPT) controlled boost converter are utilized for viable operation and to keep DC voltage steady at desired level. The control scheme of the inverter is intended to keep the load voltage and frequency of the AC supply at constant level regardless of progress in natural conditions and burden. A Simulink model of the proposed Hybrid system with the MPPT controlled Boost converters and Voltage regulated Inverter for stand-alone application is developed in MATLAB.

Keywords: Power Management, Wind, Solar System, Fuel Cell and Sliding Mode.

INTRODUCTION:

Increased demand of sustainable power source into power grid brought forth a few difficulties those are knowledgeable about coordinating such sources among themselves and in addition with the grid. In spite of the fact that the vitality got from such sources is condition agreeable, the power and voltage acquired from such sources shifts haphazardly with the variety of climate. Besides, non-direct power converters, utilized for molding the yields from such sources, contorts the waveform and henceforth debases the nature of dispatched power subsequently influencing touchy burdens associated with the grid [1]. Weariness of petroleum derivatives, their perilous effect on condition and an expanding power request brings about an expanded usage of sustainable power sources into the utility grid. An interconnected Wind, PV and Electrolyze based Hybrid system is proposed in this paper for effective power management. In this, solar power generator acts as a primary making systems which to satisfy the features of non-conventional resources..



Implementation of Three Phase High Voltage Gain Boost Converter for Fuel Cell

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ABSTRACT

Generally, the power generating from the Fuel cell is an electrochemical reaction between H₂ and oxygen and it generates electric energy, and the by-product is water vapour. However, the output from the fuel cell systems is very low, then it becomes necessary to connect more number of cells in series to improve the output. The proposed method electrically divides the fuel cell stack into different sections, and each stack is powered by a direct boost inverter. This paper proposes a concept of high voltage dc-dc boost converter topology for a three phase system to a typical output voltage from the fuel cell as a stand-alone supply. The main advantage of the proposed boost inverter method includes ability to deliver the operations of both boosting and inversion of the power in only one stage, compactness, and economical. The output voltage from the fuel cell is a voltage controlled method and output from the battery is a current controlled method. Analysis, and Simulation are taken from a 1kW prototype.

Index Terms: Fuel cell stack, remote area power supply, three-phase boost-inverter, Battery Storage system.

INTRODUCTION

In the present scenario, generally the increasing electrification of daily life causes growing electricity consumption, rising number of sensitive/critical loads demand for high-quality electricity, the energy efficiency of the grid is desired to be improved [1]. The output from the Fuel cells are obtained by electrochemical reaction between H₂ and oxygen. Generally, the fuel cell stacks are obtained by series connection of several individual fuel cells, which are equivalent to series connection of general voltage sources, with its internal impedance.

In order to eliminate the disadvantages of Fuel Cell power controlling systems a single phase fuel cell energy system with single power conversion based on the single stage boost inverter is proposed. This paper compared with different types of dc-dc Converters and dc-ac inverters, including voltage source and current source, e.g., a boost converter followed by a voltage source based inverter, single-stage current source based inverter, and z-source inverter. Specifically, CSI and z-source inverters provide boost and inverter functions in a only one and a wide input voltage range, while limited input voltage lower than the peak grid voltage and insufficient voltage gain are

A Novel Framework using Deep CNN to detect COVID-19 virus through Chest X-rays

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Abstract: The current pandemic caused due to the COVID-19 virus is the major breath taking problem. Artificial Intelligence is playing a major role in finding solutions related to COVID-19 in various aspects. One of the challenges in this field is to predict the positive cases from the sample images like chest X-ray or CT scan etc. This paper presents a novel architecture to predict virus symptoms from the chest X-ray images. In lieu of this study, the Chest X-rays are pre-processed by applying image processing techniques, trained and tested by Convolutional Neural Networks(CNN). The experimental results show better recognition rate in comparison with other research works.

Keywords: Convolutional Neural Networks, X-ray Images, COVID-19, Image Processing.

1. Introduction

In the year 2019, China faced a deadly disease due to an illness caused by corona virus named COVID 19[1]. The symptoms to identify illness are dry cough, fatigue, inhalation problems, aching throat, muscle and body pains, diarrhea, loss of taste or smell, eye infections, headache, membrane rashes, yellowing of fingers or toes. The viruses started it spread in the city of Wuhan in December 2019 [2-5]. The virus made a global travel causing 6,01,51,799 [6] public not only to writhe none the less undergo death rate of 14,15,776 [6]. The illness triggers respiratory region infectivity that affects the nose, throat and sinuses, windpipe & lungs.

The initial testing method for the virus was swab test, however accuracy and promptness is a compromise. [7]. To identify the infections in respiratory tract, imaging techniques such as chest X-ray and CT scan [8] partake a vital role in

endorsing the test reports as positive. CT scan is an effective method to test, but not many people can afford it. Hence we focus on the implementation of X-ray imaging for identifying virus. However, the images captured have poor contrast and limit the identification of soft tissues. Hence to improve the quality of X-ray images, identify and provide diagnosis at low price, the X-ray images are processed by implementing various algorithms that include preprocessing, enhancement, segmentation, recognition etc.

Nowadays, techniques using Artificial Intelligence(AI) such as Machine Learning(ML) and Deep Learning(DL) show potential results in analyzing medical images. The purpose of this paper is to propose a framework relating training and testing using deep CNN classifiers to identify the Covid- 19 virus and assist radiologists.

Michael Chung, MD • Adam Bernheim, MD • Xueyan Mei et al., [9] experimented with recognition of virus using CT scan

A Novel Framework using Deep CNN to detect COVID-19 virus through Chest X-rays

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TSC: A Two-Stage Classifier for Network Intrusion Detection System on Green Cloud

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Abstract

This paper proposes a novel framework for a two-stage classification approach for Network Intrusion Detection System using Fast k Nearest Neighbor (FkNN) Classifiers with Least Variance Feature Elimination (LVFE) for feature reduction. FkNN is adopted for binary classification in the first stage to detect whether the request is an attack or a legitimate one. Further, if the right is identified as an attack, it will be processed in the second stage, where multiclass classification is used to classify its attack type. In the cloud environment, it is easy to implement the NIDS with knowledge on attack types to reduce the computational complexity of the detection mechanism and minimize financial loss. The performance of NIDS depends on two pre-knowledgeable issues regarding the network flow. They are i) Identifying whether the flow is attacked or not. ii) If it is an attack, identifying which type of attack it is? a two-stage classification methodology is proposed, which comprises two phases with adopting the CICIDS-2017 Dataset. Phase-I is the pre-processing data phase, in which data cleaning and normalization are carried out. In phase-II, the two-stage classification model is implemented to detect attacks along with attack type. The experimental results are presented, and conclusions are drawn.

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Purging of silence for robust speaker identification in colossal database

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ABSTRACT

The aim of this work is to develop an effective speaker recognition system under noisy environments for large data sets. The important phases involved in typical identification systems are feature extraction, training and testing. During the feature extraction phase, the speaker-specific information is processed based on the characteristics of the voice signal. Effective methods have been proposed for the silence removal in order to achieve accurate recognition under noisy environments in this work. Pitch and Pitch-strength parameters are extracted as distinct features from the input speech spectrum. Multi-linear principle component analysis (MPCA) is utilized to minimize the complexity of the parameter matrix. Silence removal using zero crossing rate (ZCR) and endpoint detection algorithm (EDA) methods are applied on the source utterance during the feature extraction phase. These features are useful in later classification phase, where the identification is made on the basis of support vector machine (SVM) algorithms. Forward looking schostic (FOLOS) is the efficient large-scale SVM algorithm that has been employed for the effective classification among speakers. The evaluation findings indicate that the methods suggested increase the performance for large amounts of data in noise ecosystems.

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1. INTRODUCTION

Ever-increasing data base size in real-world speaker recognition systems pose challenges such as large training time, poor response time and vast memory requirements [1-3]. Robustness and adaptability are the major aspects in real-world speaker recognition systems. From the previous work, it is observed that good results were achieved for the clean high-quality speech under matched conditions. However, under noisy environments and mismatched conditions, the performance of recognition system degrades significantly, much further by being acceptable. Therefore, sophistication is also a critical analysis in the identification of speakers. This motivates us to investigate new methods in different stages during the speaker recognition process. A typical speaker recognition system consists of mainly two stages: enrollment phase and classification phase [4, 5]. During the enrolment stage, speaker-specific information is extracted from the speech database in chronological mode. A cluster of such models tends to establish the speaker data base. An input speaker model is compared with the existing models in the database and then the results are expedited in the classification stage. In addition, features are extracted from input speech and transferred into a compact

Purging of silence for robust speaker identification in colossal database

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MANGO PLANT DISEASE DETECTION USING MODIFIED MULTI SUPPORT VECTOR MACHINE ALGORITHM

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Dr. P Rama Koteswara Rao, Dr. K Swathi, Mango Plant Disease Detection Using Modified multi Support Vector Machine Algorithm-Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(7), ISSN 1567-214x

Abstract: Identifying the mango plant diseases can be done by visualizing its leaf. Plant disease is one of the main problems in the field in agriculture which leads to waste of time and money. Mango plant disease identification at the early stage prevents loss of money and time to the farmers. The idea is to identify the disease and take proper measures to avoid the heavy losses in the mango crop yield. Manual process of identification takes lot of time if the field is very large. So, the sample images can be taken and given to the algorithm to detect the plant diseases. Plant diseases means to observe the leaf patterns of the plant. Health of the mango trees and early detection of diseases is very crucial for the farmers for good yields. By Manual observation it is difficult to judge the mango leaf disease. In these investigations, the SVM algorithm is employed to detect the disease of mango trees. Initially, the training set mango images will be given, where the neurons will updates the weights according to the training set. Later the test images are given and with more accuracy the mango leaf disease will be identified. This investigation is carried out on real-time images captured at NRI Institute of Technology, Vijayawada, Andhra Pradesh, India, comprises of 670 pictures from various mango trees. Infected and healthy images are included in the Database. The experimental results exhibits that the proposed model has the higher detection accuracy than the state-of-the-art methodologies.

Keywords: Image acquisition, Segmentation, feature extraction, histograms, image features, Classification, plant diseases, Leaf identification.

1. Introduction

Most of the Indian economy is a dependent on agriculture and cultivation. The agriculture dependable population is about 80% in this country. Farmers lead diversity to select different crops which suits their atmospheric conditions and used to find



A Predictive Model for Classification of Breast Cancer Data Sets

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Abstract. Medical professionals need a reliable methodology to predict diseases. The process of Machine Learning is used to identify unknown and useful patterns to assist in important tasks of disease prediction and treatment. The techniques that combine multiple classifiers are used for classifying the data sets. Each feature of data sets in the Wisconsin Breast Cancer Dataset (WBCD) collected from fine needle aspirates from human breast tissue. This data set was used to develop a predictive model for the classification and prediction of breast cancer. Support Vector Machine algorithm exhibited good performance when differentiating to other algorithms in such a way that it could be confirmed as the effective classification algorithm with respect to the accuracy, sensitivity, and mean absolute error when applied to diabetes, data sets. Classification and prediction accuracy varied with the quality of the data set.

Keywords: Machine learning · Prediction · Classification and support vector machine and accuracy

1 Introduction

A new field of theory or study has been introduced in the last two decades, which have had a direct impact on the integration of biology, medicine and computer science [1, 2]. Now a day's for finding the solutions to the clinical questions the scientist are utilizing the results of medical and biological research and this process is termed as evidence-based medicine [3–5]. The advanced research findings of biology and medicine depend on the collection, storage, management and analysis of huge medical databases. To extract new knowledge from this data we can use data mining techniques [6–8]. The process of machine learning is dependent on inductive inference. It is a process of examining a phenomenon. After careful examination we have to develop a new model based on that phenomenon. This new model can be used for predictions [9, 10]. The scientists and engineers who are working in various fields have been getting complex experimental data like gigabytes of protein sequences and DNA, and the main objective of data mining is to find out valuable and useful information from large volumes of these medical data sets [11]. The advancement of these technologies was achieved because of the involvement of computer science and technology that expands the multidisciplinary aspects of medicine [12–14]. The biology and medicine can supply the data, and the computer science provides the tools which are required to obtain the knowledge from this data.

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Sensor Signal-based Learning Improvement Framework for Intellectually Disabled (ID) Child Education

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Abstract: According to World Health Organization (WHO), persons with cognitive impairments such as dementia, aphasia and development disorders account around 1.25% of world population. Specifically, there are 31 million individuals including 35.29% children with Intellectual Disabilities (ID) in India. Only 1% of these children have access to school and majority of them fail to express their needs and thoughts in classrooms. Their learning skills can be enhanced by incorporating wireless sensors in Assistive Technologies (AT). Rapid growing signal-based wireless sensors with smart devices motivate the development of many learning methodologies for ID school Education. This paper aims to design, implement and evaluate an Alternative and Augmentative Communicate (AAC) system for ID school education by validating, utilizing and manifesting signal-based wireless sensors. This context-based AAC employs the Low Power Bluetooth (BLE) technology for the nonverbal interaction in class room teaching. The system utilizes the high indoor tracking accuracy of signal-based BLE beacons to acquire the effective context from backend application server and presents the symbols in smart devices.

The children communicate with visual objects like apple at an appropriate time i.e. during lunch time by utilizing smart phone or tablet. The system incorporates the involvement of user management such as login and profile maintenance for teachers and caregivers through smart devices.

Keywords: Nonverbal communication, Cognitive, visually perceive, context-aware, beacons, Disability

1. Introduction

Intellectually impaired (ID) school educators continue to focus on AAC (Alternative Accelerate Communicate), methodologies that do not require voice and messages that account for communication in classrooms. In the mid-1990s, the sectors of AAC took shape for an ever greater interest in trans-disciplinary cross-domain analysis on research of AAC technologies. It includes the use of external materials or equipment including the photo board with a set of graphical symbols [1]. Across the world, only 2.73% of behavioral and learning disabilities have been utilizing the resources of AAC as their main form of learning. And just approximately 13.86% of students with disabilities depend on AAC resources for their everyday conversations. However, it has been stated that around 45.60% of ID community will currently use basic symbolic procedures, such as image cards.



Figure 1. Interpretation of BTE beacons and students activities with the smart devices.

An Efficient Approach for Merging Small Files in HDFS Storage and Accessing Small Files by Using Name Node Method in Big Data

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Abstract

Big Data is one of the most requested techniques in the modern world of software development. In Big Data, the treatment of distributed files is performed by the open-source software framework called Hadoop on the product hardware cluster. For the storage of Big Data, the Framework is considered the most powerful. The HDFS Name Node component is used to store all sorts of files, folders, and blocks or metadata. The HDFS is specially designed to handle large files, but this framework will not properly handle a large number of small files. Proposed systems introduce that how the Name Node memory overheads the data storage reduces the storage of the huge number of small-size files in the HDFS. This approach will be very helpful in understanding the memory consumption and workload in the Name Node reduces the distributed file system called Hadoop.

Keywords: Bigdata, Cluster, HDFS, Name Node, Merge File.

1 Introduction

Currently, cloud computing has become the most important computing system in web design computing and growing around the globe. Distributed storage is the fundamental piece of cloud computing as it gives the information storage access of enormous informational indexes for end clients at whatever point and any place needed in the conveyed record system [1]. Replication of information is an integral part of distributed storage to the accessibility of information, limiting the inactivity of access to information, and balancing the burden on a few workers simultaneously. Subsequent implementation of the framework expanded considerably. Hadoop is open-source programming for the gigantic informational indexes to encourage ability, supervise, study, and access utility in frames transmitted through a huge number of frames. The Hadoop instrument began with Google, Facebook, Twitter, and so forth to store and process a huge amount of information. Hadoop consists mainly of the following two sections: Map Reduce and Hadoop Distributed File System (HDFS) [2].

HDFS is a conveyed recording frame that deals with the preparation of the document through a gigantic number of machine inappropriate frames with the least equipment needed for the calculation. HDFS mainly supports composing a single reading of many kinds of responsibility on access to information streaming and Big Data collections. It provides the information replication block of information for saving against equipment disappointments. HDFS is expert/slave engineering and primarily incorporates the following three parts: NameNode, DataNode, and Clients [3]. HDFS contains a unique NameNode which, for the most part, is responsible for the supervision of the namespace for registration frames with deference block substitution system and information node. It stores the metadata or document namespace in Dynamic Random Access Memory (DRAM) for quick access and keeps the duplicate of the record Framework namespace (FsImage) on the plate for information recuperation.

Any adjustment or updating to the record framework namespace are put away in the EDitLog and opportune converge with the FsImage so that put away duplicate of the document framework namespace consistently be state-of-the-art. NameNode contains record metadata; file directories, document content squares which incorporate update time, file length, block size, property, replication, and access data. NameNode contains record metadata; file folders, document content squares that incorporate update time, file length, block size, ownership, replication, and access data. DataNodes store the information squares document and are responsible for serving reading writing to clients. The information nodes perform the procedure on the squares based on the direction given by the NameNode [4]. HDFS primarily offers replication for deficiency lenient and saves against hub disappointment. HDFS for the most part concedes from another record framework in the accompanying cases: 1) Fault-open minded 2) Low expense equipment 3) Increased Throughput MapReduce is another component that bolsters the equal producing and preparing

Automated Mango Fruit Recognition by Multi-Task Convolutional Neural Networks for Harvest Robot



Nekkalapu Gopi, Rama Koteswara Rao P

Abstract: Efficient and effective mango fruit recognition is viewed as significant for development of a smart agriculture robot (ARo) for yield prediction, pest control, sorting and fruit detection. Several fruit recognition techniques for structuring ARo have been employed during the most recent decades. Recently, ordinary natural fruit identification techniques are lacking progressive response, exactness and extensibility. In this paper, we proposed an improved algorithm of MTCNN (Multi-Task Cascaded Convolutional Network) based on IFD (Intelligence Fruit Detection) technique. This technique has the ability to make the ARo work progressively with high precision. Additionally, in view of the connection between the number of tests on dataset and the boundaries of Neural Networks advancement, this work presents an improved strategy. A method that depends on image clustering is used to improve the identification in this project. The experimental results exhibited that the proposed identification performed significantly, both as far as exactness and time-cost. Besides, the broad trials exhibited that the proposed strategy has the limit and a decent compactness to work with other associated systems.

Keywords: Cascaded Convolutional Neural Networks, Fruit Recognition, Automated Robot, Image Fusion.

I. INTRODUCTION

The natural fruit identification for yield estimation, grading of varieties, disease control and different applications in farming field have been getting fame in the course of recent decades [1]. A few designs have been developed for the Agriculture Smart Robot (ARo), which have prompted impressive improvement in the forming sector [2]. Especially, recognition and characterizing natural fruits as indicated by their quality have been one of the most well-known examination fields attracting the majority of the agriculturists. Product identification is significantly the most important aspect to be considered top to bottom investigations regarding the agriculture matter. Along these lines, numerous scientists have put forth attempts for quite a long time to create powerful algorithms for the fruit recognition [3]. In spite of the fact that, the fruit recognition algorithms have been improved amazingly, they are still differ from practical

applications. The essential challenges are growing in fruit recognition framework and over the top situations of plantations in fruit gardens.

These features incorporate various testing undertakings, for example, insufficient or over enlightenment, vague foundations, substantial impediment by neighborhood trees or foliage, low-contrast, variety of posture, etc.

The negligence of benchmark is another incredible test for mango fruit identification. An adequate measure of test images assumes a significant job in machine learning based models [4]. In this project, we gathered pictures from mango plantation by the advanced cameras. Thereafter, we chose the appropriate ones and marked them to make a dataset. Making a dataset physically is a monotonous and tedious work. So we concentrated another increased strategy dependent on augmented procedure. The inspiration for this combined strategy [5] originated from the rule that the created new examples ought to be close to real pictures. Strengthening measures were made for assorted variety by including fusion method that would help to improve the outcome of this identifier. So as to assess the system whether it could be applied to different sorts of items advantageously, we prepared the identifier on two different natural products species (apple and orange) too.

To sum up, our findings are the following:

1. We proposed an improved algorithm for mango fruit identification called Mango-MTCNN (M-MTCNN) by improving the benchmark model of MTCNN. Also, this identifier has the advantage of high precision and less time-utilization.
2. We proposed a novel enlarged technique called Combined Augment (CA). We create random pictures by including negative patches from test datasets by editing the supplement samples.
3. The proposed approach can be applied to different variety of fruits with a limited quantity training tests.

The remaining part of the paper is organized as follows. In Section II, we survey earlier related work in fruit recognition in agriculture. Parts III, IV, we present strategy implemented in this investigation. Our trials in this experimentation are furnished in Section V. In Section VI, we perform the analysis and discussion on our results and conclude of this experimental work.

II. RELATED WORK

Robotized cultivation is a reasonable solution for some

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AUTOMATIC DETECTION OF B-LINES IN VIVO LUNG ULTRA SOUND BY USING BOTTOM HAT TRANSFORM

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ABSTRACT: The main objective of this concept is accurate detection and visualization of B-lines in ultrasound lung images. Patterns of disease distribution within the secondary lobule have been well established pathologically. Identifying normal and abnormal components of the lobule is therefore a potential aid in distinguishing different parenchymal diseases. More cost for CT, MRI scanned images and results should be known to higher official doctorates with large amount of money. This designed feature is able to differentiate between the healthy and unhealthy classes based on B-lines in ultrasound lung images. B-lines are important ultrasound artifacts used in LUS for detection of pulmonary disease. Further As an extension of this concept Morphological Top-hat as well bottom hat transformation is applied to improve image efficiency. This efficiency is yielded in the form of Peak signal to Noise ratio.

KEYWORDS: Lung Images, Ultra sound, B-lines, Secondary Pulmonary Lobule, bronchiolovascular.

INTRODUCTION: Lung ultrasound (LUS) has received increasing attention in recent years, as it enables a quick visual evaluation of the lung tissue and pleura without imposing radiation [1]. B-lines are important ultrasound artifacts used in LUS for detection of pulmonary disease. They are defined as discrete laser-like vertical hyperechoic reverberation artifacts that arise from the pleura, spread down without fading to the edge of the screen, and move synchronously with lung sliding. In years gone by examination of patients with pulmonary disorders rested essentially on a clinician's bedside physical examination, of auscultation and percussion, complimented with blood gas analysis and X-ray imaging. Lung ultrasound has emerged into this context as a real-time bedside procedure, delivering information relevant to the clinician's differential diagnosis. A large part of sonographic lung examination involves the interpretation of artefacts, thus knowledge of the origin of typical artefacts is important. Although indirect sonographic signs, nonetheless reliable conclusions on the condition of the lung can be inferred. Particularly the of quantity and distribution of B-lines can establish important assessment of the cause and degree of fluid load within the interstitium. All focused ultrasound investigations, including bedside lung ultrasound, allow symptom evaluation considering multiple organ-systems yet with minimal time delay. Such integration of imaging with clinical assessment and treatment is called Point-of-Care Ultrasound (POCUS) and should be understood as an extension of the physical examination. POCUS offers a unique but crucial role, integrating clinical and other imaging findings, including cardiac ultrasound (echocardiography), chest radiography, and computed tomography (CT) scans is crucial, which alone may lack the required accuracy. The emergence of differences in approach to lung sonography, technique and nomenclature, provided the incentive for a consensus process examining six major areas; terminology, technology, technique, clinical outcomes, cost effectiveness and future research. A scientific pathway process was followed, to generate evidencebased guidelines with recommendations for clinical lung ultrasound applications [1]. B-line artefacts and their use have been recently described in detail [2]. The use of thoracic ultrasound in the evaluation of thoracic diseases [1-5] is a recent application and the use of ultrasound for an indication of underlying parenchymal lung disease is even more recent [6-9]. When particular lung pathologies are present, ultrasound imaging shows image artefacts, i.e.

Compact Spiral Patch Antenna for WLAN Applications

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Abstract

The aim of the work is design, simulation, fabrication and measurement of spiral patch Antenna. Spiral antennas are coming under category of frequency independent antennas. This work highlights a constructed of 2.4 GHz of an “edge – fed rectangular spiral Micro strip patch antenna” for WLAN relevance where it's mounted on FR-4 substrate with relative permittivity 4.4 and 0.16 mm of thickness. The parameters like resonant frequency, directivity, VSWR are calculated at various frequencies ranging from 2 GHz to 9.5 GHz, and the investigational outcomes displays that antenna has better Omni-directional radiation pattern and is competent to operate at various GHz frequencies. These spiral patch antenna can be used for Satellite Communications. Simulation has been realized by using HFSS software, and Antenna parameters like Reflection coefficient and VSWR are measured using Combinational Analyzer. The outcomes represent the consistency in fabricated & simulated antenna.

Keywords: *Spiral Micro strip antenna, WLAN, Omni-directional, Reflection coefficient and VSWR*

1. Introduction:

There are various kinds of antennas utilized in WLANs that incorporates Micro strip, wire, array, aperture, lens, & reflector antennas [1]. Numerous examiners have deliberated diverse structure [2-3] & dissimilar methods to improve the “radiation efficiency in single element antenna” by means of double U-slot [5], PIFA [4], & other structures. The necessity for WLANs antenna will be that it must have “Omni-directional assets with circular polarization” [6]. A spiral antenna provides moresmart features such as easy fabrication, light weight, “integration with microwave & millimeter-wave circuit”. Moreover, spiral antennas have individuality that will be dynamic to wireless communications in numerous applications [7].

Figure 1 represents 2 kinds of spiral antennas, which have utilized in application of WLANs [8]. Because of circular polarization feature & frequency independent features at relatively small size for WLANs applications, this manuscript goals to examine on design of “rectangular spiral Microstrip antenna” to attain radiation effectiveness & higher directive gain. Actually, this kind of antenna might be utilized to keep distance from utilization of numerous antennas for diverse facilities since an extreme amount of access points in one region might be difficult the access because of interface with other access point [9].

An Efficient Denoising Architecture of MVD-RCA-SP-FIR filter for Real-time ECG signals

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Abstract- *Electrocardiogram (ECG) is non-stationary, non-periodic real-time signal. It is provided to use full electrical information about heart functioning. It means by the analysis of ECG signal; we can identify any living person's hearts are working properly or not. In recent years there is a huge demand for the reduction of size and power of portable devices used for monitoring critical signals such as ECG. The technical advancements in VLSI have created a huge impact on biomedical signal processing. VLSI circuits working at high speed and these can be designed to consume less area and power. Especially for ECG signal denoising, digital filters such as FIR and IIR are used in most of the applications. Finite Impulse Filters (FIR) are used widely compared to IIR filters because of their good stability and high order. In this paper, FIR filter with modified Vedic multiplier-based architecture is introduced to carry out ECG signal denoising application. In this paper at first resource-efficient Vedic multiplier is introduced which is around 55% area-efficient for 8 bit, 15% efficient in terms of delay, and 45% efficient in terms of power in comparisons of the latest design proposed in 2020. Then with the help of a modified Vedic multiplier, FIR is developed which is also efficient in terms of resources. It has 40.5% better ADP and around 20% better APP. This latest design of the filter is much helpful for ECG signal denoising.*

Keywords: *Cardiovascular Diseases (CVD)Electrocardiogram (ECG), Denoise, Finite Impulse Response (FIR), Multiply Accumulate*

I. INTRODUCTION

Electrocardiogram (ECG) is non-stationary, non-periodic real-time signal. It is provided to use full electrical information about heart functioning means by the analysis of ECG signal, we can identify any living person's hearts is working properly or not [1-2]. Nowadays, ECG is used as a diagnostic tool for various diseases like Chronic patient surveillance, Physiological feedback, Sleep apnea, Arrhythmias, Emotional and physical activity recognition systems arrhythmia [3-11]. It also indicates all of the Cardiovascular Diseases (CVD)like Sudden chest pain, Chances of cardiac arrest, and sometimes reporteddeath also due to cardiac attack [12].ECG signal waveform is shown in Fig. 1. Till noise detection and denoise ECG signal are a big challenge for the researcher because ECG diagnosis is depending on ECG signal quality [13-14]. The block representation of ECG signal denoising

AN EFFICIENT DENOISING HARDWARE ARCHITECTURE OF CSA-FIR FILTER FOR REAL TIME ECG SIGNALS

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Abstract

In the recent years there is a huge demand for reduction in size and power of portable devices used for monitoring critical signals such as ECG. The technical advancements in VLSI has created a huge impact on biomedical signal processing. VLSI circuits working at high speed can be designed in order to consume less area and power. Especially for ECG signal denoising, digital filters such as FIR and IIR are used in most of the applications. Finite Impulse Filters (FIR) is used widely compared to IIR filters because of their good stability and high order. In this paper, FIR filter with modified carry save adder-based MAC architecture is introduced to carry out ECG signal denoising application. The input raw ECG signal collected from MIT-Physionet Arrhythmia data base is read using MATLAB and coefficients are generated. resource efficient FIR filter is designed by using carry save adder. Therefore, a carry save adder circuit can be invented with minimal area and power consumption. It is evident that the power line interference noise has been removed and denoised ECG signals have been obtained. And these noises have been removed from ECG MIT-BIH Arrhythmia database (record# 100,101,102 & 103). It has 14.98 % less area, 8.83% less power, 26.24% less delay, 22.48% less APP and 37.29% less ADP.

Key Words

Electrocardiogram, Very Large-Scale Integrated Circuit Design, Finite Impulse Response, Multiply Accumulate.

1. Introduction

Many studies have been done by researchers on ECG denoising. In recent Years, in most of the signal processing applications, FIR filter is used as a major building block. The type of filters that contain these elements allow us to obtain almost any form of digital signal. The N-length FIR filter is constructed with combinations of adders, multipliers and a series of delays to establish the sequence of the filter output. Computers have memory delays that only work on swappable samples and they use coefficients passed in to multiply the with the samples. The output is the sum of all the samples delayed multiplied by sufficient coefficients. Manually, most FIR filter implementations are undertaken in transposition direct form [1], [2], [3]. The multiplier is a key



Spectrogram analysis of ECG signal and classification efficiency using MFCC feature extraction technique

Yalamanchili Arpitha¹ · G. L. Madhumathi² · N. Balaji³

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Abstract

This article focuses on ECG signal recognition based on acoustic feature extraction techniques. The SVM and k-NN classification approaches are proposed for recognizing the ECG heart sound as well as for calculating the recognition efficiency. In this proposed technique, ECG signals are previously transformed into a successive series of Mel-frequency cepstral coefficients for computing the acoustic features in terms of mean value. A histogram based understandable and new approach is proposed at this point for recognition of 'P' wave, 'R' wave etc. from ECG waveform. The recognition of ECG signal and their distinguishing features provide significant effort for the analysis. Here three statistical data with their detection efficiency estimation of histograms is analyzed from ECG signals from database. The entire method has been applied for convenience to different ECG record files taken from MIT-BIH database. Twelve leads are used from multi-lead ECG database which contains a 3600 Hz sampling frequency. The entire algorithm is executed on MATLAB R2014a. In this, the proposed method performance efficiency is evaluated.

Keywords Classification efficiency · ECG signal · Histogram · MFCC · Spectrogram analysis

1 Introduction

An ECG signal is a most important distinguishing mechanism for recording the electrical movement of heart with the help of 'P, Q, R, S and T' segments of signal. So this distinguished waveform provides the fundamental facts about condition of heart patients (Chen et al. 2016). In an ECG signal, 'QRS' complex is very important for diagnosis of cardiac abnormalities. These particular units of electrical signal contained the 'PQ', 'ST', 'QS', 'ST' and QT segments. The 'QRS' complex part shown in ECG signal known as the 'J'

point (D'Aloia et al. 2019). The detectable heart sounds are produced by valves of cardiac which are separated or closed with the help of swirling flows. In case of normal or healthy adults, two types of natural heart sounds are audible. It takes place in order of a cardiac phase. The characteristics of ECG signal provides the elementary characteristics like duration and frequency which can be utilized for ECG signal analysis. Several methods are proposed for recognition and detection of QRS complex signal from the ECG signal. The QRS complex signal is obtained for ECG signal detection (Halder et al. 2016).

This paper proposes a novel method which involves minimum statistical detection. By diagnosing the clinically important feature from the ECG signal could be used to recognize the cardiac abnormalities (Lin et al. 2019). The features are recognized through the histogram analysis technique as well as adaptive threshold significance. The 'R' peak is distinguished from the first as well as next and accordingly 'T' wave and 'P' wave have also been identified. In the analysis of ECG signal there is diverse type of noise similar to base line wander noise (Bae and Kwon 2019). The power line noise, movement of object etc., are also integrated. Here power line noise is generated and included in the ECG signal. The maximum detection rate is obtained for

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A TRIPLE-BAND MIMO ANTENNA WITH HIGH ISOLATION FRACTAL MIMO ANTENNA WITH METAMATERIAL CSRR

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ABSTRACT: A novel compact self-similar fractal triple band multiple-input-multiple-output (MIMO) antenna with metamaterial is presented. This fractal geometry is designed by using iterated function system (IFS). Self-similar fractal geometry is used here to achieve miniaturization and multi band performance. The self-similarity dimension of proposed fractal geometry is 1.79, which is a fractional dimension. The antenna consists of two novel self-similar fractal monopole-antenna elements and their metallic area is minimized by 29.68% at second iteration. A ground stub of T-shape with vertical slot enhances isolation and impedance bandwidth of proposed MIMO antenna. This antenna has a compact dimension of 24×32 mm² and operating bands 0.72 – 1.05 GHz, 5.03 – 7 GHz and 8.5 – 16.44 GHz with an isolation better than 15 dB. The various diversity performance parameters are also determined. There is good agreement between measured and simulated results, which confirms that the proposed antenna is acceptable for WLAN and Satellite applications.

KEYWORDS: Fractal, Metamaterial, Triple Band Antenna, Isolation.

I. INTRODUCTION

In recent years, wireless communication systems require much higher data rates to accommodate various multimedia services. For the requirement of high bit error rate (BER) wireless communication with high channel capacity and reliability, multiple-input multiple-output (MIMO) system is a preferred approach. In the multifunctional wireless communication application, MIMO antenna system should have compact structure and high isolation. Since MIMO antenna system requires high isolation, several techniques have been proposed to enhance isolation between the elements of a MIMO antenna system.

Metallic electromagnetic band gap (EBG) structures on the substrate of the antennas have been demonstrated to improve the isolation by [1]. The defect ground system (DGS) on the ground plane is also an approach to enhance isolation presented by [2]. Adding the parasitic elements in the MIMO structure is another effective method proposed by [3]. Recently, a new approach called neutralization technique has been presented for mobile applications [4, 5]. With the neutralization method, the isolation can be improved since the current of the element antennas of MIMO is neutralized. Ultra-wideband (UWB) technology allows high data transfer rate at low cost, high capacity, and low power consumption in the wide frequency band. In 2002, Federal communication commission (FCC) authorized to use unlicensed frequency spectrum from 3.1 to 10.6 GHz. This problem is resolved with the use of multiple-input-multiple-output (MIMO) system. MIMO system contains multiple antennas, which improve channel capacity and system reliability. However, when the antenna elements are placed near to each other than the mutual coupling between them degrades the characteristics of antennas. Fractal gives the opportunity to design small and wideband antennas in restricted space because of its space-filling, self-affine, and self-similar properties.

A novel compact self-similar fractal MIMO antenna is proposed. The proposed antenna contains two self-similar fractal elements with working bands of bands 0.72 – 1.05

Generation Networks

Arepalli Tirumala¹, B Phanindra Kumar², M Purna Kishore³

NRI Institute of Technology, Vijayawada, Andhra Pradesh

Abstract--- Now a days, the idea of three-dimensional (3-d) versatile sorts out, that be a touch of programmed base stations (meander haphazardly BS) and cell-related meander unevenly customers (meander impulsively UEs), is passed on. For this new three-D cell plan, a totally novel structure for going over making planned up for meander recklessly BSs eminently as gradualness wrong cell relationship for meander eccentrically US is proposed. For make sorting out, a manageable technique for meander haphazardly BSs' association task to shortened octahedron shapes is typically suggested that guarantees whole thought for a given locale with obviously less amount of mechanical Base Stations. Thus, to depict safeguard discovering in such three-D far off, a real verbalization for the possible entire whole repeat reuse parts is settled. Close by the ones follows, a gigantic 3-d cell alliance plot is made for which the automated UEs' dormancy, thinking about transmission, figuring and backhaul delays is compelled. To this stop, first, the spatial transportation of the robot is outlined the use of a component thickness assessment methodology, and the standards of the assessor are gotten the utilization of a move-manage strategy. By means of at that viewpoint, as asserted through techniques for utilizing the spatial go along with the drift at the part of gadget .A. what's more, the districts of mechanical BSs, the lethargy wrong three-D cell seeking after for meander haphazardly US is crossed abusing contraptions from immaculate vehicle speculation. Pleasure results show that the proposed approach diminishes the lethargy of machine US of America appeared in a world class way with respect the antique-style cell association approach that utilizes a sign to-impedance paying little heed to noise amount (SINR) demeanor. We sorted out an effective radio asset the board advancement framework for a staggered multi-band mm Wave cell get prepared melding UAV-based absolutely totally in all actuality aeronautical little cells for exceptional consolidation/throughput. We isolated the framework EE and structure standard charge, along fabulous assessments, of this setting, where a changing over collection of customers can be related with the UAV certificate dependent on the biasing factors of all the 3 contraption levels. Our results show that recalling a UAV stage for the contraption can around twofold the machine EE at certain reason SINR values.

I. INTRODUCTION

Past due reviews show that the level of automated aeronautical vehicles (UAVs), at any charge called meanders haphazardly, will outmaneuver 7 million out of 2020 [2]. Such an amazing usage of robots will impacts

influence remote business venture. [3]–[5]. In mellow of flexibility and ordinary confine with perceive to peer (correspondences, meander sporadically BSs can deftly broad fundamental scale, and solid a couple of division off receptiv at some stage in fiascoes and smart exercises [4]–[11]. For meander BSs can offer a promising reaction for super ada and shrewd course of progress.

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A. Suggestion

The unprecedented past due advances in drone development it possible to generally flexibly UAVs, for instance, drones planes, inflatables, and organizations for some separation correspondence capacities [9], [18]–[21]. Principally, if as it be passed on and worked, UAVs can convey trustworth monetarily clever far off correspondence answers for an asso of real conditions. From one viewpoint, robots might be u ventured forward base stations (BSs) which can bring

Energy Efficient Framework for UAVs using Futu

Generation Networks

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NRI Institute of Technology, Vijayawada, Andhra Pradesh

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Design and Analysis of a dual-band slotted filter antenna for WLAN and Wi-Max applications

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Abstract:

Design and analysis of a dual band slotted filter antenna for WLAN and Wi-Max applications is proposed in this article. The proposed filter antenna is modelled with 4th order planar BPF (Band Pass Filter) having slotted rectangular shape patch antenna. The proposed antenna is modelled and prototyped on FR4 substrate with the size of 0.8mm and dielectric constant of 2.2. The proposed antenna is designed and simulated using HFSS (High Frequency Structural Simulator). The proposed filter antenna is resonating in dual bands at 3.8 GHz and 5.7GHz frequencies with the BW (bandwidth) of 0.48 and 1.04 GHz. The simulated and measured results of the proposed filter antenna are almost similar with each other. The proposed filter antenna is well suited for WLAN and Wi-Max applications.

Keywords: Band pass filter, FR4 substrate, High frequency structural simulator,

1.Introduction:

Due to the increasing demand of wireless communication applications in Radio frequency (RF) and microwave (MW) filed, compact antennas have been proposed by many researchers [1-5]. To design such wireless communication devices filters and planar antennas are essential elements [6-11] because these elements effect the performance of communication systems. Due to their light weight, ease of fabrication, compact size, and low profile, microstrip filter antennas become most popular in recent years. Microstrip filter antenna models have become most preferred RF structures because of their light weight, ease of fabrication, compact size, and low profile [12–21]. These filter antennas are very essential as it can be prototyped on directly substrate [12]. These antennas having various applications, where both radiation pattern and filtering is requires for wireless communication applications [13]. The selection of substrate material places very important role in design of circuits in communication applications. Dielectric substrate with proper thickness and dielectric constant is essential for designing of filtering antennas [14].

Design and Analysis of a dual-band slotted filter antenna for WLAN and Wi-Max applications

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NRI Institute of Technology, Agiripalli, Vijayawada, Andhra Pradesh

Abstract:

Design and analysis of a dual band slotted filter antenna for WLAN and Wi-Max applications is proposed in this article. The proposed filter antenna is modelled with 4th order planar BPF (Band Pass Filter) having slotted rectangular shape patch antenna. The proposed antenna is modelled and prototyped on FR4 substrate with the size of 0.8mm and dielectric constant of 2.2. The proposed antenna is designed and simulated using HFSS (High Frequency Structural Simulator). The proposed filter antenna is resonating in dual bands at 3.8 GHz and 5.7GHz frequencies with the BW (bandwidth) of 0.48 and 1.04 GHz. The simulated and measured results of the proposed filter antenna are almost similar with each other. The proposed filter antenna is well suited for WLAN and Wi-Max applications.

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1.Introduction:

Due to the increasing demand of wireless communication applications in Radio frequency (RF) and microwave (MW) filed, compact antennas have been proposed by many researchers [1-5]. To design such wireless communication devices filters and planar antennas are essential elements [6-11] because these elements effect the performance of communication systems. Due to their light weight, ease of fabrication, compact size, and low profile, microstrip filter antennas become most popular in recent years. Microstrip filter antenna models have become most preferred RF structures because of their light weight, ease of fabrication, compact size, and low profile [12–21]. These filter antennas are very essential as it can be prototyped on directly substrate [12]. These antennas having various applications, where both radiation pattern and filtering is requires for wireless communication applications [13]. The selection of substrate material places very important role in design of circuits in communication applications. Dielectric substrate with proper thickness and dielectric constant is essential for designing of filtering antennas [14].

A NOVEL APPROACH TO DETECT LEAF DISEASE AND FEATURE EXTRACTION USING IOT

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ABSTRACT: The main objectives of this research is to develop a prototype system for detect the paddy disease which are bacterial leaf spot, target spot, sctorialeafe spot, leaf mold disease. This paper concentrate on the image processing techniques used to enhance the quality of the image and neural network technique to classify the paddy disease. The methodology involves image acquisition, pre-processing and segmentation, analysis and classification of the paddy disease. For image segmentation is done with K-means clustering method and features are computed from disease affected cluster. Features such as Contrast, Correlation, Energy, Homogeneity, Mean, Standard Deviation and Variance are extracted. The extracted features from disease cluster are given as classifier inputs to classify the disease.

KEYWORDS: Contrast, Correlation, Energy, Homogeneity, Mean, Standard Deviation, Variance, Leaf Disease.

INTRODUCTION: A product quality control is fundamentally required in order to gain more value-added products[2]. Many studies show that quality of agricultural products can be reduced from many causes. One of the most important factors of such quality is plant diseases. Consequently, minimizing plant diseases allows substantially improving quality of the products. Rice known as *Oryza Sativa* (specific name), is one of the most utilized food plants and widely grown originated in ASIA. [4] Rice is an important crop worldwide and over half of the world population relies on it for food. Many people in the world including Malaysia eat rice as staple food. However, there are many factors that make paddy rice production become slow and less productive. One of the main factors is paddy disease. An abnormal condition that injures the plant or leads it to function improperly is called as a disease. Diseases are readily recognized by their symptoms. There are a lot of paddy disease types which are Bakanae, red disease virus, brown spot disease and many more.[1] Image processing and computer vision technology are very beneficial to the agricultural industry. They are more potential and more important to many areas in agricultural technology [1]. Paddy Disease Detection System is one of the very beneficial systems. It can help the paddy farmer detect the disease faster. This study aims to develop a prototype system to automatically detect and classify the paddy diseases by using image processing technique as an alternative or supplemental to the traditional manual method. India is fast developing country and agriculture is the back bone for the countries development in the early stages. Due to industrialization and globalization concepts the field is facing hurdles. On top of that the awareness and the necessity of the cultivation need to be instilled in the minds of the younger generation. Now a day's technology plays vital role in all the fields but till today we are using some old methodologies in agriculture. Identifying plant disease wrongly leads to huge loss of yield, time, money and quality of product. Identifying the condition of plant plays an important role for successful cultivation. In olden days identification is done manually by the experienced people but due to the so many environmental changes the prediction is becoming tough. So we can use image processing techniques for identification of plant disease. Generally we can observe the symptoms of disease on leaves, stems, flowers etc. so here we use leaves for identification of disease affected plants. The feature extraction is done in RGB, HSV, YIQ and Dithered Images. The feature extraction from RGB image is added in the suggested system. A new automatic method for disease symptom segmentation in digital photographs of plant leaves. The diseases of different plant species has mentioned.

On Cyclic Delay Diversity with Single Carrier OFDM Based Cognitive Radio Networks

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Abstract:

Cyclic Delay Diversity (CDD) is a diversity scheme used in OFDM-based telecommunication systems, transforming spatial diversity into frequency diversity and thus avoiding intersymbol interference without entailing the receiver to be aware of the transmission strategy making the signal more reliable achieving full diversity gain in cooperative systems. Here the analyzation of the influence of CDD-SC scheme in Cognitive Radio Network (CRN) is done with the challenge of overcoming the complication called channel estimation along with overhead in CNR. More specifically, the closed-form expressions for outage probability and symbol error rate are divided under different frequencies among independent and identically distributed (i.i.d.) frequency selective fading channel model i.e., the signal is divided into different frequencies and transmitted among several narrow band channels of different characteristics. It is useful in the reduction of interference and crosstalk. The results reveal the diversity order of the proposed system to be mainly affected by the number of multipath components that are available in the CNR.

Keywords: Cognitive Radio Network, Cyclic Delay Diversity, Single Carrier

Date of Submission: 27-02-2020 Date of Acceptance: 12-03-2020

I. Introduction

CDD (cyclic delay diversity): CDD is a kind of transmit diversity mechanism implemented by applying a different phase delay (cyclic phase delay) for each OFDM subcarrier. It is used in spatial multiplexing to increase diversity between the 2 spatial paths. Simply in CDD, one antenna is transmitting the original copy of data and the other antenna is transmitting the cyclic shifted version of the original data. The cyclic shift in time domain produce the phase shift for each symbol in frequency domain and it generate the same effect as frequency diversity. CDD is an improved variant of delay diversity scheme suitable for cyclic prefixed block transmission systems such as orthogonal frequency division multiplexing (OFDM) [1,2].The basic idea behind CDD scheme is that, the transmitted signal is first cyclically shifted by applying different cyclic shifts on it so as to create rich multipath components and later, the cyclic prefix (CP) is added to the transmitted symbol block so as to mitigate the inter symbol interference. CDD, is simple to deploy since it does not need additional complexity at both the transmitter and receiver [4]. Orthogonal Frequency Division Multiplexing, so called OFDM, has found a prominent place in various wireless systems and networks as a method of encoding data over multiple carrier frequencies. OFDM-based communication systems, however, lacking inherent diversity, are capable of benefiting from different spatial diversity schemes. One such scheme, CDD is a method to provide spatial diversity which can be also interpreted as a Space-Time Block Coding (STBC) step. CDD is standard compatible compared with other transmit diversity schemes. Furthermore, unlike STBC scheme that suffers rate loss when the number of transmit antennas N_t is more than 2, CDD can be used without rate reduction. Because of the provided diversity and flexible deployment with various antenna configurations, it has been used to enhance reception performance and extend cellular coverage in various wireless systems [3-7].Subsequently, we briefly introduce the application of cyclic delay diversity (CDD) to OFDM systems as described in detail in. In it is shown that CDD can be viewed as space-time block coding method. In present scenario for future mobile radio systems are expected to provide and serve a wide range of applications, which inherently enforces high data rates. Currently, data rates of up to 100 Mbps and a bandwidth allocation of about 100 MHz are under discussion for mobile communication systems of the 4th generation. Multicarrier (MC) based systems, are approved candidates for providing the demanded data rates in a wide range of multipath

On Cyclic Delay Diversity with Single Carrier OFDM Based Cognitive Radio Networks

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Smart ATM Security Using Iot

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Abstract

The Idea of Designing and Implementation of Security Based ATM theft paper is born with the observation in our real life incidents happening around us. This paper deals with prevention of ATM theft from robbery and unauthorized transactions. So overcome the drawback found in existing technology in our society. The proposed system provides biometric registration for entering into ATM rooms just to store the biometric details of the person who entered the ATM room. In case of robbery the biometric details are useful. In this system we can also improve the security for the ATM pin by using Buzzer, Location sharing, Sending notification and Door locking system. MEMS sensor is used here which senses vibration produced from an ATM machine and also provides fire alarms. This system uses ARDUINO controller platform based embedded system to process real time data collected using the sensors. Once the any abnormal condition or unauthorized is sensed the voice alerts will occur from the system. Servo Motor is used for closing the door of ATM. Spray mechanism is used to leak the gas inside the ATM to bring the thief into unconscious stage. And send the robbery occur time with the message to the nearby police station and corresponding bank through the IOT. Hear LCD display board using showing the output of the message continuously. The proposed system also provides the ATM Status to the customers smartly by indicating the RED and GREEN signals

Keywords: IOT, MEMS Sensor, ARDUINO, Spray mechanism

Date of Submission: 16-05-2020

Date of Acceptance: 31-05-2020

I. Introduction

An automated teller machine (ATM) is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions, such as cash withdrawals, deposits, funds transfers, or account information inquiries, at any time and without the need for direct interaction with bank staff. ATMs are known by a variety of names, including automatic teller machine (ATM) in the United States (sometimes redundantly as "ATM machine"). In Canada, the term automated banking machine (ABM) is used, although ATM is also very commonly used in Canada, with many Canadian organizations using ATM over ABM. In British English, the terms cash point, cash machine and hole in the wall are most widely used. ATMs can be placed at any location but are most often placed near or inside banks, shopping centers/malls, airports, railway stations, metro stations, grocery stores, petrol/gas stations, restaurants, and other locations. ATMs are also found on cruise ships and on some US Navy ships, where sailors can draw out their pay [1]. An ATM is used by people for making transactions. The transaction can be cash deposits and withdrawal, transferring money, balance enquiry and many more. To use an Automatic Teller Machine (ATM), a plastic smart card is provided by the bank to the cardholder. This smart card contains a magnetic black stripe on the back of it which contains the specific information (unique card number and some other information) of the user. Along with the smart card, a PIN code is also provided to the cardholder by the bank to access the account. A PIN is a 4- digit number which is generated by the bank. Each cardholder has a unique PIN code. The PIN can easily be remembered by the user and if needed, it can also be changed by the cardholder. The PINs are 4 digit numbers and have a range from 0000-9999 resulting in 10000 possible numbers. The customer is identified by inserting a plastic ATM card and entering a personal identification number (PIN) for the customer. ATM allows customers to access their bank accounts and enable them to deposit and withdrawal processes as well as check their account balances and enable them to use their mobile phones to buy prepaid credit. Also, an automatic teller machine allows a bank customer to conduct their banking transactions from almost every other ATM machine in the world. The number of entering the password is restricted to 3 only. In the existing system firstly the user inserts his card and the PIN

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MOVING OBJECT SEGMENTATION TO DETECT SPEED AND WEIGHT APPLICATION IN VIDEO SURVEILLANCE

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Abstract:

Vehicle detection and tracking plays an effective and significant role in the area of traffic surveillance system where efficient traffic management and safety is the main concern. Instead of limiting the function of the cameras for these purposes, the images from the cameras can be captured and analyzed for further decision making processes. This paper suggests image processing algorithms for traffic counting, queue length, speed measurement and vehicle classification. Traffic counting algorithm adopted in this study is carried out by observing changes in pixels values in the middle of traffic lanes. The queue length measurement, vehicle classification and determination of speed, a single line of pixels placed along a traffic lane are observed. The pattern of these pixels values are used to measure the queue length, length of individual vehicle and to detect the position of a particular vehicle within a short interval of time. Video surveillance is a very lively research topic in the form few years due to its growing importance in security, law enforcement, and military applications

Keywords: Input video, Frame separation, wavelet transform, Motion detection, Morphological Filtering, speed and weight

1. Introduction

Surveillance cameras are normally installed at major road links and intersections in urban area for observation by human operators. Image processing has been widely applied to traffic analysis for a variety of purposes. As traffic research field is very wide and it has many goals that include detection of queue, detection of incident, classification of vehicles, and counting vehicles. One of the most important of these purposes is to estimate the speed of a vehicle, a vehicle. Traffic congestion poses lot of problems for people. Because of this, many accidents occur. To reduce this problem, new

approach has been developed for estimating the speed of vehicle. A radar technology was used to determine the speed on highways. But it has a disadvantage of high cost. Then a radar detector was designed to detect the infrared emissions of law enforcement agencies radar speed and weight detection devices and warn motorists that their speed is being measured.

Diagnosis of COVID-19 using 3D CT scans and vaccination for COVID-19

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Abstract

Purpose – For the first time in a decade, a new form of pneumonia virus, coronavirus, COVID-19, appeared in Wuhan, China. To date, it has affected millions of people, killed thousands and resulted in thousands of deaths around the world. To stop the spread of this virus, isolate the infected people. Computed tomography (CT) imaging is very accurate in revealing the details of the lungs and allows oncologists to detect COVID. However, the analysis of CT scans, which can include hundreds of images, may cause delays in hospitals. The use of artificial intelligence (AI) in radiology could help to COVID-19-positive cancer in this manner is the main purpose of the work.

Design/methodology/approach – CT scans are a medical imaging procedure that gives a three-dimensional (3D) representation of the lungs for clinical purposes. The volumetric 3D data sets can be regarded as axial, coronal and transverse data sets. By using AI, we can diagnose the virus presence.

Findings – The paper discusses the use of an AI for COVID-19, and CT classification issue and vaccination details of COVID-19 have been detailed in this paper.

Originality/value – Originality of the work is, all the data can be collected genuinely and did research work done own methodology.

Keywords AI, COVID-19, CT scan, 3D data set

Paper type Research paper

1. Introduction

Wuhan, China was the birthplace of Coronaviruses, which were first discovered in 2019. Coronavirus is known as viral pneumonia, which include the CO19, MERS and corona virus, and this is referred to as both SARS and MERS.

Until recently, coronaviruses were being transmitted from human-to-human beings, and no existing vaccines were available. It is rumoured that the most effective ways to reduce the transmission of coronaviruses are rapid diagnosis of large populations and confinement of the infected in isolation to avoid the virus spreading (Chen and Guestrin, 2016). Thus, the standard COVID test is required for human identification.

The primary use of the real-time reverse-transcriptase polymerase chain reaction (RT-PCR) test is to enable the classification of individuals who have been diagnosed with the CO19 antibody at hospitals.

It takes a long time and causes risks to apply imaging. Because of these findings, the researchers advise use of a RT-PCR and chest imaging in the examination of suspicious patients (Eisenhofer and Weyrich, 2019). Diagnostic tool selection is varied in three clinical situations. Our deep learning approach will concentrate on diagnoses of CO19 on three-dimensional (3D) CT scans to ensure quick and reliable findings. In the event of an epidemic, it might be impossible to read more than a person's CT scan.

Cabin angiography is a special form of angiography which uses the imaging technology of computed tomography (CT) to make 3D images of the heart and lungs. A chest X-ray is more accurate in detecting coeliac disease than a chest CT scan. Up

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The eminence of copper ions on optical, electrical properties and morphology of B_2O_3 - Bi_2O_3 - Al_2O_3 - MgO glasses

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ABSTRACT

The multi-component glass system $65B_2O_3$ - $20Bi_2O_3$ - $10Al_2O_3$ - $(5-x)MgO$ - $xCuO$ ($0 \leq x \leq 1$ mol%, $x = 0, 0.1, 0.5, 1$) was fabricated by the melt quench mechanism. The optical, electrical and structural features of the work-pieces were examined. X-ray diffraction (XRD) approved the amorphous nature of specimens. Fourier transform infrared (FTIR) studies disclosed the bands owing to traditional borate and bismuth groups. Electron spin resonance (ESR) and emission spectra promoted divalent state of copper ions in the work-models. Investigations on optical absorption studies revealed gradual decrease in optical band gap of glasses with a rise in the content of CuO. The dielectric parameters of the glasses (dielectric constant, ϵ' , a.c. conductivity, σ_{ac} , loss, $\tan\delta$) were estimated in a frequency scale 10^3 to 10^6 Hz by varying the temperature from 30 to 300 °C. Dielectric studies authenticated the highest conductivity of sample doped with 1 mol% of CuO.

1. Introduction

Borate glasses gained prominence owing to their low melting point and high thermal stability. These glasses are insulating in nature and insensitive to the hopping process. The conductivity of borate glasses can be enhanced by adding the transition metal ions to them. This type of glasses are used as solid electrolytes, cathode materials, laser host materials, solar energy converters, phosphors, radiation dosimetry tools, luminescence materials, sealing elements and ionic conductors [1–6]. Advanced research is accelerating on the borate glasses containing heavy metal oxides as Bi_2O_3 [1,2]. The chemical B_2O_3 is the best glass former due to the large glass-forming tendency of B^{3+} ions compared to Bi^{3+} ions in Bi_2O_3 . The importance of Bi_2O_3 is it can form the polyhedra (BiO_n where $n = 3, 6$) when combined with B_2O_3 [4,5]. Bi_2O_3 form the glass in the presence of network former like B_2O_3 and network modifier as MgO. Bi_2O_3 takes part in the glass as a network former with BiO_3 structural units and as a modifier with BiO_6 structural groups. BiO_3 units improve the strength of the glass. The distorted octahedral BiO_6 units induce structural disorders by creating bonding defects in the glasses. The collection of these units depends on the quantum of Bi_2O_3 and the other components in the glass [1–5]. These glasses are investigated for their possible applications in scintillation detectors. Smaller field strength and the large polarizability of bismuth ions (Bi^{3+}) in these

sampleings make them more applicable for the fabrication of optical equipment [1,2]. Bismuth borate glasses are the basic materials in manufacturing the ultra-fast optical devices, reflecting windows, photonic devices, glass ceramics, radiation shielding devices, thermal and mechanical sensors [1–3]. Bismuth ions persist in the glasses in various valence states. Commonly they subsist in Bi^{3+} state in the glass network. Basing on the host materials, fabrication techniques, temperature and local structure, bismuth ions exist in the forms of Bi^{5+} , Bi^{4+} and Bi^{3+} in the glasses [1–5]. Some researchers proved that Bi^{5+} and Bi^{3+} ions evinced NIR emission in the glass system [7–9].

Al_2O_3 changes its nature (network former or network modifier) basing on its magnitude in borate host. When Al_2O_3 is added, it modifies the optical essence of metal ions in the borate glass system [4,5,10]. These glasses have attractive qualities such as lofty hardness, immense electrical resistivity, large young's modulus, minute density and low coefficient of thermal expansion [4,5,10]. Alkaline earth oxides improve the physical, optical and electrical properties when they are mixed with the borate glasses [11–14]. Borate glasses combined with modifier oxides similar to MgO, CaO, SrO and BaO are best materials for potential scientific applications [11–14]. MgO is well established for its modifier action. It infiltrates the network by cracking the random glass matrix [15,16]. The oxygen's of MgO break the internal periodicity whereas Mg^{2+} ions take interstitial positions of the glass matrix. These ions

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Medicinal Chemistry & Drug Discovery

New 1,2,4-Triazole Scaffolds as Anticancer Agents: Synthesis, Biological Evaluation and Docking Studies

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A series of novel 4,5-diphenyloxazol-1,2,4-triazole derivatives (6a–6f) were synthesized and screened for anticancer activity against the prostate lung cancer cell lines viz., PC-93 and HBT-55. The outcome of the investigation reveals that compounds 6a, 6b and 6j showed potential anticancer activity against PC-93 cell line with the half maximal inhibitory concentration (IC₅₀) values of 13.12, 15.34, and 16.34 μM, respectively. Compounds 6a, 6d and 6j exhibited potential anticancer activity against HBT-55 cell line with IC₅₀ value 17.28, 16.48, and 15.12 μM respectively, when compared to standard drug doxorubicin. Further, docking studies are performed to under-

stand the possible interactions responsible for their potential activity by considering the Fibroblast growth factor receptor 1 (FGFR1) and the Ser-/Thr-specific kinase Akt protein (Akt) as target proteins. The amino acid residues from ALA639 to PRO741 of FGFR1 and from GLU17 to ASP292 of Akt proteins are involved in non-covalent interactions with the ligands 6a–6f. The insilico pharmacokinetic properties are predicted for the molecules 6a–6f to assess the druggability. The study provides that compounds 6a, 6b, 6d, and 6j scaffolds serve as promising lead molecules for treating cancer and further structure optimizations.

Introduction

Cancer is one of the major worldwide problems in terms of mortality and morbidity. Among them, prostate cancer is the world's second most common disease in the male population and the fifth leading cause of mortality, showing the highest

rate of occurrence in the Europe, North America, and Oceania.^[1,2] Chemotherapy with the taxane family medications docetaxel and cabazitaxel has been used to treat prostate cancer metastases that has not responded to hormonal treatment.^[3] These drugs promote the aggregation of tubulins in the formation of stable microtubules and improve median overall survival from 43 to 65 months. Due to the absence of selectivity, common side effects such as neutropenia, anaemia, and serious infections were reported. Therefore, despite of many existing anticancer therapies,^[4] there is enormous scientific and commercial interest in the discovery of safe, potent, and selective drugs against prostate cancer.^[5]

The synthesis of extraordinarily huge, diverse, and complicated families of compounds has been made feasible by organic synthesis. Nevertheless, upon the end of the last century, chemists were conscious that organic synthesis generally suffers from the large amounts of toxic waste that are produced during synthesis.^[6] In this aspect, 1,2,4-triazole, a class of heterocyclic frame work with multiple impressive applications in medicinal, pharmacological, coordination chemistry and materials science arena^[7,8] has attracted the research community. Medicinal chemistry was developed from an empirical organic synthesis of novel entities by modification of structure and identification of their biological activity. Furthermore, heterocyclic compounds are well known pharmaceutically active products, and the development of simple and efficient methods for the synthesis of compounds incorporating heterocyclic rings has given a new dimension to drug discovery.^[9]

Triazole - a five-membered cyclic carbon skeleton fused with three nitrogen atoms occupy a central position in the modern heterocyclic chemistry. The heterocyclic ring serves as a key

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The Role of Information and Communication Technology (ICT) in English Language Teaching

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Abstract:

English is one of the most predominant languages which have played a role in the present scenario. It plays an important role not only in the process of globalization but also in the explosion of knowledge. It is the most common means of communication throughout the globe. Therefore, it is termed as Link language, Global language as well as Lingua Franca. In the present context it is treated as ESL (English as a Second Language). Information and Communication Technology (ICT) has altered the way in English Language Teaching (ELT) taking education to higher levels. One decade ago, in the classroom the language teacher implemented teacher centered approach and it has today become student centered approach. It is ameliorating by all means which has revolutionized the teaching process allowing knowledge to be effortlessly distributed and be able to take place anywhere with the help of ICT. Considering the fact that the present world is constantly changing, so should educational aims and purposes also.

Information and Communication Technology (ICT) has transformed the way humans communicate and carry out different activities within and across national boundaries. It has brought a great deal of innovation in the way as humans. Today, ICT touches almost every sphere of human life. It is used in education, politics, judiciary, health, libraries, banks, security and commerce etc. To teach English and develop English language skills various approaches and methods are in use in our country. But most of them are traditional, less interesting, ineffective as well as less motivating. So, it is necessary to use modern approaches and tools of Information and Communication Technology (ICT) to develop better understanding and acquisition of basic skills i.e. LSRW (Listening, Speaking, Reading and Writing) of English language among the students at school and college level. Information and Communication Technology (ICT) has a lot of things to offer to both teachers and students for the enhancement of their vocabulary and improvement of English language skills. In a nutshell, the facilities and tools are Blogs, Wikipedia, E-mail, Digital libraries, Multimedia, Mobile learning, free and open source software and social media, MOOCs, Virtual classrooms, Documentaries, Digital storytelling, Mobile Applications, iPads, Digital Notebooks, Tablets, Smart Phones, Recorded Audio- Video materials, Online spoken tutorials, Digital pronunciation dictionaries etc. Modern studies and researches show positive results of integration of ICT in the field of ELT and development of English language Teaching.

Key words: ICT, ELT, ESL, Lingua Franca, LSRW, MOOCs, Blog

ACADEMIC YEAR: 2020-2021

1. P.Prasanth, G.Gopi Chandu Babu, Dr.C.N.Bhaska, Dr.K.Prasada Rao, “ Investigation of Canola Oil Methyl Ester Blends with Diesel on a Compression Ignition Engine to Improve Performance and Control Emissions” International Journal of Research in Engineering and Science (IJRES) ISSN (Online): 2320-9364, ISSN (Print): 2320-9356 www.ijres.org Volume 9 Issue 2 | 2021 | PP. 26-34.
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Investigation of Canola Oil Methyl Ester Blends with Diesel on a Compression Ignition Engine to Improve Performance and Control Emissions

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Abstract

This paper presents the experimental investigation of canola oil produced by the transesterification process and glycerin as a by-product. Canola oil methyl ester blends with diesel blends were used in a compression ignition (diesel) engines to analyze the emission characteristics. Experimental results show that canola methyl ester blends meet the emission and performance requirements of a diesel engine. These blends provide less concentration of exhaust gas emissions. However, apart from its advantages, it produces low HC, CO and higher NOx exhaust gas emissions as compared to diesel fuel. Thus, canola oil methyl ester can be considered as an alternative source of renewable energy to meet the energy demands of the future.

Keywords: Biodiesel, Canola oil methyl ester, Compression ignition engine, performance, emissions

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I. INTRODUCTION

Bio fuels thought about as another fuel for the fossil fuels that area unit depleting in no time and that they produce harmful environmental pollutions. The bio fuels area unit typically thought about recently area unit completely different sorts of bio fuels area unit grain alcohol and biodiesel.1 Shehata et al. studied that by mistreatment corn and soybean blends with diesel oil over a large vary of engine speeds, masses while not modifying the engine components. He completes that the brake thermal potency for diesel, two hundredth bio fuels area unit reciprocally consistent with their viscousness or density and O content and at constant time their arrangement in descendent ordering relating to the heating values.2Also complete that the height pressure of the cylinder for diesel oil is over that for corn and soybean blending fuels with all engine conditions. Reducing the oxides of atomic number 7 and soot to meet the demanding emission standards received extensive attention in diesel combustion chemistry.3 Aqwu et al.experimentally complete that the soybean biodiesel with diesel blends was found that by mistreatment soybean blended with rock oil diesel, the engine worked well.4 Lebeckas et al. used oil in a very ICE, the facility output reduced and also the brake specific fuel consumption inflated. Bio fuels thought about as another fuel for the fossil fuels that area unit depleting in no time and that they produce harmful environmental pollutions. The bio fuels area unit typically thought about recently area unit completely different sorts of bio fuels area unit grain alcohol and biodiesel.1 Shehata et al. studied that by mistreatment corn and soybean blends with diesel oil over a large vary of engine speeds, masses while not modifying the engine components. He completes that the brake thermal potency for diesel, two hundredth bio fuels area unit reciprocally consistent with their viscousness or density and O content and at constant time their arrangement in descendent ordering relating to the heating values.2Also complete that the height pressure of the cylinder for diesel oil is over that for corn and soybean blending fuels with all engine conditions. Reducing the oxides of atomic number 7 and soot to meet the demanding emission standards received extensive attention in diesel combustion chemistry.3 Aqwu et al.experimentally complete that the soybean biodiesel with diesel blends was found that by mistreatment soybean blended with rock oil diesel, the engine worked well.4 Lebeckas et al. used oil in a very ICE, the facility output reduced and also the brake specific fuel consumption inflated. the closer performance with the neat diesel. Rengasamy et al. [3] extricated Oil from Artocarpusheterophyllus (Jackfruit) seeds and concentrated its application in biodiesel creation. This investigation incorporates the optimization of oil from feasible methods with respective solvents and the optimization dependent on the measure of oil yield. The most efficient yield was gotten in microwave oven extraction procedure resulting about 19.8% of yield utilizing methanol was solvent. The biodiesel yield got was about 92% by transesterification at 650C reaction temperature, 1: 9 molar ratios of oil: methanol and 400 rpm of stirring speed for 120 minutes with 1 wt% of

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Investigation of Canola Oil Methyl Ester B20 Blend with Air Pre Heating on a Compression Ignition Engine

P.Prasanth, G.Gopi Chandu Babu, Dr.C.N.Bhaskar, Dr.K.Prasada Rao

Abstract

In this paper investigations were carried out on the compression ignition engine with air pre heating optimum blend (B20) which one is result best from the Canola Oil Methyl Ester blends. And to find out performance and emissions parameters and compared with optimum blend B20 and diesel base line data. We hope and expected these extension of air pre heated blend shows best results in performance and emissions parameters. The research revealed brake thermal efficiency increases and brake specific fuel consumption decreases and mostly decreases emissions.

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Section

Articles

PERFORMANCE AND TESTING OF EMISSION CHARACTERISTICS BIO FUEL USING DIESEL ENGINE WITH ALEXANDRIAN LAUREL SEED OIL

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ABSTRACT

Biodiesel, a light to dark yellow liquid, is biodegradable, non-toxic and has significantly fewer emissions than petroleum-based diesel. It is practically immiscible with water, has a high boiling point and low vapour pressure. Biodiesel is produced from a wide range of feedstock, including fresh soybean oil, mustard seed oil, waste vegetable oil, palm oil, rapeseed, sunflower, soybean and jatropha, copra, palm, groundnut and cotton seed. In the present years, population of vehicles increased enormously which increases the demand of fossil fuel, The availability of conservative fuels decreased continuously, these reasons makes to find the alternative fuels especially biofuels. The use of biodiesel considerably reduced emission and increase the performance of the engine. Now a days researchers have reported the possibility for the production of biodiesel from non edible oil jatropha curcus, pongamia pinnata etc. There is a best source of raw material that is Alexandrian laurel seed oil for biodiesel production. In present study Alexandrian laurel seed oil is used as fuel in C.I engine. The main objective of the present study was to use the non-edible Alexandrian laurel seed oil as biodiesel in ci engine. to reduce the viscosity of neat Alexandrian laurel, transesterification was done to bring it close to that of conventional diesel. In order to obtain a basis for comparison, Various blends are used such as (B10, B20, B30, B100) from this blends B20 shows best results compared to the diesel. Observe the brake thermal efficiency, Brake powder, Break mean effective pressure, Specific fuel consumption at various loads. To improve the performance characteristics Isobutanol additive added in the B20 in the concentration of 10% and 15%. Observe the which blend gives the good result in single cylinder operation based on the result. Finally we conclude that by observing performance, combustion and emission analysis CO, HC, Nox the combination of bio fuel alexandrian laurel seed oil and conventional diesel fuel which one gives better results compared.

ALEXANDRIAN LAUREL

The Alexandrian Laurel has derived its generic name from the Greek terms 'kalos' denoting beautiful and 'phullon' meaning leaf. In other words, the generic name of this species means the beautiful-leafed tree in Greek. Similarly, the precise nickname (epithet) of

this tree also has its origin in two Greek words – 'is' meaning fiber and 'phullon' denoting leaf that refers to the prominent veins on the underside of the leaves of the Alexandrian Laurel. The tree is cultivated for providing shade as well as reforestation and afforestation – an initiative to reclaim soil.



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EXPERIMENT AND ANALYSIS OF EMISSION CHARACTERISTICS BIO FUEL USING DIESEL ENGINE WITH ALEXANDRIAN LAUREL SEED OIL

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Abstract: Biodiesel, a light to dark yellow liquid, is biodegradable, non-toxic and has significantly fewer emissions than petroleum-based diesel. It is practically immiscible with water, has a high boiling point and low vapour pressure. Biodiesel is produced from a wide range of feedstock, including fresh soybean oil, mustard seed oil, waste vegetable oil, palm oil, rapeseed, sunflower, soybean and jatropa, copra, palm, groundnut and cotton seed. In the present years, population of vehicles increased enormously which increases the demand of fossil fuel, The availability of conservative fuels decreased continuously, these reasons makes to find the alternative fuels especially biofuels. The use of biodiesel considerably reduced emission and increase the performance of the engine. Now a days researchers have reported the possibility for the production of biodiesel from non edible oil jatropa curcus, pongamia pinnata etc. There is a best source of raw material that is Alexandrian laurel seed oil for biodiesel production. In present study Alexandrian laurel seed oil is used as fuel in C.I engine. The main objective of the present study was to use the non-edible Alexandrian laurel seed oil as biodiesel in ci engine. to reduce the viscosity of neat Alexandrian laurel, transesterification was done to bring it close to that of conventional diesel. In order to obtain a basis for comparison, Various blends are used such as (B10, B20, B30, B100) from this blends B20 shows best results compared to the diesel. Observe the brake thermal efficiency, Brake powder, Break mean effective pressure, Specific fuel consumption at various loads. To improve the performance characteristics Isobutanol additive added in the B20 in the concentration of 10% and 15%. Observe the which blend gives the good result in single cylinder operation based on the result.

INTRODUCTION

ALEXANDRIAN LAUREL

The Alexandrian Laurel has derived its generic name from the Greek terms 'kalos' denoting beautiful and 'phullon' meaning leaf. In other words, the generic name of this species means the beautiful-leafed tree in Greek. Similarly, the precise nickname (epithet) of this tree also has its origin in two Greek words – 'is' meaning fiber and 'phullon' denoting leaf that refers to the prominent veins on the underside of the leaves of the Alexandrian Laurel. The tree is cultivated for providing shade as well as reforestation and afforestation – an initiative to reclaim soil. In many places,

tree is also planted along the shores because it has proved to be effective in preventing soil erosion by the sea. While the growth of the tree is very sluggish, it is very popular as a roadside plantation in India. Additionally, it is also an attractive ornamental plant, as it has young foliage that is crimson in color. Even the flowers are very aromatic.



Figure 1 ALEXANDRIAN LAUREL LEAFS AND SEEDS

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Investigation of Performance and Emission Characteristics of Jackfruit Seed Methyl Ester Blends with Additive and Advanced Injection Timing

N.Sivarama Krishna, R.Vijay Krishna , K.Madhu babu

Abstract

The use of biodiesels is on the rise in the modern world. Biodiesel has been discovered to be a viable diesel alternative, as well as a clean and renewable energy source. In today's world, biodiesel has slowly gained global attention. The current research focuses on jackfruit oil and diesel blends. A 20% jackfruit oil and diesel blend is prepared and tested in a regular direct injection diesel engine of 230 bTDC. The BTE and BSFC of JOME20 are 33% and 0.26 kg/kWh at full load. Further JOME20 is also tested at advanced injection timing of 270 bTDC. The BTE of JOME20 at 270bTDC is 36% and NOX emissions are 2334 ppm. The results shown JOME20 at advanced injection timing has better BTE compared to JOME20 at standard injection timing. But the NOX emissions are found to be high at advanced injection timing. When higher alcohol 1-butanol is added to JOME20 at advanced injection timing of 270 bTDC NOX emissions decreased as concentration of 1-butanol is increased. NOX outflow decreased by 5.65% and 8.42% for JOME20-1B20 and JOME20-1B30 when compared to JOME20 at advanced injection timing. BTE decreased when higher alcohol is added to blends. BTE decreased by 2.92% and 5.03 % for JOME20-1B20 and JOME20-1B30 when compared to JOME20 at advanced injection timing for peak pressure condition. In this study finally concluded from the result 1-butanol additive with diesel give lowest emissions than diesel.

THERMO HYDRAULIC AND THERMAL PERFORMANCE OF RECTANGULAR MICRO CHANNEL

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Abstract: Due to the high performance of electronic components, the heat generation is increasing dramatically. In this scenario dissipation of heat becomes a major issue for stable operation and efficiency promotion. The current interest of microchannels for use in electronic components, where high amount of heat transfer performance is desired. In general microchannels having small hydraulic diameters so they provide high heat transfer coefficients. Now a day's microchannel heat sinks (MCHS) are considered as twenty first century cooling solution. In this work numerical study on microchannel heat sink for heat transfer enhancement by using extended surfaces has been carried out. In this work upstream cylindrical finned microchannel and downstream finned microchannel. is studied. In this work water is used as the cooling liquid and copper as microchannel material, two levels of heat flux, $q'' = 100 \text{ W/cm}^2$ and $q'' = 200 \text{ W/cm}^2$ is applied to the bottom wall of the microchannel heat sink, were studied. A 3D Computational Fluid Dynamics (CFD) model was developed and analysis was done by using ANSYS FLUENT 16.0, to investigate the conjugate fluid flow and heat transfer problem involving simultaneous determination of the temperature field in both the liquid and solid regions. This work is mainly focused on laminar flow with Reynolds Numbers 300, 500, 700 and 900 for single-phase liquid flow. The local Nusselt number, average wall temperature, bottom wall temperature, pressure drop and performance factor of finned microchannels are evaluated and compared.

Keywords: CFD Analysis, Microchannel, Thermohydraulic studies

1. INTRODUCTION

As the energy demand increasing ever increasing day by day, huge research is going on in the renewable energy sector. In this sector photo voltaic cells have gained more importance than other source as they convert solar energy into electrical energy. PV cell converts electrical energy with less conversion efficiency, so this solar energy is termed as most expensive renewable energy.

There are some technological methods that can improve the energy conversion efficiency; like optical frequency shifting, multiple exciton generation cells, hot carrier cells, multi-junction cells and concentration photovoltaic system. Total of 80% solar energy is absorbed by PV panels but while coming to the conversion efficiency it is about to 30% only.

The Major losses of components is heat dissipation, so as heat dissipation is more this results gradual increase in temperature of PV cells results decrease in power out so less efficiency was observed. In order to increase the cell efficiency we need to maintain cell temperature must be in the rage of 25-30°C. So to maintain the required temperature conditions we need a thermal management system which gives the safe and efficient operation. So in order to find the solutions to this problem MCHS is one of the best considerations to get more cooling rates because it is having small in size and convective heat transfer is increases.

Many researchers conducted great work on single phase heat transfer in microchannels since in 1981 Tuckerman and Pease's pioneering on the very large-scale integrated circuits (VLSI) cooling. Tuckerman and Pease in 1981, MCHS concept was explained and also said that single phase convective haet transfer systems give best heat transfer rates in the order of 1000 W/m^2 . In industry cooling by using forced convection in channels for faster and larger scale cooling liquid injection has been used for decades. MCHS has become popular and interesting to researchers due to the potential for record-high heat transfer coefficient and low to moderate pressure drop than conventional liquid and air cooled systems.

The challenges of microchannels included are the manufacturing/fabrication difficulties and it is necessary to maintain high grade filtering of the coolant (working fluid) for it to

Enhancement of Cop of Vapour Compression Refrigeration System by Using Diffuser and Nozzle

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ABSTRACT— this investigational analysis exemplifies the design and test of diffuser at compressor inlet and nozzle at condenser outlet in VCR with the help of R134a refrigerant. The diffuser with divergence angle of 15°, 17° and the nozzle with convergent angle 15°, 17° are designed for same inlet and outlet diameters. Initially diffusers are tested at compressor inlet diffuser is used with inlet diameter equal to exit tube diameter of evaporator and outlet tube diameter is equal to suction tube diameter of the compressor. Diffuser helps to increase the pressure of the refrigerant before entering the compressor it will help to reduce the compression work and achieve higher performance of the vapour compression refrigeration system. Then nozzles are tested at condenser outlet, where as nozzle inlet diameter equal to discharging tube diameter of condenser and outlet diameter equal to inlet diameter of expansion valve. Extra pressure drop in the nozzle helped to accomplish higher performance of the vapour compression refrigeration system. The system is analyzed using the Ist and IInd laws of thermodynamics, to resolve the refrigerating effect, the compressor work input, coefficient of performance (COP).

Keywords— Diffuser, Nozzle, Coefficient of performance, Refrigeration effect

1. INTRODUCTION

In VCR system, the refrigerant underneath goes phase changes from liquid to vapor and then vapor to liquid during a closed cycle by absorbing the warmth within the evaporator and reject the warmth at condenser. The coefficient of performance (COP), that may be a magnitude relation of heat transfer rate at the evaporator to the ability input to the compressor within the refrigeration system. The COP will be increased either by decreasing the compressor work or by increasing the refrigeration effect. Completely different forms of ways are tried out for improving the COP of the VCR system, as according to literature G.Naga Raju et al [1] in this paper have studied enhancement of COP of vapour

compression refrigeration system by using the diffusers at compressor inlet and as well as condenser inlet. When using the diffuser at compressor inlet the coefficient of performance is increased by 6% and using the diffuser at condenser inlet the coefficient of performance is increased by 3%. Neeraj Upadhyay et al [2] studied the analytical study of vapour compression refrigeration by using diffuser and sub-cooling to improve the COP of the system either by decreasing the compressor work or increasing the refrigeration effect. In this paper to increase the refrigeration effect by incorporating of diffuser and sub-cooling process. By using the diffuser consumption power is by compressor and COP is enhanced from 2.65 to 3.38. Vivek Kumar et al [3] have developed a placement configuration by inducting one. Diffuser in between the condenser inlet and compressor, 2. Heat exchanger at condenser outlet. By victimization these two to evaluate the various parameters like coefficient of performance, refrigerant impact and compressor work of this system with the help of R134a refrigerant. Compare these parameters with convectional system the COP of changed system increased by around 1.14. P.G. Iohote et al [4] have studied the performance of various condensers by changing the pressure and alter in COP of refrigeration system. Once changing the convectional condenser by small channel heat exchanger the pressure changes there are change in rate of heat transfer. This may help to manage the heat losses occurring within the condenser section. So system of various condensers provides the better COP than the convectional system. Nuru Seraj et al [5] in this paper studied to increase the coefficient of performance of VCR system. At the start the Diffuser of increasing Cross-Sectional area Profile Was Designed, invented and Introduced in Our VCR equipment. The dimensions of Diffuser chosen Was of 15 Degree Divergence Angle. By using Diffuser Power Consumption is a smaller amount for same refrigerant result therefore Performance Is Improved. The size of The Condenser can even Be Reduced

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Effect of operating parameters and antioxidant additives with Palm-biodiesels to improve the performance and diminishing the emissions in a compression ignition engine

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Abstract

In modern world, the usage of biodiesels is increasing day by day. Biodiesel is found to be a substitute for diesel besides it is a clean fuel and a renewable source of energy. Slowly, biodiesel gained global attention in today's world. The present study is a work on palm oil and diesel blends. 20% blend of palm oil and diesel is prepared and tested in direct injection diesel engine at standard injection timing of 230 bTDC. The BTE and BSFC of POME20 are 33% and 0.26 kg/kWh at full load. Further POME20 is also tested at advanced injection timing of 270bTDC. The BTE of POME20 at 270bTDC is 34% and NOX emissions are 2400 ppm. The results shown POME20 at advanced injection timing has better BTE compared to POME20 at standard injection timing. But the NOX emissions are found to be high at advanced injection timing. When higher alcohol 1-butanol is added to POME20 at advanced injection timing of 270 bTDC NOX emissions decreased as concentration of 1-butanol is increased. NOX outflow decreased by 5.23% and 8.7% for POME20-1B20 and POME20-1B30 when compared to POME20 at advanced injection timing. BTE decreased when higher alcohol is added to blends. BTE decreased by 2.7% and 4.6% for POME20-1B20 and POME20-1B30 when compared to POME20 at advanced injection timing for peak pressure condition. In this study finally concluded from the result 1-butanol additive with diesel give lowest emissions than diesel

Effect of Operating Parameters and Antioxidant Additives with Palm-Biodiesels to Improve the Performance

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Abstract - It is an overwhelming argument that the use of biodiesel in diesel engine causes slight decrease in performance and reduction in exhaust emissions but at the expense of oxides of nitrogen (NOX) emission. In order to improve the performance without sacrificing the advantage in terms of exhaust emissions, it is essential to vary the engine operating parameters such as compression ratio (CR), injection pressure (IP) and injection timing (IT). Nowadays, treatment of biodiesel with antioxidant additive is a promising approach to reduce the NOX emission because it reduces the hydrogen free radicals, which is responsible for prompt NOX formation during combustion process. Hence, in the present review a detailed study has been carried out with the operating parameters and antioxidant additives used in biodiesel operated diesel engine so that its performance can be improved.

Index Terms - Palm oil methyl ester (POME20), advanced injection timing, higher alcohols, 1-butanol, standard injection timing.

I.INTRODUCTION

In developing countries like India, transportation is vital for everyday activities and in the growth of economic condition. There are different modes of transportation such as road, water, air etc., in which fossil fuels are used abundantly. Besides transportation sector, the fossil fuels are used in power generation agricultural equipment and even in mine locomotives. In India, the consumption of diesel fuel is about 88.2 billion liters in the year 2020. During the last six decades, crude oil consumption rate in India have increased 16 times because of faster rate of vehicle population, industrial growth and agricultural development. Due to increasing usage of petroleum derived fuels, the cost of the crude oil is increased with the demand. India spends thousands of crores to

import the crude oil for different application and it leads to lowering the Indian economy. The biodiesel is produced from different sources and it may either from conventional or non-conventional sources. Some biodiesel blends can be directly used in engines without any modification, and some requires slight modifications like piston-cylinder coating, injection advance etc., to obtain the same performance to that of fossil fuel. Balamurugan et al (2018) revealed that the production of bio diesel from corn oil is possible, biodiesel was prepared from corn oil by using transesterification process. The research paper also reveals that increasing the percentage of corn oil bio diesel reduces the Break thermal efficiency. Brake specific fuel consumption. At 80% of full load, the BTE was 46.07% for diesel, and decreased by 2.79%, 7.72% and 15.35% for B10, B20 and B30 respectively. The addition of corn oil biodiesel with normal diesel increased the viscosity and decreased the volatility which in turn resulted in poor atomization and spray characteristics. Moreover, the percentage increase in biodiesel increased the BSEC. At 80% load on the engine, the increase in BSEC was 5.41%, 35.33% and 40.36% for the addition of 10%, 20% and 30% biodiesel with diesel. The peak cylinder pressure was less for all blended fuels when compared with that of diesel. The peak cylinder pressure was 71.95 bar at -1° for diesel, and 67.74 bar at -1° , 67.58 bar at -1° and 67.31 bar at -1° for B10, B20 and B30 respectively. Moreover, at all load ranges, the Nox emission was less for all blended fuels when compared with that of diesel. At 80% load on the engine, the decrease in Nox emission was 7.97%, 11.58% and 12.81% for B10, B20 and B30 respectively. Nagaraja et al (2017) study expresses that corn oil methyl has low exhaust emissions and increase in performance. It gives better performance and a potential substitute to fossil fuels.

Synthesis of $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ -reinforced E-glass/epoxy nanocomposites for radar-absorbing structures

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ABSTRACT

The development of new radar-absorbing structures (RASs) with strong microwave absorption, fine thickness and adequate structural performance is imperative. Herein, nanocrystalline $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ was synthesised by a facile and effective sol-gel autocombustion technique. The structural and magnetic properties of ferrite were determined by various characterisation techniques, and E-glass/epoxy-based nanocomposites with different weight percentages of ferrite were fabricated by in-situ polymerisation. Further, electromagnetic properties were investigated to elucidate the possible absorption mechanism of the fabricated structures. The 4-mm-thick double-layered E-glass/epoxy/nickel-zinc ferrite composites exhibited reflection loss (RL) of <-10 dB for a bandwidth of 2.4 GHz and a maximum RL of -33 dB at 9.6 GHz. This performance was attributed to the larger magnetic loss and sufficient matching of electromagnetic parameters. This study provides a unique insight into the utilisation of $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ for producing lightweight and relatively thin RASs in the X-band at a low cost.

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Polymer composite; E-glass/epoxy; autocombustion; nanocrystalline $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$; electromagnetic property; reflection loss; radar-absorbing material; X-band

Introduction

In recent years, significant progress has been made in electronic systems and telecommunication devices [1–3]. However, these advancements have ultimately resulted in electromagnetic wave pollution and electromagnetic interference (EMI) [4–7]. Owing to the high data transfer rates of microwave radiation in the gigahertz (GHz) range, this pollution threatens human health. Therefore, research on assessing and developing novel microwave-absorbing materials is vital for applications in wireless communication and information technology [8–10].

An electromagnetic (EM) wave consists of both electric energy and magnetic energy. Moreover, lossy materials are classified as dielectric and magnetic absorbers that can absorb the corresponding energy component. For effective performance, lossy materials should conform to two specific conditions. First, the impedance of the absorbent must be equal to that of the free space; second, the intensity of the EM wave must be attenuated to an adequately low magnitude. Many researchers have recently developed novel materials for electromagnetic absorption (EMA). The gain in the electrical conductance loss and interfacial polarisation enhancement between zeolitic imidazolate frame works (ZIFs) and polypyrrole (PPy) resulted in high EMA performance of PPy/ZIFs [11]. A facile method was developed by Aminf Xie et al. to synthesise excellent and ultralight EMA materials using three-dimensional PPy/SiO₂ nano aerogels [12]. A study by

Bin Quan et al. provided a favourable technique to synthesise porous nanostructured Co_xNi_y /carbon composites to demonstrate the superior performance of EMA [13]. The modified NiFe_2O_4 -rGO can be used for microwave absorption in military, civil, aerospace and similar applications [14]. The hybrid epoxy composites fabricated with nickel coated carbon/glass fibres exhibited a reflection loss (RL) of -48.1 dB for a band width of 3.2 GHz [15].

Owing to their significant flexibility in practical use, polymer composites containing magnetic particles are preferred for radar-absorbing technology [16]. Polymer matrix composites containing reinforced E-glass fibre facilitate the absorption of microwaves and offer high structural performance with the addition of lossy nanofillers [17–19]. Nickel-zinc ferrite (NZF) is a ceramic ferromagnetic material with a cubic-system crystalline structure. On account of its excellent electromagnetic properties, simple preparation and low initial material cost, it can be regarded as a promising magnetic lossy material for radar absorption applications [20,21]. As a spinel ferrite, its Zn^{2+} ions fill tetrahedral sites, and its Ni^{2+} occupy octahedral sites whereas Fe^{3+} ions distributed between both sites. Various methods of synthesizing nanoscale ferrite particles have been successful, such as co-precipitation, ball-milling, hydrothermal refluxing, the sol-gel method and spray-spin heat coating. The sol-gel method is widely used due to its advantageous attributes, including good mixing of starting materials, low processing

Microwave-absorption characteristics of polyaniline-coated multi-walled carbon nanotube composites

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ABSTRACT

In this study, the microwave-absorption characteristics of multi-layered radar-absorbing structures (RASs) were investigated. Electrical-grade glass (e-glass)/epoxy composites containing modified multi-walled carbon nanotubes (MWCNTs) were fabricated. The polyaniline (PANI) coated MWCNTs was obtained by *in-situ* polymerisation of aniline in the presence of MWCNTs. The PANI-coated MWCNTs (PCNTs) were then used as reinforcements in the polymer matrix, and their morphologies, microstructures, thermal stabilities, and microwave-absorbing properties were investigated. The complex permittivity and permeability of the composites were measured and found to have increased with increasing filler concentration. Microwave absorbing properties were analysed via waveguide measurement. The three-layered RASs reinforced with PCNTs having a thickness of 4 mm exhibited a RL of -5 dB over the entire X-band and a reflection peak of -24.53 dB at 10.0 GHz. Hence, the epoxy/PCNTs composites are suitable for use in microwave-absorption applications.

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KEYWORDS

RAS; polyaniline; complex permittivity and permeability; microwave absorption; reflection loss

Introduction

In recent years, the demand for lightweight microwave-absorbing materials has significantly increased with the developments in radar and wireless communications. Metals have been the most used materials for microwave-absorption applications, but they exhibit shortcomings such as high weight, oxidation, high reflection, and difficult processing. Therefore, alternative materials with high electromagnetic interference (EMI) shielding/absorbing properties are required. Hence, polymer-based composites are more applicable as microwave absorbers than metals due to their remarkable properties, in addition to ease of processability. The discovery of carbon nanotubes (CNTs) [1] was a breakthrough in the research community. Previous studies on CNTs reported their remarkable microwave-absorbing characteristics, which can be attributed to their excellent thermal and electrical conductivities, high aspect ratios, low weight, resistance to heat and corrosion, high mechanical strength, and high degree of flexibility [2–5]. Several studies have been conducted on polymer/CNT composites for microwave-absorption applications. Polymer matrices can be embedded with dielectric and magnetic fillers to improve their microwave-absorption properties [6–10, 40–52]. This includes polymers such as epoxy resin, polyaniline

(PANI), polypropylene (PP), polymethyl methacrylate (PMMA), polyvinylidene fluoride (PVDF), polyurethane (PU), polyacrylate (PA), ethylene vinyl acetate (EVA), and polycarbonate (PC). Among the polymer-based composite materials, extensive research has been conducted on epoxy resins owing to their superior adhesion, heat and chemical resistances, mechanical properties, and remarkable electrical insulating properties. Moreover, epoxy-based composite materials with different magnetic and dielectric fillers have been investigated with respect to radar absorption [3,5,7,8,11–19]. Epoxy-based MWCNT composites exhibited a RL of -5 dB in X-band frequency [11]. A double-layered NiFe alloy nano powder-filled MWCNTs/epoxy composite was found to have -12 dB in 8.2–9.8 GHz frequency range [7]. Radar absorbing materials containing MWCNTs, Titanium (Ti), Ti coated MWCNTs, and Ti coated MWCNTs/Fe showed the maximum reflection loss of -16.03 dB at 10.99 GHz, -8.4 dB at 12.4 GHz, -36.44 dB at 12.05 GHz, and -42.53 dB at 10.98 GHz, respectively [8]. Epoxy/MWCNT composites with varying diameters, and lengths are studied, and samples with a matching thickness of 2–3 mm exhibited 90% microwave absorption in X-band frequency range [18]. A four-layered Epoxy/MWCNT composite exhibited a maximum RL of -44 dB at a



Evaluation of Mechanical Properties of Polyester & Fly Ash Fiber Reinforced Polymer Composites

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Abstract: In this research, Fibre Reinforced Polymer artificial composites are fabricated as a high-strength and lightweight. The artificial fibre of e-glass fibre and fly ash powder are used as a particulate reinforcement for our application. The mechanical strength of these fibre composites is improved by analysis and testing with different compositions of resin, catalyst and accelerator presented in this fibre. The composite samples were fabricated at varying particulate weight content (%) and at room temperature. Finally, by this project we can analyse the tensile strength and impact strength of e-glass fiber and fly ash are improved. These composites can help us to achieve a better combination of properties. The characteristics of these composites are durable, low cost, low weight, high specific strength, non-abrasive, equitably good mechanical properties, Eco friendly and biodegradable.

Keywords: Epoxy, e-glass fibre, fly ash, Mechanical Properties.

I. INTRODUCTION

A. Background

With the recent technological advances in engineering, material science has assumed a position of utmost importance. The interest in advanced materials is increasing rapidly, both in terms of their research and application. It is a truism that technological development depends on advances in the field of materials. One does not have to be an expert to realize that the most advanced turbine or aircraft design is of no use if the adequate materials to bear the service loads and conditions are not available. Whatever the field may be, the final limitation on advancement depends on materials. Composite materials in this regard represent nothing but a giant step in the ever constant endeavor of the optimization in materials.

The mechanical shortcomings of homogenous materials and the need for composites were realized in the early 1950s, with the advent of the space age. Almost all homogenous materials have their inherent shortcomings in mechanical respect. When they are stiff and sufficiently hard, they are most brittle and hardly processable. They are ductile and well processable; they are not stiff and hard enough. By the combination of materials, it proved possible to attain a situation in which the "whole is more than the sum of its parts". Composites were a need in the evolution of engineering materials. The simplest combination is that of only two materials, one acting as reinforcement and the other as the matrix.

II. LITERATURE REVIEW

This section focuses on the research work that has already been carried out for testing the mechanical properties of the glass Fiber Reinforced Hybrid composites. Literature review of such work needs to be done in order to understand the background information available, the work already done and also to show the relevance of the current project. This chapter presents a general idea of the factors which affect the mechanical properties of hybrid fibre reinforced polymer composites. In polymer composites, the matrix is the major load bearing component. In order to increase this load bearing capability, the reinforcements are introduced in the matrix. Currently, natural fibers and artificial fibers like glass, jute etc., are being widely used in polymer-based composites because of their high strength and stiffness properties.

According to R.D.HEMANTH, M.SENTHILKUMAR, AJITHGOPINATH & L. NATRAYAN Composite manufacturing is the novel branch of science, which finds its immense applications in various industries such as sporting, automotive, aerospace and marine industries. The superior properties of composites such as stiffness, better mechanical properties, low density and light weight make it a candidate in engineering applications. The need for seeking alternate materials with increased performance in the field of composites revived this research, to prepare fiber reinforced composites.

According to A. MANIKANDAN, R. RAJKUMAR et al The objective of this work is to investigate the mechanical properties of Glass fiber reinforced Epoxy composites with different weight proportions. Using injection molding, five composites were prepared by varying the weights. The necessary mechanical tests were conducted as per ASTM standards. Fiber Reinforced Polymer (FRP) composite materials are currently considered as universal engineering materials and they are utilized in a spacious range of

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Investigation of Experimental Analysis on Sub-Cooling, Superheating Effect and Performance of Low Cost Refrigeration System using R1270 as Refrigerant

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ABSTRACT: R1270, also known as CARE 45, is refrigerant grade propylene (propene), a natural, or "not in kind" refrigerant suitable for use in low and medium temperature refrigeration applications. It is non-toxic, with zero ODP (Ozone Depletion Potential) and very low GWP (Global Warming Potential). This paper researches the effect of a test examination completed to decide the exhibition of local icebox when a melted oil gas (LPG) is locally accessible. The performance of a standard VCRS cycle can be obtained by varying evaporator and condensing temperatures over the required range. The effects of evaporator and condensing temperatures on specific and volumic refrigeration effects of a standard VCRS cycle. As shown in the figure, for a given condenser temperature as evaporator temperature increases the specific refrigeration effect increases marginally. It can be seen that for a given evaporator temperature, the refrigeration effect decreases as condenser temperature increases. These trends can be explained easily with the help of the P-h diagram. It can also be observed that the volumetric refrigeration effect increases rapidly with evaporator temperature due to the increase in specific refrigeration effect and decrease in specific volume of refrigerant vapour at the inlet to the compressor. Volumetric refrigeration effect increases marginally as condenser temperature decreases.

KEYWORDS: Refrigerant (R1270), Evaporator, Refrigerating effect, COP. Vapour Compression Refrigeration, COP Domestic Refrigerator, Eco-Friendly Refrigerants, Sub- Cooling, Super Heating.

1. INTRODUCTION

Due to the massive demand for electricity over the world, we think of recovering the energy already spent but not being utilized further to overcome this crisis with less investment. The climatic change and global warming demand accessible and affordable cooling systems in refrigerators and air conditioners. Henceforth, we suggest COST-FREE Cooling Systems. LPG is stored in liquefied state in a cylinder before its utilization as fuel. According to the energy survey, the refrigerator is one of the heaviest power consumers amongst household appliances. It works on the principle that the expansion of LPG will occur during the conversion of liquid LPG into gaseous form. As a result of this, LPG gas pressure drops, and the volume of gas will increase this will result in a decrease in gas temperature and acts as the refrigerant. According to the second law of thermodynamics, this cooling process can only be performed with the aid of some external work. Hence, the power supply is regularly required to drive a refrigerator. The substance that works in a refrigerator to extract heat from a cold body and deliver it to a hot body, i.e.to, surrounding, is called refrigerant. Globally 17500 metric tons of conventional refrigerants are consumed by domestic refrigeration like CFC,HFC which causes high depletion of the ozone layer (ODP), and Global Warming Potential (GWP). The use of LPG instead

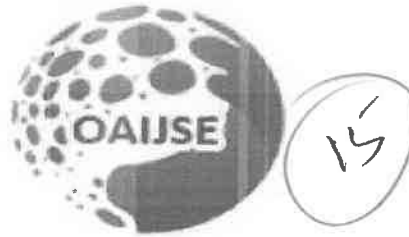
of CFC 22 has made better progress since it has an environment-friendly orientation with no ODP. Good product efficiency is resulted from the use of LPG because of its characteristics. It indicates LPG can be used as an alternative refrigerant to CFC 22. After performing newsystem, an experimental analysis is done in CFD.

1.1 Objectives

- To obtain the characteristic benefits of LPG refrigerant.
- To determine the COP of the refrigerator using LPG as a refrigerant.
- To benefit from the Cooling effect free of cost by eliminating the compressor.
- To produce an eco-friendly refrigeration system by green technology that eliminates the use of ozone-depleting refrigerants.

1.2 Properties of R1270

- Colorless.



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DESIGN AND CFD ANALYSIS OF BEARING WITH DIFFERENT LUBRICANTS

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Abstract: With the development of manufacturing technology, rotating machinery becomes increasingly powerful with higher and higher rotation speed. Fluid lubricated journal bearings are widely used in large rotating machinery, because of its low cost, long life, silent operation, and high radial precision and simple application. In this work journal bearings for L/D ratio and different eccentricity ratios are modelled in 3D modelling software CATIA. The L/D ratio considered is 0.5 and eccentricity ratios considered are 0.2, 0.4, 0.6 and 0.8. The liquid lubricants considered are SAE 20 oil, SAE 40 oil. Journal bearing models are developed for speed of 2000 rpm to study the interaction between the fluid and elastic behaviour of the bearing. The speed is the input for CFD analysis and the pressure obtained from the CFD analysis is taken as input for structural analysis. Computational fluid dynamics (CFD) and fluid structure interaction (FSI) is done in Ansys.

I INTRODUCTION

1. INTRODUCTION OF BEARING:

Bearings enhance the functionality of machinery and help to save energy. Bearings do their work silently, in tough environments, hidden in machinery where we can't see them. Nevertheless, bearings are crucial for the stable operation of machinery and for ensuring its top performance. The word "bearing" incorporates the meaning of "to bear" in the sense of "to support" and "to carry a burden". This refers to the fact that bearings support and carry the burden of revolving axels. A surprisingly large number of bearings can be found all around us. Take automobiles, for example: there are 100 to 150 bearings in a typical car. Without bearings, the wheels

would rattle, the transmission gear teeth wouldn't be able to mesh, and the car wouldn't run smoothly.

A PLAIN BEARING (sometimes called a solid bearing) is the simplest type of bearing, comprising just a surface and no rolling elements. Therefore the journal (i.e., the part of the shaft in contact with the bearing) slides over the bearing surface. The simplest example of a plain bearing is a shaft rotating in a hole. A simple linear bearing can be a pair of flat surfaces designed to allow motion; e.g., a drawer and the slides it rests on or the ways on the bed of a lathe. Plain bearings, in general, are the least expensive type of bearings. They are also compact and lightweight, and they have a high load carrying capacity

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Comparison On Cfd Analysis Of Acetoacetate /Water & Investigational Analysis Of Heat Transfer Characteristics Of Acetoacetate /Water By Using Tube In Tube And Shell And Tube Heat Exchanger

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Abstract: Cooling is critical to preserve the required effectiveness and reliability in a large range of products such as automobiles, high and medium cogeneration power plants, high power laser systems. Part of heat load magnification and the heat fluxes induce by more industrial products, cooling is one of the industry's main technical troubles such as manufacturing, transport and in microelectronics. The main concept of the paper is to study the LMTD (logarithmic mean temperature difference), Heat transfer Coefficient and Effectiveness (ϵ) of combined heat exchanger using acetoacetate/water mixture as a function of a diverse mass flow rates. This paper deals with the investigational study on the three different heat exchangers like tube in tube, shell and tube and combined (tube in tube & shell and tube) heat exchanger with acetoacetate/water mixture mostly to check the elevation of convective heat transfer coefficient, LMTD, effectiveness, overall heat transfer coefficient. These conducting tests give a synopsis of, the investigational study of the forced convective heat transfer and flow characteristics of a 25% acetoacetate consisting of 75% water. Acetoacetate/water mixture flow in to a parallel, counter direction in the tube in tube, shell and tube heat exchanger and combined heat exchanger under laminar flow conditions. A maximum increase in the coefficient of convective heat transfer of 56.3% and an effectiveness of 49.6% is recorded. And also compare this investigation with CFD analysis. However, combined heat exchanger provides better heat transfer characteristics than parallel and counter flow tubular and shell and tube heat exchanger due to the multi-pass flow of Acetoacetate/water. The overall heat transfer coefficients, Reynolds number, logarithmic mean temperature difference, the effectiveness of the acetoacetate/water are also considered and the results are obtainable in tabular columns and figures.

Keywords: acetoacetate /water, LMTD, Overall heat transfer coefficient, Effectiveness, Nusselt number and Reynolds number, CFD analysis.

Design and Thermal Analysis of IC Engine Fins for Effective Heat Transfer by Modifying Material and Geometry

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Abstract: The work is set to analysis the heat dissipation of fins by deviate its geometry in both uniform and non-uniform types, with different material compositions. The models are generated by varying the geometry such as rectangular and triangular. The models were created by using the software 3D Experience. The analysis was carried out by using ANSYS 18.1. The conventional Material used for manufacturing fin body is generally Aluminium Alloy 204 and Aluminium Alloy 6061. We Analysed Aluminium Alloy 6063 which has a higher thermal conductivity of 201-218 W/m^oC. After analysis, the performance parameters are compared with all types of geometries of different material compositions in Aluminium 6063.

Keywords: Fins, Natural convection, Thermal analysis, Effectiveness.

Introduction

Now a days the need in increasing the technology leads to developing the new materials, which will exhibits the noble characteristics. Developing the new materials is not an easy process to fulfil the technology requirements. Precisely the heat dissipation phenomenon in air cooled internal combustion engines will carries out accurately by the material type of the cooling fins and its geometry. The heat dissipation from the engine body can be raised by expanding the surface area of fins. The heat dissipation through the body of fins can be raised by increasing the surface area of fins. The hike in surface area is done by establishing holes of dissimilar sizes on the extended surface of fins [1]. A simulation was carried out to study the heat transfer situation through various finned surfaces of varying geometries and material using ANSYS Workbench®, to better approach the factors affecting heat transfer along the length of the fin [2]. The objective of this work is set to discover the heat dissipation rate, heat flux and the thermal gradient of the fins of an air cooled IC Engine can be analysed by changing the material composition and geometry of the fins.

Objectives

This research is focused on

- To analyse and measure effectiveness of separate kinds of fins.
- To examine steady state thermal properties of unlike geometries.
- To wrap up which type is most efficient.

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Performance Test on Diesel engine by Pre – Heating the inlet air using heat recovery from Exhaust gases

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Abstract- In Diesel engine the air is introduced at a temperature equal to surrounding area and after combustion the gases are released into atmosphere. The heat generated in the combustion process is partially converted into work, which is used to drive the vehicle. The efficiency of the engines is 20-30%. Efficiency of the engine can be increased by sending more quantities of air like super charging and turbo charging, the Pre - heating of the inlet gases (air) is also one of the main reason for the efficiency. Here the Pre – heating of the incoming air is done by using the exhaust gas temperature. The effect of preheated air on standard diesel fuel engine indicated a good result on emission control. Higher inlet air temperature causes lower ignition delay, which is responsible for lower NO_x formation. Uniform or better combustion is occurred due to pre-heating of inlet air, which also causes lower engine noise. Easy vaporization and better mixing of air and fuel occur due to warm up of inlet air, which causes lower CO emission.

Index Terms- Pre heater, Exhaust gases heat recovery, Techniques for increasing the Efficiency of an engine.

I. INTRODUCTION

Engines convert's chemical energy from fuel to thermal and then thermal energy is converted into Mechanical Energy. The lightweight petrol internal combustion engine, operating on a four-stroke Otto cycle, has been the most successful for light automobiles, while the more efficient Diesel engine is used for trucks and buses. However, in recent years, turbo Diesel engines have become increasingly popular, especially outside of the United States, even for quite small cars.

Continuance of the use of the internal combustion engine for automobiles is partly due to the improvement of engine control systems (onboard computers providing engine management processes, and electronically controlled fuel injection). Forced

air induction by turbo charging and supercharging have increased power outputs and engine efficiencies. Similar changes have been applied to smaller diesel engines giving them almost the same power characteristics as petrol engines. This is especially evident with the popularity of smaller diesel engine propelled cars in Europe. Larger diesel engines are still often used in trucks and heavy machinery, although they require special machining not available in most factories. Diesel engines produce lower hydrocarbon and CO₂ emissions, but greater particulate and NO_x pollution, than gasoline engines. Diesel engines are also 40% more fuel efficient than comparable gasoline engines.

Generally, in Diesel engine air enters into the combustion chamber at atmospheric temperature. But if the temperature does not reach the flash point the ignition doesn't takes place. Generally, this problem can be seen in winters. By pre – heating the inlet air the air that enters into the chamber gives an effective combustion and engine starts faster.

Now – a – days in a practical diesel engine "glow plugs", some kind of "heater plugs" are used in order to attain flash point of diesel and to start engine faster. This „glow plugs“ or other kind of heater plugs use the external energy source to heat the inlet air entering into the chamber. Exhaust gases carries all the remaining heat after the expansion stroke. The heat carried away is useless.

An air-preheater (APH) is a general term to describe any device designed to heat air before another process (for example, combustion in a boiler) with the primary objective of increasing the thermal efficiency of the process.

The object of the intake system is to deliver the proper amount of air and fuel accurately and equally to all cylinders at the proper time in the engine cycle. Flow into an engine is pulsed as the intake valves open and close, but can be generally modeled as



Optimization of Parameters in WEDM Using CCF Design

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Abstract

The research work is to investigate the influence of WEDM process parameters such as pulse on time (T_{on}), pulse off time (T_{off}), peak current (IP), servo voltage (SV), and wire feed (WF) on response parameters as Material Removal Rate (MRR), Surface roughness (SR). Experimentation work carried out on Titanium 5 Grade work material with tool electrode as annealed brass wire. Every process parameter was set at three levels and the output variables were Surface roughness (SR) and Material removal rate (MRR). Central Composite Face centered (CCF) design was used to conduct the experiments. According to the experimental results the model equations for SR and MRR were developed using multiple linear regression. Modeling and optimization of process parameters had been performed with the help of model equations, level means and response graphs. From the analysis it was identified that the effect of servo voltage on surface roughness and pulse on time for MRR is more significant.

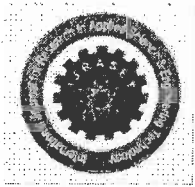
Keywords: WEDM, Modeling, Optimization, Surface Roughness (SR), Material Removal Rate (MRR).

1. Introduction

NTM (Non-Traditional Machining process) is one of the modern manufacturing technology, it energize economically to machining the materials which are difficult by traditional tools [1]. Newer and harder materials like advanced composites, high strength temperature resistance alloys, ceramics plays a significant role in the advanced technical industries such as tools and die making industries, aerospace, automobiles, nuclear reactors, medical, computer and electronics [2]. WEDM is the process of NTM with unique machining technique used for specific application where dimensional accuracy, close tolerance and high degree of precision are very important for conductive materials. The basic principle in wedm is thermal energy conservation. High temperature Electrical sparks are generated between the work piece and the wire electrode, the material is eroded and vaporized from the work piece. A continuous supply of dielectric fluid is flushed out the eroded metal in the machining zone. The conductive tool electrode wire with diameter less than 300 microns is controlled and monitored by the CNC machine [3]. Titanium alloy is a material for aerospace, aircrafts, missile components and bio implants [4]. The properties of these materials have high strength maintained at high temperature, and it has excellent environment, chemical & wear resistance. Titanium and its alloy are winning materials due to their unique combination of properties high specific strength maintained at elevated temperature, high hardness, chemical wear resistance and excellent resistance to most environments is the result of its strong affinity for oxygen and tendency to form a stable, tightly adherent protective surface film [5]. WEDM is still remains an important issue regarding machining characteristics that would be very valuable information for the manufactures and to the society. Sourav et al. [6] conducted experiments for 201LN grade of 200 series stainless steel with process parameters T_{on} , T_{off} ,

peak current, WF & Wire Tension, to obtain the maximum MRR and minimum SR. The responses are optimized by simulated Annealing followed by Response Surface Methodology. The output from the study will be useful for manufactures to select the optimal levels of parameters. Sunil et al. [7] investigated the optimum machining parameters for the AISI D2 tool steel. The input parameters such as peak current, WF, T_{on} , T_{off} , Servo voltage are used to know the effect on response characteristics namely cutting speed, surface roughness and identified that T_{on} is the most significant parameter on response parameters. Srinivasarao et al. [8] experiments were conducted by CCF to optimize the WEDM process variables as pulse on time, pulse off time, peak current, servo voltage and wire feed for Titanium-alloy material with a brass wire as tool electrode. A mathematical model was developed to response parameters MRR and SR by SPSS software. Desirability function is used to optimize the multi response characteristics. Srinivasarao et al. [9] did experiments by using a CCF design on AISI 52100 steel as work material to know the effect of process parameters as pulse on time, pulse off time, water pressure and wire feed on response parameters. It was found that pulse on time is more significant parameter for the surface roughness rather than other machining parameters. Bharathi et al. [10] studies carried out on WEDM for SS304 the process parameters pulse on time, pulse off time, wire feed & voltage are selected for high metal removal rate & lower surface roughness as well as kerf width, a multi objective optimization method is adopted to optimize the responses & achieved better predicted result than experimental value. Liao et al. [11] used neural network to predict the relationship between process parameters and response characteristics. Optimum technique genetic algorithm is employed to get the optimal combination of machining parameters and save a substantial amount of time and cost. Ramakrishnan et al. [12] the performance characteristics like MRR and SR were optimized concurrently using multi response signal-to-noise ratio. The study carried out by assigning





Fabrication of Agriculture based Smart Cultivation System

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Abstract: This study deals with the fabrication of the Smart Cultivation system which can plough the soil, cut the grass, and pump to spray chemical fertilizers and water, these whole systems of the vehicle works with the engine and specialized motors. The advantages of these vehicles gives better work output on the agricultural field. It is capable of performing multiple tasks at same time i.e. the developed prototype of multipurpose can plough, and spraying the water at the same time. As we observe normal tractors are able to perform only single task at a time that can be either to plough or level the land. But in our project, this vehicle performs multiple tasks and is only for the farming purpose. Farmers needs many labour to work on the agricultural field, because of this the cost of famers input is very high at the time of cropping. So, we designed this to minimize the work time of farmers and save the labour cost and for a better and efficient output. We hope that this Smart Cultivation system will be proven like a boon to farmers of India.

Index Terms: Component, formatting, style, styling, insert.

I. INTRODUCTION

A. Beginning Of Farming

Agriculture plays a vital role in India's economy. The Indian agriculture system began as early as 9000 BC. During this period techniques were developed for the settled mode of production in agriculture and wheat, barley and jujube were the popular crops that were domesticated in the subcontinent by 9000 BC. The farm sector is contributing greatly to the productivity and stability of the country's economy due to which it has been believed that agricultural prosperity is fundamental to national prosperity. It accounts for about 18% of India's gross domestic product, provides employment to 58 per cent of her working population and the rural households depend on agriculture as their principal means of livelihood. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP). New techniques were developed in the Neolithic period to improve the method of agriculture system like threshing, planting crops in rows, cotton spinning and storing grains in granaries. And they passed their improved techniques of agricultural production to the next generation. This transformation of knowledge was the base of further development of agriculture and farming equipments in India.

B. Changing Scenario In Cropping Activities

After the period of cattle farming in the agricultural fields, there is a drastic change in the agricultural areas. The scientist Benjamin Holt designed the several farming equipments for cropping purpose at that time; these machinery equipments are done a tremendous job in the agricultural fields. He invented a specially designed tractor for the agricultural purpose to do several farming activities for better production. With this farming tractor, the economy from the cropping sector increasing annually which is very helpful to the field sectors. From that invention, the cattle usage in the agricultural areas is slowly decreased day by day in the farming sectors. By this farming vehicle, which is named as agricultural tractor is really a great change in the agricultural production within the short period of time.



Fig 1: Farm productions with using tractors

FOUR WHEEL STEERING SYSTEM WITH MOVABLE HEAD LIGHTS BY USING RACK AND PINION MECHANISM

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ABSTRACT

Now a days, many researchers put their efforts on four wheel steering mechanism, implementation of this mechanism is needed in situations like low speed cornering, vehicle parking and driving at heavy traffic, tight spaces, where driving would be very difficult due to vehicle's larger wheelbase and track width. For avoiding this problem, we need a mechanism with less turning radius by implementing four wheel steering mechanism instead of two wheel steering mechanism. In a regular standard two wheel steering system, rear wheels are directed forward and do not play role in controlling the steering. In case of four wheel steering system, rear wheels play an active role for steering for guiding at any speed. If the vehicle have larger wheel base and track width in some cars, the driving would be very difficult in different situations like cornering at low speeds, parking the vehicle and city driving conditions with heavy traffic in very tight places. So, we require a mechanism, which is having less turning radius. This work also includes the hardware of movable headlight system for motor vehicles. For all the vehicles, head light control system is needed, which help the head light to rotate right and left independently, and keep the beam as parallel to the curved road to provide better visibility to the driver at night time. In the present work, we use rack and pinion mechanism to drive the optical axes, on which head lights are mounted. This result that, when tie rod arms are moving with steering arm, then it gives a predefined motion to the wheels along with head lights. In this work, for driving the optical axis, we use rack and pinion arrangement, when steering arm, tie rod arm is moved that give motion to the wheels as well as head lights.

KEYWORDS: Four Wheel Steering System, Rack and Pinion Mechanism & Movable Head light System

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INTRODUCTION

The steering system allows the driver to guide the moving vehicle on the road and turn it right or left as desired. Further, such turning of the vehicle should not require greater efforts on the part of the driver. There are mainly two types of steering system.

Car safety is the avoidance of automobile accidents or the minimization of harmful effects of accidents, in particular as pertaining to human life and health. Special safety features have been built into cars for years, some for the safety of car's occupants only, and some of the safety of others.

Jack Erjavee in 2009 said that when the vehicle is in high speed with subtle steering adjustments, both the front and rear wheels are turn in the same direction. As a result, the car moves in a crab-like manner rather than in a curved path. This action is advantageous to the car while changing lanes on a high-speed road. To eliminate

Impact of Digital India on Economic Empowerment of Urban and Rural women

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ABSTRACT

DIGITAL INDIA IS A CROWN JEWEL PROGRAMME INTRODUCED BY INDIAN GOVERNMENT. DIGITAL INDIA PROGRAMME CONSISTS OF THREE VISION AREAS. FIRST VISION AREA IS PROVIDING DIGITAL INFRASTRUCTURE AS UTILITY FOR EVERY INDIVIDUAL, SECOND VISION AREA IS PROVIDING SERVICES AND GOVERNANCE FOR EACH INDIVIDUAL OF THE NATION ON DEMAND AND THIRD VISION AREA DEALS WITH EMPOWERING CITIZENS DIGITALLY. IN TERMS OF POPULATION, ANDHRA PRADESH STATE STOOD IN TENTH PLACE IN INDIA. AS PER 2011 CENSUS, ANDHRA PRADESH FEMALE POPULATION IS 2, 47, 46, 590. ANDHRA PRADESH STATE'S RURAL WOMEN ARE 1, 74, 28,445 AND THE URBAN WOMEN ARE 73, 18, 145. ANDHRA PRADESH STATE GOVERNMENT IN PARALLEL WITH THE CENTRAL GOVERNMENT PUT MANY EFFORTS IN EMPOWERING WOMEN IN ANDHRA PRADESH THROUGH DIGITAL INDIA PROGRAMME. IN THIS PAPER, AN ATTEMPT IS MADE TO IDENTIFY THE IMPACT OF DIGITAL INDIA ON ECONOMIC EMPOWERMENT OF URBAN AND ANDHRA PRADESH STATE'S RURAL WOMEN, TO MAKE COMPARATIVE INVESTIGATION OF THE IMPACT OF DIGITAL INDIA ON ECONOMIC EMPOWERMENT OF URBAN AND RURAL WOMEN OF THE SELECTED STATE AND TO PICK OUT THE CHALLENGES AND AFFAIRS ENCOUNTERED WHILE EXECUTING DIGITAL INDIA FOR ECONOMIC EMPOWERMENT OF WOMEN IN THE STATE.

KEY WORDS: DIGITAL INDIA, ECONOMIC EMPOWERMENT, RURAL WOMEN, URBAN WOMEN.

1. INTRODUCTION

Digital India is a crown jewel programme introduced by Indian Government. Digital India Programme consists of three vision areas. First vision area is providing Digital Infrastructure as utility for every individual, second vision area is providing services and Governance for each individual of the Nation on

Cash turnover in engineering micro and small enterprises

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Abstract - Cash is the key input essential to keep the business running on a continuous basis. Shortage of cash will result in disruption in manufacturing operations of the enterprise. On the other hand, excessive cash results in idle cash which will not contribute anything towards profitability of the enterprise. Therefore, an Enterprise should maintain optimum cash. Cash is the common denominator for which all current assets can be reduced. Hence, Cash Management is one of the important topics of Working Capital Management. Cash Turnover Ratio and Cash Turnover Period are the tools used for understanding efficiency in cash Management. Efficient Cash Turnover is not only important in Large Businesses but also in Micro and Small Businesses. This Research paper focuses on Cash Turnover in selected Engineering Micro and Small Enterprises in the state of Andhra Pradesh in India. Two-way ANOVA is used for framed hypotheses testing. Financial tools used include CTR and CTP.

Keywords: Cash Management, CTR, CTP, MSEs.

1. Introduction

Cash is the prime liquid current asset. Cash is the key input essential to keep the business running on a continuous basis. Shortage of cash will result in disruption in manufacturing operations of the enterprise. On the other hand, excessive cash results in idle cash which will not contribute anything towards profitability of the enterprise. Therefore, an Enterprise should maintain optimum cash. Cash is the common denominator for which all current assets can be reduced. Hence, Cash Management is one of the important topics of Working Capital Management. Cash Turnover refers to the number of times cash is used during every year. Cash Turnover Period is time that was taken for one turnover in a year. Cash Turnover Ratio and Cash Turnover Period are the tools used for understanding efficiency in cash Management. Efficient Cash Turnover is not only important in Large Businesses but also in Micro and Small Businesses. This Research paper focuses on Cash Turnover in selected Engineering Micro and Small Enterprises in the state of Andhra Pradesh in India. Micro and Small Enterprises in Andhra Pradesh contribute much to the economy in terms of State income and employment opportunities.

2. Review of Literature

Raju et al (2020)¹ had done a study on Indian IT companies by using techniques of Financial Analysis. Venkateswararao. Podile et al (2020)² had done a study on Profitability trends in Cement Engineering company. Venkateswararao.Podile et al (2020)³ had conducted a research study on Working Capital Structure in Indian Cement Enterprise. Venkateswararao. Podile et al (2020)⁴ had conducted a research study on Working Capital Turnover in Micro and Small Enterprises. Venkateswararao. Podile et al (2020)⁵ had done a research study on

Inventory Turnover in Engineering Micro and Small Enterprises

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Abstract

Inventory management is one of the important constituents of working capital Management. Inventory includes raw materials, work in progress and finished goods. Conversion of cash to inventory and inventory to receivables are two important phases of operating cycle. Inventory turnover and inventory conversion period are important tools in understanding efficiency in inventory management. Effective Inventory management is essential not only in large scale Enterprises but also in Micro and Small Enterprises. This research paper focuses on Inventory turnover in selected Engineering Micro and Small Enterprises (MSEs) of Andhra Pradesh, which is a seventh state in India, in terms of area. The data collected is analyzed with financial techniques including ITR and ICP and statistical tools covering average, variance and two-way ANOVA.

Keywords: SMEs, ITR, ICP

Introduction

Inventory management is one of the important constituents of working capital Management. Inventory includes raw materials, work in progress and finished goods. Conversion of cash to inventory and inventory to receivables are two important phases of operating cycle. Inventory turnover and inventory conversion period are important tools in understanding efficiency in inventory management. Effective Inventory management is essential not only large scale Enterprises but also in Micro and Small Enterprises. Micro and Small enterprises are redefined in India. Micro Enterprises are those whose investment in equipment or plant and machinery is less than Rs.1 Crore and whose yearly turnover is less than Rs.5 Crores. Small Enterprises are those whose investment in equipment or plant and machinery is less than Rs.10 Crore and whose yearly turnover is less than Rs.50 Crores. This research paper focuses on Inventory turnover in selected Engineering Micro and Small Enterprises (MSEs) of Andhra Pradesh, which is a seventh state in India, in terms of area.

Review of Literature

Raju et al (2020)¹ had done a study on Indian IT companies by using techniques of Financial Analysis. Venkateswararao.Podile et al (2018)² had Capital structure Analysis in a Micro Enterprise namely P.L. Plast Pvt Ltd. Venkateswararao.Podile et al (2020)³ examined profitability trends in cement engineering company. Venkateswararao.Podile et al (2020)⁴ had

Archives Available @ www.solidstatetechnology.us

RECEIVABLES MANAGEMENT IN MICRO AND SMALL ENTERPRISES

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Abstract

Receivables Management is also known as Debtors Management. It is one of the key components of Working Capital Management. If goods are sold on credit basis Accounts Receivables are generally created. Receivables are one form of loan given to a customer by the seller. The prime goal of Receivables management is to increase sales, avoid bad debts, decrease transaction cost related to maintenance of accounts and collection of sale proceeds and finally, enhance profits of the Enterprise. Debtors Turnover Ratio (DTR) and Average Collection Period (ACP) are the tools useful for knowing efficiency of Receivables Management. This Research paper focuses on Receivables Management in selected Micro and Smaller Enterprises (MSEs) in Andhra Pradesh state of India. Current Research is done using secondary data. The data gathered is analyzed using Debtors Turnover Ratio (DTR) and Average Collection Period (ACP). Statistical tools including Mean and ANOVA are used for analysing the data.

Key words: Receivables, Debtors, DTR, ACP, MSEs

1. Introduction

Receivables Management is also known as Debtors Management. It is one of the key components of Working Capital Management. If goods are sold on credit basis Accounts Receivables are generally created. Receivables are one form of loan given to a customer by the seller. The prime goal of Receivables management is to increase sales, avoid bad debts, decrease transaction cost related to maintenance of accounts and collection of sale proceeds and finally, enhance profits of the Enterprise. Debtors Turnover Ratio (DTR) and Average Collection Period (ACP) are the tools useful for knowing efficiency of Receivables Management. This Research paper focuses on Receivables Management in selected Micro and Smaller Enterprises (MSEs) in Andhra Pradesh state of India. In Indian Economy, MSEs are playing crucial role. They provide ample employment opportunities to Population. They contribute significantly to the National Income of the country. In this context, present research study was proposed to investigate efficiency in receivables management in selected MSEs of Andhra Pradesh state of India.

2. Review of Literature

Raju et al (2020)¹ had conducted a study on Indian Information Technology companies with tools of financial analysis. Venkateswararao.podile et al (2020)² has conducted a study on trends in capital structure of a cement enterprise. Venkateswararao.podile et al (2020)³ has conducted a study on trends profitability in a

Impact of Digital India on Economic Empowerment of Urban and Rural women

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ABSTRACT

DIGITAL INDIA IS A CROWN JEWEL PROGRAMME INTRODUCED BY INDIAN GOVERNMENT. DIGITAL INDIA PROGRAMME CONSISTS OF THREE VISION AREAS. FIRST VISION AREA IS PROVIDING DIGITAL INFRASTRUCTURE AS UTILITY FOR EVERY INDIVIDUAL, SECOND VISION AREA IS PROVIDING SERVICES AND GOVERNANCE FOR EACH INDIVIDUAL OF THE NATION ON DEMAND AND THIRD VISION AREA DEALS WITH EMPOWERING CITIZENS DIGITALLY. IN TERMS OF POPULATION, ANDHRA PRADESH STATE STOOD IN TENTH PLACE IN INDIA. AS PER 2011 CENSUS, ANDHRA PRADESH FEMALE POPULATION IS 2, 47, 46, 590. ANDHRA PRADESH STATE'S RURAL WOMEN ARE 1, 74, 28,445 AND THE URBAN WOMEN ARE 73, 18, 145. ANDHRA PRADESH STATE GOVERNMENT IN PARALLEL WITH THE CENTRAL GOVERNMENT PUT MANY EFFORTS IN EMPOWERING WOMEN IN ANDHRA PRADESH THROUGH DIGITAL INDIA PROGRAMME. IN THIS PAPER, AN ATTEMPT IS MADE TO IDENTIFY THE IMPACT OF DIGITAL INDIA ON ECONOMIC EMPOWERMENT OF URBAN AND ANDHRA PRADESH STATE'S RURAL WOMEN, TO MAKE COMPARATIVE INVESTIGATION OF THE IMPACT OF DIGITAL INDIA ON ECONOMIC EMPOWERMENT OF URBAN AND RURAL WOMEN OF THE SELECTED STATE AND TO PICK OUT THE CHALLENGES AND AFFAIRS ENCOUNTERED WHILE EXECUTING DIGITAL INDIA FOR ECONOMIC EMPOWERMENT OF WOMEN IN THE STATE.

KEY WORDS: DIGITAL INDIA, ECONOMIC EMPOWERMENT, RURAL WOMEN, URBAN WOMEN.

1. INTRODUCTION

Digital India is a crown jewel programme introduced by Indian Government. Digital India Programme consists of three vision areas. First vision area is providing Digital Infrastructure as utility for every individual, second vision area is providing services and Governance for each individual of the Nation on

WORKING CAPITAL TURNOVER IN MICRO AND SMALL ENTERPRISES

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Abstract

Financial Management is an important management activity which deals with the planning and controlling of the Business organisation's funds. A good decision of working capital or short-term investment decision ensures proper liquidity and profitability of any business organisation. For any business firm inadequate as well as surplus working capital situations are not good. Hence, a firm should see that there will be adequate working capital level. This equally applies to MSMEs. During the last five Decades MSME sector had become crucial in Indian Economy. In recent days, MSME sector has become one of the strong pillars of Indian Economy. Nearly thirty percent of GDP comes from this sector. Majority of micro and small enterprises in Andhra Pradesh state of India are either maintaining excess levels of working capital or suffering from shortage of working capital. Under this backdrop, present study namely working capital turnover in selected micro and small enterprises in Andhra Pradesh state in India is done to assess working capital turnover in these enterprises.

Keywords: GWC, NWC, GWCT Ratio, NWCT Ratio, MSMEs

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INTRODUCTION

Management of working capital is one of important financial management aspects. It is also true for MSMEs. Trade-off between liquidity and profitability is a key area, in managing working capital. If a business organisation does not have sufficient working capital it may not meet its obligations and thereby liquidity is affected. On the other hand if the business organisation has excessive investment in current assets, it may affect prospects of company. Hence, there must be sufficient quantity of working capital and there must be efficiency in it in any business organisation including MSMEs. There is a need to find out whether working capital management is efficiently done in Micro and Small Enterprises in Andhra Pradesh. During the last five Decades MSME sector had become crucial in Indian Economy. In recent days, MSME sector has become one of the strong pillars of Indian Economy. Nearly thirty percent of GDP comes from this sector. MSMEs contribution to Indian exports is nearly 50%. After Agriculture, MSME sector provides more jobs to Indian population. Approximately, 11 crores people in India get their livelihood from this sector. Under this backdrop, present study namely working capital turnover in selected micro and small enterprises in Andhra Pradesh state in India is done to assess working capital turnover in these enterprises.

REVIEW OF LITERATURE

Trivedi Savita (2011)¹ examined the effect of Working capital Management on Profitability of the enterprises. Venkateswararao.Podile et al., (2017)² studied working capital management in PL Plast Pvt Ltd. Venkateswararao.Podile et al.,

(2018)³ studied working capital management in Sri Rama Chandra Paper Boards Ltd. Venkateswararao.Podile et al., (2017)⁴ studied working capital management in Sri Nagavalli solvent oils Pvt. Ltd. There was no study on working capital turnover of Micro and Small Enterprises in Andhra Pradesh.

OBJECTIVES

1. To investigate the differences in Gross Working Capital (GWC) to Total Assets Ratio among selected micro and small enterprises in Andhra Pradesh.
2. To examine the differences in GWCT (Gross Working Capital Turnover) Ratio among selected micro and small enterprises in Andhra Pradesh.
3. To enquire in to the differences in Net Working Capital Turnover (NWCT) Ratio among selected micro and small enterprises in Andhra Pradesh.

METHODOLOGY

Secondary data is the main source of data for the present research. It is gathered from selected MSMEs in Andhra Pradesh state in India. The Secondary data drawn from financial statements of the respective Micro and Small Enterprises have been analyzed, tabulated and interpreted by using well established financial tools. The data of 10 years i.e., 2006-07 to 2015-2016 was interpreted through the analysis of turnover ratios such as GWC to Total Assets Ratio, GWCT Ratio and NWCT Ratio. Data analytical tools including average, standard deviation and Two-way ANOVA have also been used. Bar diagrams are used for better presentation of results.

DATA ANALYSIS

Table-1: Mean GWC to Total Assets Ratio of Micro and Small Enterprises during 2006-2007 and 2015-2016

S.No	Micro and Small Enterprises	Mean GWC to Total Assets Ratio
1	Sri Nagavalli Solvent Oils Pvt. Ltd	0.729
2	Radhika Vegetable Oils Pvt. Ltd.	0.53
3	Power Plant Engineering Works	0.726
4	Sri Rama Chandra Paper Boards Ltd.	0.517
5	Naga Hanuman Solvent Oils Pvt. Ltd.	0.635
6	kristna Engineering Works	0.79
7	Power Oxides Pvt. Ltd.	0.665
8	Nagas Elastomer Works	0.505