



3.3.4 Number of research papers per teacher in the Journals notified on UGC website during the last five years (8)

S.No	Academic Year	Count
1	2014-2015	7
2	2015-2016	24
3	2016-2017	16
4	2017-2018	27
5	2018-2019	44
Total Count		125


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3.3.4 Number of research papers per teacher in the Journals notified on UGC website during the last five years (8)

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An Efficient Traffic Forecasting System Based on Spatial Data and Decision Trees

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Abstract: The rapid proliferation of Global Position Service (GPS) devices and mounting number of traffic monitoring systems employed by municipalities have opened the door for advanced traffic control and personalized route planning. Most state of the art traffic management and information systems focus on data analysis, and very little has been done in the sense of prediction. In this article, we devise an efficient system for the prediction of peak traffic flow using machine learning techniques. In the proposed system, the traffic flow of a locality is predicted with the aid of the geospatial data obtained from aerial images. The proposed system comprises of two significant phases: Geospatial data extraction from aerial images, and traffic flow prediction using See5.0 decision tree. Firstly, geographic information essential for traffic flow prediction are extracted from aerial images like traffic maps, using suitable image processing techniques. Subsequently, for a user query, the trained See5.0 decision tree predicts the traffic state of the intended location with relevance to the date and time specified. The experimental results portray the effectiveness of the proposed system in predicting traffic flow.

Keywords: Traffic flow, traffic prediction, spatial data mining, spatial data base, see5.0, decision tree algorithm.

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1. Introduction

Data mining is usually defined as searching, analyzing and sifting through large amounts of data to find relationships, patterns, or any significant statistical correlation. The technical progress in computerized data acquisition and storage has resulted in the growth of vast databases. With the continuous increase and accumulation, the huge amounts of the computerized data have far exceeded human ability to completely interpret and use. In order to understand and make full use of these data repositories, a few techniques have been tried, e.g., expert system, Database Management System (DBMS), spatial data analysis, machine learning, and Artificial Intelligence (AI) [15]. Spatial Data Mining (SDM) is the process of discovering interesting, useful, non-trivial patterns information or knowledge from large spatial datasets. Extracting interesting and useful patterns from spatial datasets must be more difficult than extracting the corresponding patterns from traditional numeric or categorical data due to the complexity of spatial data types, spatial relationships, and spatial auto-correlation [29].

SDM is a new and rapidly developing area of data mining concerned with the identification of interesting spatial patterns from data stored in spatial databases and geographic information systems. Geographic Information Systems (GIS) enable capturing, storing, analyzing, and managing data and associated attributes which are spatially referenced to the Earth. GIS are

used in various areas such as environmental impact assessment, urban planning, cartography, criminology, traffic analysis, etc., [13, 22]. Here, we have undertaken the process of traffic analysis based on information available in GIS. With increasing traffic volumes on urban roads, particularly in the large cities, existing roundabouts and priority-controlled junctions are being replaced with traffic signals to address capacity, efficiency and safety issues or to provide better amenity for pedestrians and cyclists [21]. Daily traffic jams reflect the fact that the capacities of the road network are not satisfied or even exceeded [2]. It is therefore crucial to investigate new technologies and alternative methods of traffic management to reduce congestion without increasing road space [1].

SDM has been shown to significantly help improving traffic safety, and has been used in many traffic related works [4]. In traffic data, traffic density patterns on hourly, weekly, and monthly scales can be obtained from density plots. Such plots identify traffic peaks, and can be of help to traffic specialists in planning routes and safety measures, as well as to individual drivers [25]. Traffic control systems for large traffic networks have attracted much attention, recently. One challenge of traffic controlling is the prediction of the traffic. Traffic flow prediction, i.e. conditionally, forecasting the traffic conditions in the network, given prevailing traffic conditions, the predicted traffic demands, and the candidate control scenarios. What we need are efficient and effective methods that are able to estimate the traffic for any

Adaptive Stream Mining Based on Rate Control Algorithms

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Abstract: *Wireless data sharing is the term that facilitates effective and ubiquitous wireless access and affordable mobile devices, so much of the internet applications are assessed in this context. For doing this facilitate effectively traditionally so much of techniques were introduced in recent application development process. Increase of the mobile devices network applications in streaming of this application development may occurs presently in the formulated data assessment. To satisfy growing demand of the streaming in mobile device networks traditionally propose cloud based data streaming system applications for accessing services with real time and other application development in data stream mining in real time applications. Time delay is the factor in recent cloud applications, to address this event in developed applications, in this paper we propose to develop Optimized algorithm for adaptive dynamic stream mining to the available network throughput and network performance. Our experimental results show efficient communication in dynamic video stream mining with relative and realistic data events present in the network process.*

Index Terms: *optimized algorithm, Dynamic video streaming, mobile cloud, real-time stream mining, resource management, stochastic control.*

1. INTRODUCTION

Now a day's broadcast services are increased rapidly in mobile device network applications, growing popularity of the situated data events present in the commercial process in streaming operations, normally these services are processed in mobile devices with relative data streaming. Wireless services are used in this context for deploying video services in mobile devices may occurs efficient communication in video surveillance in mobile devices which includes efficient communication services in recent application development services. Multiple number of users are increased in this context of video streaming in mobile devices, cloud computing was introduced for doing these services effectively with serving of number of users increased in the service oriented process communication with relative data management operations for accessing commitment operations. Cloud computing is the delivery of the computing services with shared software application development procedures in recent application, those service oriented services will be access from other content information. Cloud resources usually not in shared network applications by multiple users present in the recent application procedure, this procedure will be processed based on the dynamic streaming with effective process in accessing services with commitment and other regarding services using mobile devices.

In cloud computing video computing services we mainly focus on community cloud that provides real time stream mining services to multiple users over wireless network application procedures. Example applications include efficient process with relative data events will process in wireless video surveillance, virtual multi party games, medical services.

In video streaming service to all the users with progressive environment technology we consider energy consumption, classification cost, Queuing Delay with relative data events present in the progressive data management operations. By optimizing these services in real time applications procedures with progressive data management operations in cloud computing operations, which includes effective and other services in cloud computing. User decision in the processing operations in wireless channel operations with processing cost based services in relative data presentation in cloud service provider will accessing data in remainder operations, which includes efficient services oriented framework with services processed in the commercial services in cloud computing.

A Novel and Secure Mining of Data in Distributed Architecture

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Abstract: Data confidentiality over data mining in distributed networks is still an important and interesting research issue in the field of Knowledge and data engineering or community based clustering approaches, privacy is a basic factor while datasets or data integrates from different data holders or players for mining. Secure mining of data is required in open network. In this paper we are proposing an efficient privacy preserving data clustering technique in distributed networks in decentralized architecture.

I. INTRODUCTION

In distributed networks or open environments nodes, it can be either centralized or decentralized architecture, communicates with each other openly for data transmission work, there is a rapid research work going on secure mining of data. Various researchers work on privacy preserving techniques while mining of data either in classification, association rule mining or clustering.

Randomization and perturbation approaches available for privacy preserving process and it can be maintained in two ways, one is cryptographic approach here real data sets can be converted to unrealized datasets by encoding the real datasets and the second one imputation methods, here some fake values imputed between there real dataset and extracted while mining with some rules [1][2].

Clustering is a process of grouping similar type of objects based on distance (for numerical data) or similarity (for categorical data) between data objects. In distributed environment data holders or players maintains individual data sets and every node or vertex is connected with each other by an edge along with their quasi identifiers [3].

The graphical notation of the nodes accompanied by the attributes provided by the information of demographical such as age, mobile, address and profile improve the structure of the network. Researchers show interest over social networks for many disciplines activities like market research, sociology, psychology and epidemiology due the sensitivity of the data in social network, the data presence is less over the network, so there is a need to anonymize the data to avoid the prevention of the sensitive information of the data of the particular user is protected

privacy in order to secure the data of the particular user and the anonymization of the data is obtained

Identifying and removing of attributes like names or social security numbers is insufficient from the data over the network, individuals information can be obtained by the graphical representation of the node using the structure of the released graph. Finally in the social network the data is described accompanied by the nodes and suggested a unique anonymization technique and also categorized the data based on name by the clustering.

This algorithm uses significantly the graph to represent the information losses by the anonymization and observe the privacy preservation of the data over the network with different users using the network.

II. RELATED WORK

In social network, nodes can be represented as vertices and those vertices $V(v_1, v_2, \dots, v_n)$ connected through set of edges E in a undirected graph $G(V, E)$ and non-identifying attribute to describe node is known as quasi-identifier. Clustering can be performed on the quasi identifiers like age and gender, distributed clustering groups similar type of objects based on minimum distance between the nodes.

In social network there is a problem for privacy preservation therefore to split the data between several users we follow the distributed setting over the network. The main aim is to protect the data or information of the user about the links over the network without knowing to the other user about the anonymized view of the data over the network with unified method to provide the privacy. Now a centralized setting implements an anonymization algorithm to identify the variants using a sequence clustering denote as Sq. This algorithm efficiently performs over the algorithm SaNGreeA because of campan and truta based on clustering by achieving the anonymity over the network. According to the knowledge regarding the privacy this is one of the best ways to provide privacy preservation of distributed social network.

Set of entities has relations between them are known as networks and available in open for all the user in the network are known as social network. Consider some amount of population in which information provided for



RESEARCH ARTICLE

Evaluating and Analyzing Clusters in Data Mining using Different Algorithms

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Abstract:- Cluster analysis or clustering is the task of grouping a set of objects in such a way that objects in the same group (called a cluster) are more similar (in some sense or another) to each other than to those in other groups (clusters). It is a main task of exploratory data mining, and a common technique for statistical data analysis, used in many fields, including machine learning, pattern recognition, image analysis, information retrieval, and bioinformatics.

1. Introduction:

Cluster analysis itself is not one specific algorithm, but the general task to be solved. It can be achieved by various algorithms that differ significantly in their notion of what constitutes a cluster and how to efficiently find them. Popular notions of clusters include groups with small distances among the cluster members, dense areas of the data space, intervals or particular statistical distributions. Clustering can therefore be formulated as a multi-objective optimization problem. The appropriate clustering algorithm and parameter settings (including values such as the distance function to use, a density threshold or the number of expected clusters) depend on the individual data set and intended use of the results. Cluster analysis as such is not an automatic task, but an iterative process of knowledge discovery or interactive multi-objective optimization that involves trial and failure. It will often be necessary to modify data preprocessing and model parameters until the result achieves the desired properties.

96	A New Framework for Dynamic Data and Indirect Mutual Trust for Cloud Computing Storage Systems K. Tejaswini, D. D. D. Suribabu	IJRCSE/V4/5-996	
97	Automatic Annotation based Profile Matching for Mobile Social Networks (MSNs) Penmatsa V V Rama Krishnam Raju, P. Srinivas, D. D. D. Suribabu	IJRCSE/V4/5-997	
98	Automatic Relay Configuration in Data-Intensive Wireless Sensor Networks V. Suneetha, M. Chandrasekhar Varma, D. D. D. Suribabu	IJRCSE/V4/5-998	
99	A Novel Approach for Secure Intrusion Detection System in Wireless MANETs K.V.Nagalakshmi, S.Nagavali, P.M.Prasuna	IJRCSE/V4/5-999	
100	A Novel Approach for Secure Access Control and Data Storage in Cloud System J.Priyanka, K.Kiran Kumar, P.M.Prasuna	IJRCSE/V4/5-1000	
101	A Novel Approach for Minimizing Unnecessary Messages in Social Network Mekala.Sujatha, O.Shiva Bhagawan, P.M.Prasuna	IJRCSE/V4/5-1001	
102	Protected and Well-Organized Method Under WSN M.Swathi, Sriharsha.Vikruthi	IJRCSE/V4/5-1002	
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108	Dynamic Multi Attribute String Search Over Spatial Databases Lella Kranthi Kumar, CH. Chandra Mohan, M.Tech	IJRCSE/V4/5-1008	

Efficient Query Evaluation of Probabilistic Top-k Queries in Wireless Sensor Networks

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ABSTRACT:

Indecisive data arises in a number of domains, including data addition and sensor networks. Top-k queries that grade results according to some user-defined score are an significant tool for exploring large indecisive data sets. So, we introduce the ordered query evaluation of the Enough set-based (ESB), necessary set-based (NSB), and boundary-based (BB) algorithm for distributed processing in Top-K queries in wireless sensor networks, for inter cluster query processing with delimited rounds of communications and in responding to dynamic changes of data giving out in the network, we build up an adaptive algorithm that dynamically switches between the three proposed algorithms to diminish the transmission cost. The general method to evaluate the reliability of a data robotically retrieved from the web. Finally results given that the proposed algorithms decrease data transmissions drastically and acquire only small constant rounds of data communications for reliability. The investigational results also demonstrate the superiority of the adaptive algorithm, which achieves a near-optimal performance under various conditions.

Index Terms: Distributed data management, network topologies, probabilistic databases

I INTRODUCTION

In Wireless sensor networks are revolutionizing the ways to gather and use information from the physical world. This new technology has resulted in momentous impacts on a wide array of applications in a variety of fields, including army, science, industry, commerce, transportation, and health-care. However, the quality of sensors varies significantly in terms of their sensing exactness, accuracy, tolerance to hardware/external noise, and so on. For example, studies show that the distribution of noise varies widely in different photo voltaic sensors, precision and accuracy of readings usually vary significantly in humidity sensors, and the errors in GPS devices can be up to several meters. Thus, sensor readings are inherently uncertain. On the contrary, our proposal is a general approach which is applicable to probabilistic top-k queries with any semantic. Furthermore, instead of repeatedly requesting data which may last for several rounds, our protocols are guaranteed to be completed within so more than two rounds. These differences uniquely differentiate our effort from. Our previous work as the initial attempt only includes the concept of sufficient set. In this paper, besides of sufficient set, we propose another important concept of necessary set. With the aid of these two concepts, we further develop a suite of algorithms, which show much better performance than the one. Probabilistic ranked queries based on uncertainty at the attribute level are studied. Finally, uncertain top-k query is studied under the setting of streaming databases where a compact data set is exploited to support efficient slide window top-k queries. Armed with sufficient set and necessary set, we develop a suite of algorithms for processing probabilistic top-k queries in two-tier hierarchical wireless sensor networks with PT-Topk as a case study, including 1) sufficient set-based (SSB) algorithm, 2) necessary set-based (NSB) algorithm, and 3) boundary-based (BB) algorithm. Moreover, we developed an adaptive algorithm that dynamically switches among the three proposed algorithms to minimize the communication and energy overhead, in responding to changing data distribution in the network. Furthermore, we discuss how to apply sufficient set and necessary set to devise a series of algorithms, namely SSB-T, NSB-T, and optimized NSB-T (NSB-T-Opt), for processing probabilistic top-k in a sensor network with tree topology. Finally, we evaluate the proposed algorithms both in two-tier hierarchy (i.e., SSB, NSB, BB) and tree topology (i.e., SSB-T, NSB-T, NSB-T-Opt) in comparison with two baseline approaches.

The Existing paper is the full version of our preliminary work published as a short paper in Probabilistic top-k query processing in Distributed Sensor Network, where we introduce the targeted problem and propose the idea of employing sufficient set to develop the SSB algorithm for distributed processing of probabilistic top-k queries.

Ascendable Architecture for Wandering Services in Social Networks

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Abstract:- A mobile ubiquity services is an important element of cloud computing environments, for the reason it keeps an up-to-date list of presence information of mobile user. If presence updates occur often the number of messages distributed by presence server may lead to scalability problem and buddy list search problem in large-scale mobile presence services. To overcome the scalability problem proposed an efficient and ascendable server architecture called presence cloud. It organizes the presence server in to quorum based server-server architecture for efficient searching. When a mobile user joins a network or internet, presence cloud searches the presence information. It also achieves small constant search latency by the directed search algorithm and one-hop caching strategy. Anatomize the performance of presence cloud in terms of search cost and search satisfaction level, without compromising each other.

Keywords:- Mobile ubiquity services, presence cloud, one-hop cache, latency, buddy list.

I. INTRODUCTION

Instant messaging (IM) and internet chat communication have seen enormous growth over the last several years. Mobile devices and cloud computing environments can provide presence-enabled applications, i.e., social network applications/services, worldwide. Facebook, Twitter Foursquare, Google Latitude, buddy cloud and Mobile Instant Messaging (MIM) are examples of presence-enabled applications that have grown rapidly in the last decade. Social network services are changing the ways in which participants engage with their friends on the Internet. The sharing of basic presence information can result in a large volume of traffic as users log on or off throughout the life of a presence session, especially for users with large numbers of contacts (e.g., the author of this document has over 1,700 contacts in his presence-enabled contact list). The volume is increased by communication of information beyond basic on-off network availability, such as availability (e.g., "away" and "do not disturb"). The volume is further increased if the presence "transport" is used to communicate information such as device capabilities, geolocation, mood, activity, even the music to which a user is listening. A mobile presence service is an essential component of social network services in cloud computing environments. The key function of a mobile presence service is to maintain up-to-date list of presence information of all mobile users. The presence information includes details about a mobile user's location, availability, activity, device capability, and preferences. The service must also bind the user's ID to his/her current presence information, as well as retrieve and subscribe to changes in the presence information of the user's friends. In social network services, each mobile user has a friend list, typically called a buddy list, which contains the contact information of other users that he/she wants to communicate with. The mobile user's status is broadcast automatically to each person on the buddy list whenever he/she transits from one status to the other. For example, when a mobile user logs into a social network application, such as an IM system, through his/her mobile device, the mobile presence service searches for and notifies everyone on the user's buddy list. To maximize a mobile presence service's search speed and minimize the notification time, most presence services use server cluster technology. To improve the efficiency of the search operation, PresenceCloud requires a caching strategy to replicate presence information of users. In order to adapt to changes in the presence of users, the caching strategy should be asynchronous and not require expensive mechanisms for distributed agreement. In PresenceCloud, each PS node maintains a *user list* of presence information of the attached users, and it is responsible for caching the *user list* of each node in its PS list, in other words, PS nodes only replicate the *user list* at most one hop away from itself. The cache is updated when neighbours establish connections to it, and periodically updated with its neighbours. Therefore, when a PS node receives a query, it can respond not only with matches from its own *user list*, but also provide matches from its caches that are the user lists offered by all of its neighbours. In this section, we describe previous researches on presence services, and survey the presence service of existing systems. Well known commercial IM systems leverage some form of centralized clusters to provide presence services. Jennings III *et al.* presented taxonomy of different features and functions supported by the three most popular IM systems, AIM, Microsoft MSN and Yahoo! Messenger. The authors also provided an overview of the system architectures and observed that the systems use client-server-

Fuzzy based control of Transformer less Coupled inductor based DC-DC converter

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ABSTRACT

Most of the industrial applications use any one of the basic DC-DC converter configurations namely buck, boost, buck-boost, and Cuk converters. These converters are non-isolating converters. Buck-boost converters use inductors for storing energy from the source and release the same to load or output. This results in high stress across magnetic components. This drawback restricts usage of buck-boost converters to low power applications. Flyback converters popularly have known as buck-boost converters uses transformers for achieving wide range of step down and step up voltages. Coupled inductor based converters or tapped inductor based converters are used for achieving wide input – wide output conversion ratios. Coherent transition between step-down and step-up modes is achieved by a proper control scheme. This paper proposes fuzzy logic based closed loop control scheme for control of converter switches. Theoretical derivations of control parameters with their membership values, mamdani based rules for development of fuzzy rules and simulation results of a coupled inductor based DC-DC converter using MATLAB / SIMULINK are concluded.

Keywords - Boost, buck, coupled inductors, energy recovering snubber, wide step-down, wide step-up, wide input-wide output (WIWO) DC-DC converter, Fuzzy Logic Controller (FLC), Pulse width modulation (PWM).

I. Introduction

Application such as the front-end stage for clean-energy sources, the dc back-up energy system for an uninterruptible power supply (UPS), high-intensity discharge lamps for automobile head-lamps, telecommunications industry [2]-[4] require DC-DC converters with steep voltage ratio. The conventional boost converters cannot provide such a high dc voltage gain, even for an extreme duty cycle. High step-up DC-DC converters for above mentioned applications have the following common features. 1) High step-up voltage gain. Generally, about a tenfold step-up gain is required. 2) High efficiency. 3) No isolation is required. High step up gain from constant power low voltage gives either large input current with high output voltage or the large input current from low input voltage. It also results in serious reverse-recovery problems and increases the rating of all devices. Manipulated voltage clamped techniques are used in designing of converters to overcome the severe reverse recovery problem of the switches in high-level voltage applications, there still exists overlarge switch voltage stresses and the voltage gain is limited by the turn-on time of the auxiliary switches [6], [7]. When input power is a low-voltage source such as a battery and the required output is a high dc voltage, there is a need to develop a high


power density boost DC-DC converter which features less complexity, compact size, and low cost. The major problem in developing such a converter is that the converter suffers from high current stress and, thus, it is difficult to improve the overall power efficiency. In such cases energy storage reactor is large measure in determining the performance of these converters. No other component has such dramatic effect on the distribution of component losses. As a result, the conversion efficiency is degraded and the electromagnetic interference (EMI) problem is severe under this situation [5]. In order to increase the voltage gain, boost converter topologies are to be modified.


Switching mode power supplies based on the flyback converter were widely used in industrial products for low-power applications. In the flyback converter, the transformer is adopted to achieve circuit isolation and energy storage.


Introducing a transformer in flyback converter helps attaining large step-up or step-down voltage conversion ratio. Transformers' turn ratio should be chosen as to provide the desired voltage gain while keeping the duty cycle within a reasonable range for higher efficiency. The transformer, however, brings in a whole new set of problems associated with the magnetizing and leakage inductances, which cause

Corrosion inhibition of reinforcing steel in simulated concrete pore solution- An ecofriendly approach

Article (PDF Available) in *International Journal of ChemTech Research* 7(4):2003-2006 · January 2015 with 101 Reads
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Abstract

The inhibition of corrosion of reinforcing steel in simulated concrete pore solution (SCPS) has been studied using mass loss, gasometric measurements, potentiodynamic polarization and impedance studies using Meziocillin (MZN) as a green inhibitor. The studies clearly revealed that MZN acted as cathodic inhibitor. Diffused reflectance spectra confirmed the formation of adsorbed film of inhibitor on reinforcing steel in SCPS.

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A Derogation System with Multi-Stage Detection, Prevention and Text-Based Turing Testing in Client-Server Application for DDoS Attack

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ABSTRACT
In internet, client-server is an essential trend that partition tasks between the providers of a resource or service, called servers, and service requesters, called clients. An essential client-server service like banking application can help various organizations to prepare distributed applications with high execution computing devices while diminishing the cost of maintaining the computing hardware. A distributed application in the client-server model endures several security risks containing Distributed Denial of Service (DDoS) attack. Several cloud services, like Yahoo, Drop box, Google Drive etc., are based on HTTP connection. Thus, the goal is an HTTP-based connection to provide a low reflection ratio mitigation system against the DDoS attacks. This system provides Source Checking, Counting, Attack Detection, Prevention based on the Turing Test. A multi-stage detection and prevention system is proposed to more precisely detect the possible attackers and a text-based Turing test with a text generation module to challenge the suspected requesters who are identified by the detection module. A concept of pink list is used along with white list and black list to verify the load. Here, the Pink list defines a pre-stage concept before blacklisting the source. The Proposed system is executed and analyzed the performance to show that the system works effectively to mitigate the DDoS traffic from the Internet.

Keywords- CAPTCHA; client-server; Pink List; White List; Black List.

1. INTRODUCTION

1.1 Client-Server Application

A wireless local area network (WLAN) links two or more devices using any wireless distribution method (typically spread-spectrum or OFDM radio). WLAN provides a connection through an access point to the wider Internet. This gives users the ability to move around within a local coverage area and still be connected to the network. Most modern WLANs are based on IEEE 802.11 standards, marketed under the Wi-Fi brand name. It is a type of local- area network with the aim of high-frequency radio waves rather than wires to communicate between nodes. Wireless LANs introduce the concept of complete mobility; communication is no longer limited to the infrastructure of wires [1].

1.2 Threats in Network of Cloud

WLAN brings up many security problems. Due to the lack of physical connection between a wireless station and its access point, the wireless station has no way to figure out whether the access point it is communicating with is a legitimate access point or not. This situation makes access points as untrustworthy as wireless stations. To counter masquerading attacks in wireless LANs, it needs to authenticate both access points and wireless stations. Several mutual authentication protocols for wireless LANs, including the new IEEE 802.11 standard have been proposed for the wireless station and



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Attribute Based Document Annotation Using Big Data Framework

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Abstract

Authors

Keywords

References

Details

Technology and its advantage of using in the modern age of Information Technology, where the content based document annotation keep on changing. In the context of the structured and unstructured data gives us the most significant information, but in order to process the data of the content structured would be useful. In this Paper, we try to give the most significant glimpse of the big data based information in the Human Interface of the UI. Technologically its process of facilitation optimized way to the data can be made search. In order to such trend we need protocol of User interface before submitting the data making in the format the query based structured or unstructured approach. In this one we have used the UI based framework which in turn uses the approach of the content in the document in order to facilitate the process of the OTP and the big data makes the

**A Fast Clustering - Correlation Preserving Indexing for High
Dimensional Data**¹P. Jayaramakrishna, ²Dr. K. S. N. Prasad, ³S. V. Suryanarayana¹PG Student, Dept of CSE, GVVR Institute of Technology, Bhimavaram, A.P, India²Professor, CSE Department, GVVR Institute of Technology, Bhimavaram, A.P, India³Associate Professor, CSE Department, GVVR Institute of Technology, Bhimavaram, A.P, India

Abstract- Correlation Preserving Indexing can discover the intrinsic structures implanted in high-dimensional document space. To predict the result of one variable based on another variable is not suitable for all the situations since two variable prediction problems takes places. In this paper, Directed Ridge Regression is introduced to predict two or more variables which are highly correlated in high dimensional document space. Directed Ridge Regression is a statistical technique to estimate the relationship among the variables based on the Eigen values to find the similarity between the documents. The directed ridge estimator alters the diagonal elements of the Eigen values. The objective of the Directed Ridge Regression is to achieve efficient document clustering in similarity measure. Experimental results shows that compared to Correlation Preserving Indexing, the Directed Ridge Regression achieves efficient document clustering.

Keywords: Correlation Similarity Measure, Directed Ridge Regression, Document Clustering, Latent Semantic Indexing

I. INTRODUCTION

Document clustering [1] is a fundamental operation used in unsupervised document organization and information retrieval. Document clustering is to group automatically related documents into clusters. It is one of the most significant tasks in machine learning and artificial intelligence and has received much attention in recent years [2, 3, and 4]. Based on a variety of distance measures, a number of methods have been proposed to handle document clustering. A distinctive and widely used distance measure is the euclidean distance. The k-means method is one of the ways that use the euclidean distance, it minimizes the sum of the squared euclidean distance between the data points and their corresponding cluster centers. The document space is of high dimensionality forever, it is preferable to find a low-dimensional representation of the documents to reduce computation complexity. Low computation cost is attained in spectral clustering methods, in which the documents are first projected into a low-dimensional semantic space and then a traditional clustering algorithm is applied to finding document clusters. Latent semantic indexing (lsi)[8] is one of the effective spectral clustering methods, intended at finding the best subspace approximation to the original document space by minimizing the global reconstruction error (euclidean distance). It because of the high dimensionality of the document space, a certain representation of documents usually resides on a nonlinear manifold embedded in the similarities between the data points. The euclidean distance is a dissimilarity measure which describes the dissimilarities rather than similarities between the documents. It is not bright to effectively capture the nonlinear manifold structure embedded in the similarities between them. An effective document clustering method must be able to find a low-dimensional representation of the documents that can best preserve the similarities between the data points.

Locality preserving indexing (lpi) method is a different spectral clustering method based on graph partitioning speculation. The lpi method applies a weighted function to each pair wise distance attempting to focus on capturing the similarity structure, instead of dissimilarity structure, of the documents. It does not overcome the essential limitation of Euclidean distance. Moreover, the selection of the weighted functions is often a difficult task. Correlation as a similarity measure can capture the intrinsic structure embedded in high-dimensional data, especially the input data is sparse. It is a scale-invariant association measure usually used to calculate the similarity between two vectors. In a lot of cases, correlation can effectively represent the distributional structure of the input data to conventional euclidean distance cannot explain. The usage of correlation as a similarity measure can be found in the canonical correlation analysis (cca) method. The cca method is to find projections for paired data sets such that the correlations between their low-dimensional representatives in the projected spaces are mutually maximized.

As a great statistical technique, the cca method has been applied in the field of pattern recognition and machine structure embedded in the similarities between the documents. It aims to find an optimal semantic subspace by simultaneously maximizing the correlations between the documents in the local patches and minimizing the correlations between the documents outside these patches. Learning to propose a new document clustering method based on correlation preserving indexing (cpi), it clearly considers the manifold structure embedded in the similarities between the documents. It aims to locate an optimal semantic subspace by simultaneously maximizing the correlations between the documents in the local

Geometrical Concepts and Graph Theory For Linear Curve Approximation

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Abstract

In this paper, a brand new methodology for curve approximation is bestowed. The tactic is appropriate for each self-intersected and non self-intersected curves, it combines elements from graph theory and from parabolic geometry and it is absolutely machine-controlled. Additional specifically, graph theory tools square measure utilized in order: (1) to get rid of the small print that square measure irrelevant to the general form of the curve below study and (2) to decompose the curve into non self-intersecting smaller curves. Then, each such smaller curve is processed via geometrical tools so as to approximate it with efficiency with linear segments. Experimental results show that the planned technique compares well with several alternative ways of constant purpose.

Keywords

Geometry, Segment, Intersecting, Curve

I. Introduction

Digital planate curves square measure utilized in many fields of special effects, separate pure mathematics and digital image analysis. Several results are created concerning their geometric behavior since [1]. A special topic is digital curve compression.

Besides straightforward techniques like chain secret writing, a usual approach is to partition the curve into line segments [2] for compression. These ways usually target straightforward curves with no self-intersections, and assume the preliminary data on the sequent order of the curve points. The progressive approach

JBEAM [3] considers an alphabet of transportation system segments (called beamless) to compose the curve. This methodology divides the binary image containing the curve victimization quad tree decomposition until having one linear curve section in each quad tree cell that may be substituted by a beamless. The advantage of this approach is that any curves are often handled by sufficiently fine quad tree decomposition. However, a downside is that the obligation of moldering afterwards, once a cell contains such segments that already may be coded severally. In this paper, we have a tendency to propose a graph theoretical approach to trace curves having impulsive topology to obtain higher compression performance, once rendering the curve into line segments. Because of the tracing step, the planned methodology has higher compression performance than JBEAM [3]. The most improvement lies within the undeniable fact that we have a tendency to perform a whole tracing of the curve rather than moldering its storing canvas recursively, whereas solely line segments stay in the quad tree cells. The structure of this paper is as follows. In section II we have a tendency to recall the graph theoretical background that is a basis for our approach in tracing curves. We have a tendency to additionally justify however the acceptable graph representation of the digital curve is obtained.

II. Tracing Curves Using Graph Theory

In this section we have a tendency to recall some notions and results of graph and curve theory that we have a tendency to apply to trace

a curve and conjointly some techniques that were thought-about to get the corresponding graph representation of the curve.

A. Graph theoretical background

A graph G is defined as a pair (V, E) , where V is a set of vertices, and $E \subseteq V \times V = \{\{u, v\} / u, v \in V\}$ is a set of edges between the vertices. As we use graph representations of curves, we focus on undirected graphs, so $\forall u, v \in V: \{u, v\} = \{v, u\}$ holds. To cover a wide class of curves, we allow loops (edges of type $\{u, u\}$) and multiple edges (more edges between two vertices). The degree of a vertex is the number of edges containing the vertex. A path is a list of vertices $\{u_1, u_2, \dots, u_n\}$ having edges between any two consecutive vertices: $\{u_1, u_2\}, \{u_2, u_3\}, \dots, \{u_{n-1}, u_n\}$, with $u_1 = u_n$ in the case of a route (closed path). G is connected, if any two of its vertices have a path connecting them. A path through G which includes every edge exactly once is called an Euler path (or an Euler route if the start and end vertices coincide) [4-5]. Note that any Euler route is also an Euler path. G is an Euler graph, if it contains an Euler path through all of its edges. An Euler decomposition of G has the form G_i such that all the G_i 's are disjoint Euler graphs (in the sense that they cannot contain the same edge). We recall some well-known facts on Euler graphs and their decomposition

1. Every Euler graph is connected.
2. A connected graph contains an Euler route if all of its vertices have even degree. The route can start from any vertex.
3. A connected graph contains an Euler path if f at most two of its vertices have odd degree. If there are two vertices with odd degree, the path starts from either of them and ends in the other.
4. Every connected graph has an Euler decomposition into disjoint Euler graphs.

B. Assignment of a Graph to a Digital Curve

The definition of simple curves in the Euclidean space was given by P. Urysohn in 1923 and K. Menger in 1932 independently (see [8] for a review). The curves were classified based on the branching indeces of the curve points, where a branching index of a curve point is equal to the number of curve segments meeting at the given point. The adequate mathematical formulation for the Euclidean space can be found in [8-9]. For the discrete domain Z^2 , this definition can also be adapted using the well-known 8-neighboring relation. We find the tip points of the sides as regular points being 8-neighbors to junctions (if each of their 8-neighbors square measure branch points, the sting is degenerated having length 1). Then, the sting finish points square measure organized into pairs (edges) supported the condition that Associate in nursing 8-connected path are often found between them whose components square measure regular points. Figure 1a depicts the results of locating finish points and junctions (shown framed, in light-weight gray), while 1b take a better search for the choice of edge finish points (dark gray), and for the sides outlined by them. These figures additionally indicate the branching indices of the curve points.

Discovering the knowledge to find the affected areas of a plague for taking accurate decision

Publisher: IEEE

3 Author(s) Ramesh Babu Pittala ; M. Nagabushana Rao ; M. Shiva Kumar [View All Authors](#)

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Abstract

Document Sections

- I. Introduction
- II. Research Significance
- III. Applying Collocation Rule
- IV. Algorithm
- V. Architecture

Authors

Abstract:

Correctness and completeness are the two major factors in the medical field to take the accurate decision for the treatment in a span of time. Automated Patient Records (APR) will help to the Health Management Organization (HMO) to take the decision on any specific disease. Among the huge APR's Retrieving the data is very important to HMOs. Proposed Collocation Rules in the spatial data mining will optimize the information on every level and able produce the efficient results to take the decision in every aspect. In this paper, we proposed collocation rules to find the dengue disease affected areas in a specified region and displayed in a map. HMOs will identify the areas along with the severity of the symptoms and will identify the preventive methodology for the disease.

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An algorithm for identification of natural disaster affected area

[M. V. Sangameswar](#), [M. Nagabhushana Rao](#) & [S. Satyanarayana](#) 

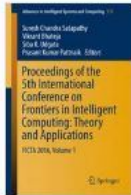
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Abstract

An important source of information presently is social media, which reports any major event including natural disasters. Social media also includes conversational data. As a result, the volume of data on social media has an enormous increase. During the time of natural disaster

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Load Flow Analysis of Distribution System Using Artificial Neural Networks

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Conference paper

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Abstract

In distribution system to determine static states at each node or bus and operating conditions, the load flow studies are very crucial. The load flow studies are very important, not only in

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GOMPERTZ BASED SPRT: MLE

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ABSTRACT

Sequential Analysis of Statistical science could be adopted in order to decide upon the reliability / unreliability of the developed software very quickly. The procedure adopted for this is, Sequential Probability Ratio Test (SPRT). It is designed for continuous monitoring. The likelihood based SPRT proposed by Wald is very general and it can be used for many different probability distributions. The parameters are estimated using Maximum Likelihood Estimation (MLE). In the present paper, the Gompertz model is used on five sets of existing software reliability data and analyzed the results.

Keywords: *Gompertz, Sequential Probability Ratio Test, MLE, Decision lines, Software testing, Software failure data.*

1. INTRODUCTION

Wald's procedure is particularly relevant if the data is collected sequentially. Sequential Analysis is different from Classical Hypothesis Testing where the number of cases tested or collected is fixed at the beginning of the experiment. In Classical Hypothesis Testing the data collection is executed without analysis and consideration of the data. After all data is collected the analysis is done and conclusions are drawn. However, in Sequential Analysis every case is analyzed directly after being collected, the data collected upto that moment is then compared with certain threshold values, incorporating the new information obtained from the freshly collected case. This approach allows one to draw conclusions during the data collection, and a final conclusion can possibly be reached at a much earlier stage as is the case in Classical Hypothesis Testing. The advantages of Sequential Analysis are easy to see. As data collection can be terminated after fewer cases and decisions taken earlier, the savings in terms of human life and misery, and financial savings, might be considerable.

In the analysis of software failure data we often deal with either Time Between Failures or failure count in a given time interval. If it is further assumed that the average number of recorded failures in a given time interval is directly

proportional to the length of the interval and the random number of failure occurrences in the interval is explained by a Poisson process then we know that the probability equation of the stochastic process representing the failure occurrences is given by a Homogeneous Poisson Process with the expression

$$P[N(t) = n] = \frac{e^{-\lambda t} (\lambda t)^n}{n!} \quad (1.1)$$

Stieber (1997) observes that if classical testing strategies are used, the application of software reliability growth models may be difficult and reliability predictions can be misleading. However, he observes that statistical methods can be successfully applied to the failure data. He demonstrated his observation by applying the well-known sequential probability ratio test (SPRT) of Wald (1947) for a software failure data to detect unreliable software components and compare the reliability of different software versions. In this paper we consider popular model Gompertz and adopt the principle of Stieber (1997) in detecting unreliable software components in order to accept or reject the developed software. The theory proposed by Stieber (1997) is presented in Section 2 for a ready reference. Extension of this theory to the SRGM – Gompertz is presented in Section 3. Application of the decision rule to detect unreliable software with respect to the proposed SRGM is



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Detection of natural disaster affected areas using R

[Authors](#) [Authors and affiliations](#)

Venkata Sangameswar Mandavilli , Nagabhushanarao Madamala

Original Research
First Online: 03 February 2018

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Abstract

Now a day's an important source of information is social media, which reports any major event including natural disasters. Social media also includes conversational data. As a result, the volume of data on social media has an enormous increase. During the time of natural disaster like floods, tsunami, earthquake, landslide etc., people require information in those situations, so that relief operations like help, medical facilities can save many lives (Goswami et al. in Ain

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Application of a data mining task called data preprocessing on the input data and efficient external sorting using refinement of existing algorithm

Article · September 2016 with 4 Reads

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S. Hrushikesava Raju



M. Nagabhusana Rao

Abstract

This paper presents external sorting using data preprocessing. Generally, huge data of any organization possess data redundancy, noise and data inconsistency. To eliminate, Data preprocessing should be performed on raw data, then sorting technique is applied on it. Data preprocessing includes many methods such as data cleaning, data integration, data transformation and data reduction. Depending on the complexity of given data, these methods are taken and applied on raw data in order to produce quality of data. Then, external sorting is applied. The external sorting now takes the number of passes less than actual passes $\log B (N/M) + 1$ for B – way external merge sorting, and number of Input / Outputs less than $2^*N * (\log B (N/M) + 1)$ of Input / Outputs and also involve least number of runs compared to actual basic external sorting. © 2016, International Journal of Pharmacy and Technology. All rights reserved.

PMT_EDS: Pattern Matching as a Tool for Efficient and Dynamic Search in the Large Files

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Abstract— There exist many pattern matching approaches, which consume more time and unable to perform operations like recording history, finding number of times a pattern is found along with positions, page numbers etc. and they have limitations in performing operations beyond their usual operations. The pattern matching using indexOf method is proposed to find out a specific pattern or multiple patterns at a time in less time complexity. The additional information is reported by recording history operation, information of where the pattern is located like page number, number of times that pattern is found can be processed by searching operation, and multi-process operation searches multiple patterns and returns their locations, page numbers in less time complexity by using indexOf method as a thread in achieving better efficiency. To do all these operations, an automated tool is required that asks for operation to perform, required details to be provided in that operation, and results going to be illustrated or reported. Data preprocessing is required when there is any inconsistency present in the dataset.

Keywords— pattern matching, statistics, searching, multi-process, time complexity, tool, PMT_EDS

I. INTRODUCTION

There were many pattern matching approaches are there for searching a pattern in the small to moderate texts. But there were no tool to search a pattern or multiple different patterns in the huge sized text document or a pdf type document. There are certain pattern matching approaches that are used in the huge texts but they consume more time in the searching process. All these are application programs that ask the input such as a pattern or few patterns, and also a text. In this processing, indices indicating starting index of the pattern in the text are returned as an array. These approaches consume more time in finding position of the pattern. These approaches are specified in the [1,2,3]. But, the present trend expecting new developed apps or apps as tools for this pattern matching. Every approach specified in the [1,2,3] are having drawbacks and one approach used as a proposed methodology namely dynamic pattern matching using indexOf() method and data preprocessing. Compared to this, the many pattern matching approaches illustrated takes more time and that can be demonstrated in the chapter results column. The time is measured in terms of number of comparisons and is discussed through examples. Among methods used, the overheads are listed in a table in introduction chapter. The lagging behind the existing approaches are (i) They are supporting only limited texts and one or few patterns to process (ii) When they are processing, manual text only going to accepted but not large sized files


(iii) The time taken to search the pattern(s) is more compared to the tool taken in consideration (iv) All the existing approaches are standalone applications and that requires setup the environment to execute the application successfully (v) The appearance of the output can be although clear but looking makes different feel compared to the output of the tool. Hence, the trend expects migration from standalone applications to the either apps or tools to be developed to do the same. The existing pattern matching approaches produce -1 in case of failure of the pattern in the text or position of the pattern in the text. But, the requirement needed now-a-days is number of times the pattern is occurred in the large text file, page wise statistics such as number of times the pattern occurred in each page along with line number, and history of the (n-1) sized pattern positions in the text document. To do this, some pattern matching to be taken as a tool(PMT_EDS) which serves the expectations of the user. Hence, The pattern matching with indexOf() method can be taken as a tool which finds the pattern or multiple patterns in less time generally $O(1)$ time complexity in case of success or failure also.

II. PROPOSED STUDY

The proposed approach provided in [1],[2],[3] taken in to consideration, transform that into a tool with specific features to perform such as taking the document, taking a pattern or multiple patterns, displaying a report about

Application of Data Preprocessing on the given data and efficient construction of optimal binary search trees using post dynamic programming

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S. Hrushikesava Raju




M. Nagabhusana Rao

Abstract

There are various methods of handling Optimal Binary search trees in order to improve the performance. One of the methods is Dynamic programming which incurs $O(n^2)$ time complexity to store involved computations in a table. The data mining technique called Data Preprocessing is used to remove noise early in the data and enhance consistency of given data. The data postcomputing (opposite to Data Preprocessing) is applied using dynamic programming principle which starts with only required data and computes only the necessary attributes required to construct Optimal Binary Search Tree with time complexity $O(n)$ if there are n identifiers / integers / any complex objects. This approach avoids computing all table attributes. Hence, the complexity or cost of Data post computing using Dynamic Programming is proved to be less than $O(n^2)$ or even less than specified in some cases with experimental results. © 2016, International Journal of Pharmacy and Technology. All rights reserved.

Novel approach to improve the performance of information retrieval using collocation rules in spatial databases

Article · January 2016 with 17 Reads ⓘ

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R.B. Pittala



M. NAGABHUSHANA Rao

14, 16



P. Srinivas

Abstract

In this paper, we proposed a novel approach to improve the performance of the spatial data by retrieving the data in the form of the Map (GIS). The user can identify the data quickly instead representing the data in the form to the text; it can retrieve in the geographical data. Proposed Geo-spatial Information Retrieval will improve the relevant retrieved results and reduces the time to collect the required information using Collocation Rules in Spatial Databases. We calculated Precision, Recall and F-Measure to estimate the performance of the spatial and non-spatial data sets and proposed a spatial factor to improve the relevant retrieved value to improve the overall performance of the system.

Software Reliability Estimation: Gompertz

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Abstract—

Software Reliability Growth Model is a mathematical model of how the software reliability improves as faults are detected and repaired. The performance of SRGM is judged by its ability to fit the software failure data. How good does a mathematical model fit to the data and reliability of software is presented in the current paper. The model under consideration is the Gompertz model. MLE method is used to estimate the model parameters. To assess the performance of the considered Software Reliability Growth Model, we have carried out the parameter estimation on the real software failure data sets.

Keywords— Gompertz model, Maximum Likelihood Estimation, SRGM, AIC, Goodness Of Fit, Software Reliability.

I. INTRODUCTION

Software reliability is defined as the probability of failure-free software operation for a specified period of time in a specified environment (Iyu, 1996). Software Reliability Growth Model (SRGM) is a mathematical model of how the software reliability improves as faults are detected and repaired (quadri, 2010). Among all SRGMs developed so far a large family of stochastic reliability models based on a Non-Homogeneous Poisson Process known as NHPP reliability models, has been widely used. Some of them depict exponential growth while others show S-shaped growth depending on nature of growth phenomenon during testing. The success of mathematical modelling approach to reliability evaluation depends heavily upon quality of failure data collected.

However, a problem is the model validation and selection. If the selected model does not fit the collected software testing data relatively well, we would expect a low prediction ability of this model and the decision makings based on the analysis of this model would be far from what is considered to be optimal decision (Xie, 2001). The present paper presents a method for model validation.

II. LITERATURE SURVEY

A. NHPP Models

The NHPP group of models provides an analytical framework for describing the software failure phenomenon during testing. They are proved to be quite successful in practical software reliability engineering (Musa, 1987). They have been built upon various assumptions. If 't' is a continuous random variable with probability density function: $f(t, \theta_1, \theta_2, \dots, \theta_k)$, and cumulative distribution function: $F(t)$ where $\theta_1, \theta_2, \dots, \theta_k$ are k unknown constant parameters.

The mathematical relationship between the pdf and cdf is given as: $f(t) = F'(t)$.

Let $N(t)$ be the cumulative number of software failures by time 't'. A non-negative integer-valued stochastic process $N(t)$ is called a counting process, if $N(t)$ represents the total number of occurrences of an event in the time interval $[0, t]$ and satisfies these two properties:

If $t_1 < t_2$, then $N(t_1) \leq N(t_2)$

If $t_1 < t_2$, then $N(t_2) - N(t_1)$ is the number of occurrences of the event in the interval $[t_1, t_2]$.

One of the most important counting processes is the Poisson process. A counting process, $N(t)$, is said to be a Poisson process with intensity λ if

1. The initial condition is $N(0) = 0$
2. The failure process, $N(t)$, has independent increments.
3. The number of failures in any time interval of length s has a Poisson distribution with mean λs , that is,

$$P\{N(t+s) - N(t) = n\} = \frac{e^{-\lambda s} (\lambda s)^n}{n!}$$

Describing uncertainty about an infinite collection of random variables one for each value of 't' is called a stochastic counting process denoted by $[N(t), t \geq 0]$. The process $\{N(t), t \geq 0\}$ is assumed to follow a Poisson distribution with

ANALYZATION OF RISK FACTORS FOR THE DENGUE FEVER OUTBREAK WITH THE EFFECT OF DIFFUSION PATH FOR SPATIOTEMPORAL CRITERION

Ramesh Babu Pittala¹, Janga Ravi Chander² and M.Nagabhushana Rao³

Abstract- To analyze the diffusion path for spatiotemporal and the main various risk factors of dengue outbreak. And uses for microscopic with the mechanism spatiotemporal data mining. At first level the dengue fever life cycle is analyzed by using the various procedures least square fitting and derivative. Then other methods like spatiotemporal Mapping and spatial analysis will be used to analyze the spatiotemporal hot spots, diffusion path and outbreak phase of the dengue fever. At last this study analysis the relationship between dengue fever and meteorology population, Breteau Index and different factors during dengue outbreak. It can effectively identify risk factors of dengue outbreaks using spatiotemporal and efficient reference for division's provision and controlling the disease. The result from this study shows that life cycle of dengue outbreak can be partitioned into 4 various stages: initial, starting, outbreak and maximum extinction

Keywords – diffusion path, spatiotemporal, dengue fever, outbreak, meteorology, extinction, Breteau Index

I. INTRODUCTION

Dengue fever is one of the most dangerous mosquito borne infection diseases and can be spread by the dengue virus. It is transmitted by the Aedes mosquitoes. It is the most widely adopted in south East Asia, several countries more than 120 and those areas in the tropical and subtropical regions of the world. Within last 20 years, it is spread very quickly and with a wide range. Millions of dengue fever cases are diagnosed every year and also about 30,000 patients die from this disease. This disease prevention and also control is a very difficult issue. The dengue cases have been reported with a lot of increase. There are about 1237 dengue fever outbreak cases in the city Karimnagar within 10 years. There is a one more very serious dengue fever was occurred in Karimnagar. The spatiotemporal transmission risk research on this dengue fever, it is needed that its diffusion path characteristics, and main factors analysis on mechanism for the dengue information outbreaks for health significance on prevention and also control of dengue fever.

It is analyzed to enlarge the relationship between dengue and the geographical environment to find the risk factors which occur for diffusion of the disease explain its spatiotemporal prediction. It is found that the land use capabilities like risk fields, gas stations, woodlands, wetlands, garden lands and the various areas are covered by vegetation, and will provide a different potential habitat for mosquito vector and revealed Dengue Fever is related to population, rain fall, temperature, monsoon, drainage system and some other factors. And it is identified the impact of population, network for transportation, the dengue diffusion for water bodies through a geographical weighted regression model. And it is analyzed and reported the dengue fever is related to the climatic conditions and sociologic conditions. The Breteau Index which reaches its highest value after a heavy rain fall for 6-7, it is noticed that the temperature is an important factor affecting the dengue fever diffusion. A generic algorithm back propagation model based on complicated graphic environment factors for the purpose of spatiotemporal prediction and for simulation of dengue fever.

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A Novel Approach for Faculty Appraisal in Educational Data Mining using CLEMENTINE TOOL

Ramakrishna Gandhi, Prathimarani Palla, Madhuri Thimmapuram, Daniel Prasanth T

Abstract— Data mining, the concept of unseen predictive information from big databases is a powerful novel technology with great potential used in various commercial uses including banking, retail industry, e-commerce, telecommunication industry, DNA analysis remote sensing, bioinformatics etc. Education is a required element for the progress of nation. Mining in educational environment is called Educational Data Mining. Educational data mining is concerned with developing new methods to discover knowledge from educational database. In order to analyze opinion of students about their teachers in Professor Appraisal System, this paper surveys an application of data mining in Professor Appraisal System & also present result analysis using CLEMENTINE 12.0 tool. There are varieties of popular data mining task within the educational data mining e.g. classification, clustering, outlier detection, association rule, prediction etc. How each of data mining tasks can be applied to education system is explained. In this paper we analyze the performance of final Faculty Appraisal of a semester of a computer engineering department, Vignan Institute of Information Technology College of engineering & is presented the result which it is achieved using CLEMENTINE 12.0 tool. We have verified hidden patterns of Faculty Appraisal by students and is predicted that which Faculty will be invited to faculty classes and which Faculty will be refusing and department heads due to Appraisal reasons will ask explanations with them.

Index Terms— Classification, Clustering, Association rule, Data mining, Appraisal, CLEMENTINE 12.0.

I. INTRODUCTION

Data mining has involved a great deal of responsiveness in the information industry and in society as a whole in recent years, due to the wide availability of huge amounts of data and the forthcoming need for turning such data into useful information and knowledge. The information and knowledge gained can be used for applications ranging from market analysis, fraud detection, and customer retention, to production control and science exploration [1]. Manual data analysis has been around for some time now, but it creates a bottleneck for large data analysis. The transition won't occur automatically; in this case, there is a need for data mining [2]. Mining applied in education was published in 1995 by Sanjeev and Zytkow. Researchers gathered the knowledge discovery as terms like "P pattern for data in the range R"

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from university database [3]. Vranić and Skočir was examined how to improve some aspects of educational quality with data mining algorithms and techniques by taking a specific course students as target audience in academic environments [4]. In this paper we have collected information and results of a appraisal about 30 professors in Vignan Institute of Information Technology College of Engineering, Department of Computer Engineering on professor's performances in classroom then with data mining algorithms such Association Rule and decision trees (C&RT) , it is proceeded to analyze and predict acceptance of a professor for continuing the teaching in that subject. There are new rules and relations between selected parameters such as Teaching, Professor Degree, Preparation, Communication, Class Control, Teaching experience, Approved Staff to next semesters on professor appraisal system that is interested for Heads of Departments of Institution.

II. METHODOLOGY

In this research study, We have followed a popular data mining methodology called Cross Industry Standard Process for Data Mining (CRISP-DM), which is a six-step process [5]:

- **Problem explanation:** Comprises understanding development goals with business perspective.
- **Understanding the data:** Includes identifying the sources of data.
- **Formulating the data:** Includes pre-processing, cleaning, and transforming the relevant data into a form that can be used by data mining algorithms.
- **Creating the models:** Includes developing a wide range of models using comparable analytical techniques.
- **Assessing the models:** Includes evaluating and assessing the validity and the utility of the models against each other and against the goals of the study.
- **Using the model:** Includes in such activities as deploying the models for use in decision making processes.

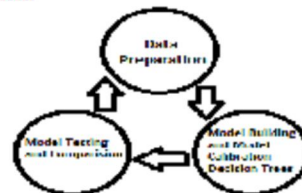


Fig.1.A graphical illustration of the methodology employed in this study

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**Survey on Importance and Tools Used: Big Data**

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Abstract— Big data is a set of techniques and technologies that require new forms of integration to uncover large hidden values from large datasets that are diverse, complex, and of a massive scale. The primary purpose of this paper is to provide an in-depth analysis of different platforms available for performing big data analytics. The challenges include analysis, capture, search, sharing, storage, transfer, visualization, and privacy violations. The tools like Hadoop, R, Python and Visualization Tools like Tableau, D3, and Data Wrapper.

Keywords— Big data, Visualization Tools, Techniques, Hadoop, Tableau.

I. INTRODUCTION

Big Data will be stored at different places and also the data volumes may increase with the increase in data and hence to collect data from various places becomes expensive. Big Data is creating new generation of decision support data management. An example of big data might be petabytes (1,024 terabytes) or Exabyte's (1,024 petabytes) of data consisting of billions to trillions of records of millions of people—all from different sources (e.g. Web, sales, customer contact centre, social media, mobile data and so on).

II. BIG DATA**◆ Importance of Big Data**

When big data is effectively and efficiently captured, processed, and analysed, companies are able to gain a more complete understanding of their business, customers, products, competitors, etc. which can lead to efficiency improvements, increased sales, lower costs, better customer service, and/or improved products and services.

The effective use of big data exist in the following areas

- Using information technology (IT) logs to improve IT troubleshooting and security breach detection, speed, effectiveness, and future occurrence prevention.
- Use of social media content in order to better and more quickly understand customer sentiment about you/your customers, and improve products, services, and customer interaction.
- Fraud detection and prevention in any industry that processes financial transactions online, such as shopping, banking, investing, insurance and health care claims.
- Use of financial market transaction information to more quickly assess risk and take corrective action.

◆ Sources of Big Data

- 1) *Public Data*: Public data includes data that is publicly available like data generated by government sectors, weather data, Wikipedia, research data, open source data and other data which is freely available to the public. This type of data accessible to all is referred to as Public Data.
- 2) *Transactional Data*: Every enterprise will have some kind of applications which performs different kinds of transactions like Mobile Applications, Web Applications and many more. In order to support the transactions of these type, there are one or more relational databases which works at backend. This type of data is structured and it is referred to as Transactional Data.
- 3) *Social Media*: Huge amount of data is being generated on social networks like Twitter, LinkedIn, Face book, etc. Thus social media has to capture and manage unstructured.
- 4) *Enterprise Data*: Huge amount of data comes from enterprises in different formats. Formats may be in the form of flat files, Word documents, emails, spreadsheets, PowerPoint presentations, HTML pages, pdf files, XMLs, legacy formats, etc. This data which is spread across the organization in different formats is referred to as Enterprise Data.
- 5) *Activity Generated data*: Data that has been generated by machines that surpasses the data volume generated by humans. These include data from various machines like images from medical devices, data from sensors, surveillance videos, satellites data and data from mobile towers. These types of data are referred to as Activity Generated data.
- 6) *Archives*: Archives are the data which is very rarely required or which is not required anymore for any organization. Now a day's cost of the hardware is so cheap that none of the organization would like to discard any data, they would like to capture and store as much data as possible. Archived data includes records of ex-employees, old bank transactions, scanned documents, agreements copies, completed projects, this type of data which is less frequently accessed is referred to as Archive Data.



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Methodical advances in power systems aimed at best arrangement of distributed generation sources

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S. Jayalakshmi



Dr.V Balaji

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Abstract

Distributed Generation (DG) frameworks are turning out to be more normal as consequence of the expanded interest for the power. Appropriate area of Distributed Generation (DG) sources in force framework is critical for acquiring their most extreme potential advantages, and for lattice support, diminishing force misfortunes and on-crest working cost, enhancing voltage profile and stack calculate and enhancing framework



Fuzzy Based Control Technique for Integration of DG Units to the Grid

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ABSTRACT

This paper deals with a new control technique for integration of distributed generation (DG) resources to the electrical power network. The proposed strategy provides compensation for active, reactive, and harmonic load current components during connection of DG link to the grid. By setting an appropriate compensation current references from the sensed load currents in control circuit loop of DG, the active, reactive, and harmonic load current components will be compensated with fast dynamic response, thereby achieving sinusoidal grid currents in phase with load voltages, while required power of the load is more than the maximum injected power of the DG to the grid. In addition, the proposed control method of this paper does not need a phase-locked loop in control circuit and has fast dynamic response in providing active and reactive power components of the grid-connected loads. The effectiveness of the proposed control technique in DG application is demonstrated with injection of maximum available power from the DG to the grid, increased power factor of the utility grid, and reduced total harmonic distortion of grid current through simulation results under steady-state and dynamic operating conditions.

KEYWORDS: Distributed generation (DG), renewable energy sources, total harmonic distortion (THD), voltage source converter (VSC).

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I. INTRODUCTION

Distributed generation (DG) technology also known as dispersed generation technology is electricity generating plant connected to a distribution grid rather than the transmission network. There are many types and sizes of DG facilities. These include wind farms, solar photovoltaic (PV) systems, hydroelectric power, or one of the new smaller generation technologies. The DG concept emerged as a way to integrate different power plants, increasing the DG owner's

reliability and security, providing additional power quality benefits of the power grid [1], [2], and improving the air quality as a result of lower greenhouse gas emissions of air pollutants [3], [4]. In addition, the cost of the distribution power generation system using the renewable energies is on a falling trend and is expected to fall further as demand and production increase [5]. DG technology can come from conventional technologies such as motors powered by natural gas or diesel fuel or from renewable energy technologies, such as solar PV cells and wind

Scalable Data Sharing in Cloud Storage with Key Aggregate Cryptosystem on Key Management

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Abstract: Present day's distributed storage increasing more prominence for sharing of information. The imparting of information to all the more safely, productively and adaptable through others in the distributed storage. So that by giving security of sharing information we utilizing cryptography method. In this paper we are utilizing new open key cryptography procedure for give security of information. This paper essentially contains two ideas i.e. key era, encryption and unscrambling of information. Initial one is the key era we are utilizing enhanced Diffie Hellman key trade method. The second one is propelled cryptography procedure for information encryption and unscrambling. So that by proposing those methods we can give more secure, effective and adaptable of sharing information.

Keywords: Cloud Storage, Data Sharing, Asymmetric Encryption, Key- Aggregate Cryptosystem.

I. INTRODUCTION

Cloud storage is gaining popularity recently. In enterprise settings, we see the rise in demand for data outsourcing, which assists in the strategic management of corporate data. It is also used as a core technology behind many online services for personal applications. Now a days, it is easy to apply for free accounts for email, photo album, file sharing and/or remote access, with storage size more than 25 GB (or a few dollars for more than 1TB). Together with the current wireless technology, users can access almost all of their files and emails by a mobile phone in any corner of the world. Considering data privacy, a traditional way to ensure it is to rely on the server to enforce the access control after authentication, which means any unexpected privilege escalation will expose all data. In a shared-ten an cloud computing environment, things become even worse. Data from different clients can be hosted on separate virtual machines (VMs) but reside on a single physical machine. Data in a target VM could be stolen by instantiating another VM resident with the target one. Regarding availability of files, there are a series of cryptographic schemes which go as far as allowing a third-party auditor to check the availability of files on behalf of the data owner without leaking anything about the data, or without compromising the data owner's anonymity. Likewise, cloud users probably will not hold the strong belief that the cloud server is doing a good job in terms of confidentiality. A cryptographic solution, for example, with proven security relied on number-theoretic assumptions is more desirable, whenever the user is not perfectly happy with trusting the security of the VM or the honesty of the technical staff. These users are motivated to encrypt their data with their own keys before uploading them to the server.

Information offering is an essential usefulness in cloud capacity. Case in point, bloggers can let their companions view a subset of their private pictures; a venture might award her representatives access to a parcel of delicate information.

The testing issue is the manner by which to adequately offer scrambled information. Obviously clients can download the scrambled information from the stockpiling, unscramble them, then send them to others for offering, yet it loses the estimation of distributed storage. Clients ought to have the capacity to delegate the right to gain entrance privileges of the imparting information to others with the goal that they can get to this information from the server straightforwardly. On the other hand, discovering a productive and secure approach to impart incomplete information in cloud capacity is not minor. Beneath we will take Dropbox as a sample for representation. Accept that Alice puts all her private photographs on Drop box, and she would like to open her photographs to everybody. Because of different information spillage plausibility Alice can't feel calmed by simply depending on the security assurance instruments gave by Drop box, so she encodes all the photographs utilizing her own particular keys before transferring. One day, Alice's companion, Bob, requests that her impart the photographs assumed control all these years which Bob showed up in. Alice can then utilize the offer capacity of Drop box, yet the issue now is the way to delegate the unscrambling rights for these photographs to Bob. A conceivable choice Alice can pick is to safely send Bob the assumed control over all these years which Bob showed up in. Alice can then utilize the offer capacity of Drop box, yet the issue now is the manner by which to delegate the unscrambling rights for these Photographs to

Design of RAM using Pulsed Latch Based Shift Register

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Flip flops are the basic storage elements used appreciably in all sorts of digital designs because the characteristic size of CMOS era method scaled down in keeping with Moore's law, designers are able to combine many numbers of transistors onto the equal die. The extra transistors there might be extra switching and more strength dissipated inside the shape of warmth or radiation. warmth is one of the phenomenon packaging challenges on this epoch, it's miles one of the fundamental challenges of flow strength design methodologies and practices. another motive force of low strength research is the reliability of the integrated circuit. extra switching implies higher common modern is expelled and consequently the opportunity of reliability problems happening rises. we are shifting from laptops to drugs and even smaller computing digital structures. With this profound fashion persevering with and without a match trending in battery lifestyles expectancy, the greater low strength issues will ought to bead dressed. The contemporary traits will finally mandate low strength design automation on a very huge scale to match the tendencies of power consumption of today's and future integrated chips. electricity intake of Very large Scale incorporated design is given by generalized relation, $P = CV^2f$ [1]. for the reason that strength is proportional to the square of the voltage as per the relation, voltage scaling is the most distinguished manner to reduce energy dissipation. But, voltage scaling is results in threshold voltage scaling which bows to the exponential growth in leakage energy.

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Aging-Aware Reliable Multiplier Design with Adaptive Hold Logic Implements with 16x16 Vedic Multipliers

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Experiments on PMOS aging [4] indicate that NBTI effects grow exponentially with thinner gate oxide and higher operating temperature, which are the expected trends of technology scaling. If the thickness of gate oxide shrinks

down to 4nm, the circuit performance can be degraded by as much as 15% after 10 years of stress and lifetime will be dominated by NBTI [5]. In contrast, the aging mechanism can be partially recovered when the stress condition is relaxed ($V_{gs} = 0$). When dealing with the problem of aging-induced performance degradation, it is important to consider path sensitization because (i) only a small portion of long paths can determine the delay of a circuit no matter whether aging applies, and (ii) a path that is not critical/sensitizable before aging may become critical/sensitizable after aging and affect circuit performance. A path is sensitizable if it can be activated by at least one combination of input transitions. In this paper, by using timed automatic test pattern generation [8], we examine the impact of path sensitization on aging-aware timing analysis and also explore the benefits of considering path sensitization for aging-aware timing optimization. In paper we show a comparison between the aging multiplier with column bias multiplier with the vedic multiplier was shown.

II. RELATED WORK

A. Previous Work on Aging-Aware Timing Optimization

Traditional design methods add guard-bands or adopt worst-case margins to account for aging phenomena, which in practice refer to over-design and may be expensive. To avoid overly conservative design, the mitigation of aging-induced performance degradation can be formulated as timing constrained area minimization problem with consideration of aging effects. Recent aging-aware techniques basically follow this formulation. The authors of [9] proposed a gate sizing



Hybrid Micro Grid Architectures and Challenges

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ABSTRACT

The distribution system is part of the electric power system that links the bulk transmission system and the individual customers. Increasing environmental concerns, consumer expectations in terms of reliability & better quality of power supply and improving economics of distributed energy resources (DER) based on renewable, is making Micro Grid a viable proposition. Present electrical distribution system offers many technical & operational glitches for successful integration of Micro Grid Technologies. Modern Power systems are smart, interconnected, interdependent, load sharing and phased mission systems. Micro grids are composed by distributed generators, energy storage devices, intelligent circuit breakers and local loads. In this paper, a review of the main micro grid architectures proposed in the literature has been carried out. The micro grid architectures are first classified regarding their AC or DC distribution buses. Besides, more complex micro grid architectures will be discussed. Both advantages and disadvantages of each one of the micro grid families will be discussed.

KEYWORDS: Reliability, Distributed Energy Resources, Micro Grid, Micro Turbine, Management, Challenges

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I. INTRODUCTION

The concept of the micro grid was first proposed by the Consortium for Electric Reliability Technology Solutions (CERTS) in America; it is a new type of distributed generation network structure with a wide range of development prospects [3]. Micro grids comprise low-voltage distribution systems with distributed energy sources, storage devices, and controllable loads that are operated either islanded or connected to the main power grid in a controlled, coordinated way. The authors in [2-5] introduced the benefits of the micro grid, such as enhanced local reliability, reduced feeder losses, and local voltage support, providing increased efficiency using waste heat as combined heat and power, voltage sag correction, or providing uninterruptible power supply functions. The steady progress in the development of distributed power generation, such as hybrid micro grids and renewable energy technologies, are opening up new opportunities for the utilization of

various energy resources.

A Microgrid, a local energy network, offers integration of distributed energy resources (DER) with local elastic loads, which can operate in parallel with the grid or in an intentional island mode to provide a customized level of high reliability and resilience to grid disturbances. This advanced, integrated distribution system addresses the need for application in locations with electric supply and/or delivery constraints, in remote sites, and for protection of critical loads and economically sensitive development. (Myles, et al. 2011).

A Micro grid is any small or local electric power system that is independent of the bulk electric power network. For example, it can be a combined heat and power system based on a natural gas combustion engine (which cogenerates electricity and hot water or steam from water used to cool the natural gas turbine), or diesel generators, renewable energy, or fuel cells. A Micro grid can be used to serve the electricity needs of data centers, colleges, hospitals, factories, military bases, or



Simulation of D-STATCOM Based Inverter Topology for DG Systems using Fuzzy Logic

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ABSTRACT

In this paper, a new single-phase D-STATCOM based inverter topology is presented. The proposed inverter is placed between the distributed generation source and the grid and is able to regulate active and reactive power transferred to the grid. This inverter is equipped with distribution static synchronous compensators option in order to control the power factor (PF) of the local feeder lines. Using the proposed inverter for small to medium size wind applications will eliminate the use of capacitor banks as well as FACTS devices to control

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Design of RAM using Pulsed Latch Based Shift Register

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Streptomyces kanamyceticus derivative: An excellent corrosion inhibitor

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E.L. Harish



S. Karthikeyan

Abstract

Corrosion inhibition of mild steel in 1M Sulphuric acid with an anti-bacterial agent, viz., Streptomyces kanamyceticus derivative, Kanamycin



DEVELOPMENT OF ECO-FRIENDLY ANTIBIOTIC BIOMOLECULE COMPOUNDS AS ORGANIC CORROSION INHIBITORS FOR STRUCTURAL REBAR IN SIMULATED CONCRETE PORE SOLUTION

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Centre for Innovative Manufacturing Research, VIT University, Vellore, Tamilnadu, India

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ABSTRACT

The hypothesis behind this paper is to appraise biomolecule compounds that are present in antibiotics as organic corrosion inhibitors towards inhibition of structural rebar against corrosion in simulated concrete pore solution (SCPS). In the presence and absence of antibiotics such as Dicloxacillin (DCN), Ciprofloxacin (CFN) and Fluconazole (FZE) are used to study as organic and non-toxic corrosion inhibitors in simulated concrete pore solution. In order to validate the objective, various analysing techniques such as mass loss studies, Tafel polarisation, charge transfer resistance (R_{ct}), and scanning electron microscopy (SEM) was implied. The study revealed that DCN is more efficient, FZE is least efficient and NFN is moderate efficient in inhibiting the structural rebar in SCPS. Tafel polarisation unveils that the inhibitors behaves as an anodic inhibitors.

Keywords: Antibiotics, Corrosion Inhibition, Non-Toxic, Steel Rebar, Organic Inhibitor

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SOLID PARTICLE EROSIWE WEAR OF POLYESTER HYBRID COMPOSITES USING TAGUCHI APPROACH

Suresh.J.S, Dr. M. Pramila Devi, Dr. M Sasidhar, Dr.K.Sai Manoj

Abstract

Solid particle erosion has been considered as a severe problem for many failures in engineering applications. This article presents the analysis of erosion reaction of a glass fiber reinforced polyester composites with modified weight proportions of natural filler materials like Arabic gum tree coal powder(A.C.P), Jambal tree coal powder(J.C.P) and Neem tree coal powder(N.C.P) which act as secondary reinforcement materials. Assessment of wear behaviour is carried out experimentally by an air jet type erosion test rig and Taguchi orthogonal arrays have been used. Taguchi method is well known technique that provides a universal and efficient methodology for design optimization and experiments were followed by using Taguchi experimental design (L27 orthogonal array). Use of orthogonal arrays significantly reduces the number of experimental configurations to be studied. Finally, the thorough experimentation has led to determination of significant process parameters and material variables that predominantly influence the wear rate of glass fiber reinforced polyester with modified weight proportions of natural particulate fillers of Arabic tree coal powder(A.C.P), Jambal tree coal powder(J.C.P) and Neem tree coal powder(N.C.P) respectively.

Key words: Solid particle Erosion, Polyester, Natural fillers (A.C.P/J.C.P/N.C.P), Taguchi Method

1 INTRODUCTION

The subject of erosion wear of polymer composite has drawn attention of researchers in the past decades. Increasing utilization of polymer based composites in aerospace, transportation and processing industries indicates that the importance of polymer based composite materials in the applications where they can be subjected to multiple solid or liquid particle impact. Examples of such applications are pipe lines carrying sand slurries in petroleum refining, helicopter rotor blades, pump impeller blades, high speed vehicles and aircraft operating in desert environments.

In most erosion processes, target material removal typically occurs as a result of a large number of impacts of irregular angular particles, usually carried in pressurized fluid streams. Bitter J.G.A [1], studied and identified that the erosion is a material loss caused by the impingement of particles entrained in a fluid system impacting the surface at high speed. Hutchings [2] defines it as an abrasive wear process in which the repeated impact of small particles entrained in a moving fluid against a surface results in the removal of material from the surface. Erosion due to the impact of solid particles can either be constructive (material removal desirable) or destructive (material removal undesirable), and therefore, it can be desirable to either minimize or maximize erosion, depending on the application.

S.R.Chauhan et al. [3] studied the effect of fly ash content in the sliding wear behaviour glass reinforced composites. It was found that the coefficient of friction

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TOPSIS Ranking of Epoxy Hybrid Composites

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NRI Institute of Technology, Andhra Pradesh, India³

Abstract:

In This Research Article Epoxy based composites reinforced with Glass Fiber with weighted proportion modified Fillers like Titanium oxide and silicon carbide are fabricated by manual hand layup process and mechanical properties like Tensile Strength, Flexural Strength, Hardness and impact strength are determined. Selection of a composite with respect to above mechanical characterization parameters is a difficult task; some selection procedure techniques are required to overcome from this confusion state. TOPSIS is one of the selection procedure technique adopted for this problem. This technique provides a base for decision-making processes where there are limited numbers of choices but each has large number of attributes. In this paper some composites are considered with different compositions and various mechanical properties. Selection of the best composite is done using TOPSIS technique

Keywords: Epoxy, TOPSIS, Mechanical Properties

1. INTRODUCTION

The TOPSIS (technique for order performance by similarity to ideal solution) was first developed by Hwang & Yoon (1981). It is one of the best grading methods of multi criteria decision making (MCDM) that is taken place in compromising subgroup of compensating models of decision making [1]. TOPSIS is a multiple criteria method to identify solutions from a finite set of alternatives based upon simultaneous minimization of distance from an ideal point and maximization of distance from a nadir point [2]. TOPSIS has also been used to compare company performances [3] and financial ratio performance within a specific industry [4]. A great deal of work has already been done on the use of TOPSIS for selection of the best alternatives in many fields. However, the use of TOPSIS for selection of the material is hardly been reported.

2. LITERATURE REVIEW

TOPSIS is a multiple criteria method to identify solutions from a finite set of alternatives based upon simultaneous minimization of distance from an ideal point and maximization of distance from a nadir point. TOPSIS has been applied to a number of applications many researchers. Singh et al. [5] studied the selection of material for bicycle chain in Indian scenario using MADM Approach. They concluded that both MADM and TOPSIS methods User friendly for the ranking of the parameters. Huang et al. [6] studied the multi-criteria decision making and uncertainty analysis for materials selection in environmentally conscious design. It was reported that TOPSIS method demonstrates a reasonable performance in obtaining a solution; and entropy method presents designers' or decision makers' preference on cost or environmental impact and effectively demonstrates the uncertainties of their weights.

Khorshid et al. [7] studied the selection of an optimal refinement condition to achieve maximum tensile properties of Al-15%Mg2Si composite based on TOPSIS method and observed that the TOPSIS method is considered to be a suitable approach in solving material selection problem when precise performance ratings are available. Ghaseminejad et al. [8] used data envelopment analysis and TOPSIS method for solving flexible bay structure layout, and found that this method is useful for creating, initial layout, generating initial layout alternatives and evaluating them. Chakladar and Chakraborty [9] studied the combined TOPSIS-AHP-method-based approach for non-traditional machining processes selection and also include the design and development of a TOPSISAHP- method-based expert system that can automate the decision-making process with the help of a graphical user interface and visual aids. Shahroudi and Rouydel [10] studied a multi-criteria decision making approach (ANP TOPSIS) to evaluate suppliers in Iran's auto industry. Lin et al. [11] studied on customer-driven product design process using AHP and TOPSIS approaches and results shows that the proposed approach is capable of helping designers to systematically consider relevant design information and effectively determine the key design objectives and optimal conceptual alternatives. Isiklar and Buyukozkan [12] studied a multi-criteria decision making (MCDM) approach to assess the mobile phone options in respect to the users preferences order by using TOPSIS method.

3. METHODOLOGY

The objective of this work is to develop TOPSIS method for composite selection. In order to comply with collecting quantitative and qualitative data for TOPSIS composite selection model that could be applied by a seven steps approach was performed to ensure successful implementation.



Effect on Mechanical Properties of Epoxy Hybrid Composites Modified with Titanium Oxide (TiO₂) and Silicon Carbide (SiC)

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Abstract:

Glass fibre reinforced polymer composites play an incredible role in almost all spheres day to day life and the field of glass composites is one of the prime research areas in recent decade. Polymers are mostly reinforced with fibre or fillers to obtain better mechanical properties. In this paper, the effect of filler material like titanium oxide (TiO₂) and silicon carbide (SiC) particulates on mechanical properties of E-Glass fibre reinforced polymer has been studied out by varying filler materials. The effect of titanium oxide and silicon carbide fillers in modifying the mechanical properties of glass reinforced epoxy composites has been studied. It is found that the mechanical properties like Tensile strength, Flexural strength, Impact strength and Hardness of the glass reinforced composites are modified with the incorporation of the fillers.

Keywords: Epoxy, Mechanical Properties, Titanium oxide (TiO₂) and Silicon carbide (SiC)

1. INTRODUCTION

Over the past decades, many Glass-fiber reinforced composite materials are used in manufacturing of various parts in automotive and aerospace industries. The major advantage of polymer composites is to offer easy processing, productivity, cost reduction, high strength and modulus-weight ratio etc. over metallic materials. Glass fiber composites have excellent surface finish, higher impact strength and high modulus to weight ratios compared with the other FRP Composite materials, so they are mainly used in industries. To enhance the mechanical properties i.e. tensile, impact and flexural properties of the polymers is the main concept of reinforcing the polymers [1, 3]. For thermoset matrices Glass fiber is the typical reinforcing material for various structural applications. For high ratios of strength and stiffness to weight in orthotropic direction Woven fabric reinforced epoxy composites are well known. In areas where light weight of structures and high performance are essential these good characteristics of the composites have resulted in numerous applications of the materials [4]. Cho et al. [5] investigated the special effects of particle loading particle medium interface adhesion and particle size, on mechanical properties of polymer matrix composites. Also, the use of epoxy resin for composite manufacture, being one of the most captivating and interesting materials are contemplated, because it is primarily used for preparing high-performance composites with advanced performatory properties, corrosive resistant to liquids and environments, superior electrical properties, high-quality performance at high temperatures, superior adhesion or a combination of above benefits. It is observed from the literature, the use of fillers in matrix gives rise to improve the mechanical properties, which acts as additional reinforcements and enhances their mechanical properties and also reduces the processing cost significantly. Ishidi et al.[6] have determined the physio-

mechanical properties of the proposed polymer composite which is a combination of two distinct materials- HDPE and palm kernel nut shell particulate. The materials compounding and sample formation was done using Reliable Two Roll Mill Model 5183 and Carvers Hydraulic Hot Press. Tensile strength of the fabricated composites was tested using standard equipment in accordance to the ASTM standard specifications. Ahmad and Mahanwar [7] studied the effect of fly ash as filler on the mechanical properties of HDPE. Three different particle sizes of fly ash were used. Concentration of fly ash was varied up to 40 % by weight. The composites were prepared using twin screw extruder and then test specimens were prepared by injection molding. Tensile, flexural and impact properties were tested. Composites with smallest size fly ash particles proved to be better in enhancing strength and relative elongation. Modulus and impact resistance did not seem to depend much on particle size. Atikler et al.[8] studied mechanical and morphological properties of composites made up of recycled high-density polyethylene (HDPE) filled with calcium carbonate and fly ash. Effect of filler loading and treatment of FA with silane coupling agent on mechanical and morphological properties were investigated and it was found that silane treatment indicated significant improvement on the mechanical properties of the HDPE-FA composites.

2. EXPERIMENTAL DETAILS

2.1 Materials

In our study, Titanium oxide and silicon carbide fillers are used to modify the Epoxy matrix. The commercially available E-glass fiber (Woven Roving fabric type) with 360 grams weight per m² area is used as reinforcement. Araldite (LY-556) chemically belongs to epoxide family is used as resin and (HY-556) is used as hardener, these materials (E-glass fiber, Araldite and

Agriculture Productivity Enhancement System using IOT

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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. In order to achieve ever increasing quantity and quality demands, technological innovations must be explored. The traditional methodologies can be integrated with latest technologies as Internet of Things (IoT) and Wireless Sensor networks (WSNs) to enable various applications in Digital Agriculture Domain.

Rice is the most important food crop of India. Over 90% of World's rice is produced and consumed in Asia-Pacific region. It has served as a host of number of diseases and insect-pests. The major ones causing economic losses in any rice growing country are: bacterial, fungal and viral diseases. Temperature and type of the soil are the major components to be considered for optimal growth. Based on these components, a system is proposed that mainly focuses on the methods to predict the various diseases affecting the crop growth and to inform the farmer, the ratio of pesticides to be used to reduce the risk caused by excessive usage of pesticides both on human health and environment.

This system uses Supervised Machine Learning Algorithm such as C4.5 for classification analysis.

DDoS Defense: Enhanced Flooding Detection and Confidence-Based Filtering Method

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Abstract

Distributed Denial of Service (DDoS) attack is a critical threat to the Web-based and Client-Server applications and resource allocation to defense the DDoS attack has become a major challenge. To overcome these challenges, in this paper we proposed a HTTP GET Flooding Detection and Confidence-Based filtering method for DDoS Attack Defense in Web application. HTTP Get flooding attack is the most critical and frequently attempted attack. To overcome this attack an early stage HTTP GET Flooding Detection technique is connected. The dynamic resource allocation is applied to automatically coordinate the available resources (CPU, Memory, I/O and Bandwidth) of a server to relieve DDoS attacks on individual clients. After CBF (Confidence-Based Filtering) score is calculated for each packet, resource analysis is done to determine whether to discard the packet/request or not.

Index terms: HTTP, CBF, DDoS, Client-Server, Attack Flooding, Resource, Confidence.

A Novel Weighted Probabilistic Based Gene-Disease Document Classification Model Using Hadoop Framework for Distributed Biomedical Repositories

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Abstract

With the exponential growth of biomedical repositories and gene-disease databases, building a high dimensional ranking based classifier is an essential task for clinical decision making on distributed biomedical databases. Since years, a large number of works have been implemented to predict the gene related diseases by manually analyzing biomedical documents. This manual process is not only time consuming, but also inefficient on high dimensional features. Generally, classification techniques have been used to classify a large number of biomedical data for gene related disease prediction. Detection and annotation of gene-disease based biomedical documents require an extensive computational resource with high true positive rate. Currently, a large number of gene classification models have been developed on a single biomedical repository with limited dimensional space. As the size of the biomedical documents increases in distributed biomedical repositories, corresponding gene-disease entities and dimensionality also increases exponentially. Therefore, there is an essential need for automatic detection and classification of gene-disease documents on the distributed biomedical dataset using Hadoop framework. Experimental results proved that the proposed automatic gene-disease classification model has high computational efficiency in terms of memory, time and statistical analysis than the traditional models.

Keywords—Biomedical, Gene-Disease, MeSH.

INTRODUCTION

Biomedical documents play very important role in the process of medical decision making as well as in treatment of gene related diseases. It can also be stated that, biomedical documents are very essential for both healthcare professionals and for researchers. In the biomedical databases, the named

entities (NEs) include genes, proteins, cells, drugs, chemicals, diseases, etc, which are frequently used in biomedical text for pattern analysis. Classification schemes are responsible for detecting and predicting several complex diseases by analysing biomedical documents for clinical decision making.

Initially, the document data give rise to features, and these features are evaluated in the process of document clustering. Mostly high-dimensional document space's hard to handle, pre-process and cluster due to large amounts of document sets. To improve the learning of the clustering algorithm, the numbers of samples are required to be learned according to its dimension. Conceptually, this document space is a sub-space of low dimensionality, and it is wrapped with ambient space. Due to this dimensionality issue, many dimension reduction methods were developed to resolve the above problem. The main objective of this method is, to decrease the document dimensions and enhance the performance and efficiency. Thus, through dimensionality reduction methods, dimensional feature spaces of high-dimensional documents are minimized so the conventional Clustering schemes are used to achieve the better clustering performance. Principal Component Analysis (PCA) and Linear Discriminate Analysis (LDA) are two most used techniques for feature selection and dimension reduction [2]. These algorithms are implemented in the various fields such as pattern recognition, text mining and gene extraction and data analysis. In supervised machine learning algorithm, training data are required for the process of estimation or prediction.

Classification can be defined as a special kind of learning model which is responsible for categorization of different gene-disease datasets. These datasets are classified into set of finite or infinite classes. Apart from supervised and unsupervised machine learning approaches, there are two other machine learning techniques generally used for classification are: - regression and clustering. A learning function generally maps original data into their real-value

ANALYSIS OF CAPACITOR VOLTAGE BALANCE IN MULTILEVEL INVERTER

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Abstract - A redundancy balancing technique for the five-level diode-clamped inverter is presented, which balances the four dc-link capacitor voltages at high modulation index and high power factor. The technique is based on dividing the vector space of the five-level inverter into six two-level vector spaces. Dwell times are calculated as for conventional two-level space vector modulation, and the switching sequence is determined depending on the four capacitor voltages, using a redundant state method. The proposed technique maintains link capacitor balance for high modulation indices, including over modulation, irrespective of the power factor. The proposed algorithm is validated by simulation and practically. The results obtained from the MATLAB/SIMULINK is tabulated to compare the total Harmonic Distortion (THD) for different modulation techniques.

Key words-Five level Diode Clamped Inverter, Capacitor Voltage balancing, Three level boost converter, Modulation Index, Total Harmonic Distortion (THD).

I. INTRODUCTION

Multilevel inverters suffer from dc-link capacitor voltage imbalance problems at high modulation indices. Many techniques have been proposed to solve this problem one of these techniques is the redundant state method. This method has power factor and modulation index limitations when used on a five-level inverter. The proposed SVM technique offers capacitor voltage balance at high power factor and high modulation index by using a state redundancy method. To address the above mentioned issue multilevel inverters is emerged as an important alternative in high power and medium voltage control. There are three multi level inverter topologies among them diode clamped inverter is extensively used by many researchers. The main advantage of multilevel inverter is to increase the power rating, lower harmonics and synthesized sinusoidal output waveform. To address the above mentioned issue multilevel inverters is emerged as an important alternative in high power and medium voltage control.



A Novel Approach for Noise Extraction from harmonic Polluted Currents applied to Power Filters

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ABSTRACT

Discrete Wavelet Transform (DWT) is one of the most popular and powerful methods for extraction of noise and harmonic detection in field of digital signal processing. Extraction of fundamental component from harmonic polluted currents and voltages using wavelet transformation and multi resolution analysis are discussed in this paper. The proposed method uses current signals directly converted into frequency domain for extraction of noise from them. The fundamental component of signal thus obtained is compared with the traditional instantaneous reactive power theory based synchronous reference frame algorithm. The Daubechies wavelet (db25) is used for analysis with decomposition level of 8. The proposed method has been simulated and verified using MATLAB/SIMULINK toolbox. Simulation results are presented in this paper and confirm the ability of this technique in power system harmonic extraction and fundamental component re-construction.

KEYWORDS: Wavelet Transform, Harmonic Detection, dq0 Transformation.

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I. INTRODUCTION

Current harmonics that are produced due to the non linear loads connected in power systems will cause many undesired effects like unnecessary heating of conductors, increased losses, and reduced efficiency of the apparatus. These problems are most seriously to be considered when these nonlinear loads are supplied with isolated generating units like diesel generator sets. As the source current contains harmonic components, these harmonic currents when flows through the windings of alternator cause undesired effects in the machine, in turn disturb the equilibrium of the machine. Passive LC filters are the most commonly used for mitigating the current harmonics that

were present in the source current. The drawback of these filters is that its size increases as the magnitude of current that it is to be compensated increases and increases its cost also. So it becomes uneconomical to use passive filters for current filtering purposes. One of the other available options is to use active power filter (APF).

APFs are used for the same purpose in place of a passive filter and are economical when compared to passive filters of same power rating [1]. Schematic diagram of a Three Phaseshunt APF is shown in Figure 1.1. For the schematic it is evident that the circuit of a shunt APF contains a Voltage Source Converter (VSC) and a Control Circuit to control the switches of VSC. Many researches have proposed control schemes for control of switches



Grid Interconnection of Distributed Generation System with Power Quality Improvement Features

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ABSTRACT

This paper presents the modeling and control of grid interfaced Distributed Generation (DG) system with embedded active filter function. The output of the DG is given to the DC side of the Voltage Source Inverter for interfacing to the Grid. In the presented work, the features of Active Power Filter have been incorporated in the control circuit of the current controlled voltage source inverter interfacing the DG to the grid. Thus the same inverter is utilized to inject power generated from DG source to the Grid and also to act as Shunt Active Power Filter to compensate for load current harmonics and reactive power demand. Thus, after compensation, the Grid current is sinusoidal and in-phase with Grid voltage. The entire system is modeled in MATLAB/SIMULINK environment and simulations carried out to verify the operation and the control principle. Various simulation results are presented for the proposed Grid interfaced DG system.

Keywords: Active and Reactive Power, Distributed Generation, Utility Grid, Pulse Width Modulated Voltage Source Inverter

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I. INTRODUCTION

The rapidly increasing global energy consumption has become a matter of great concern for both utilities and the end users. The fossil fuels which are the primary sources of electric power cause serious environmental pollution and moreover these fossil fuels are on the verge of extinction. Hence, a transition from conventional energy systems to more cleaner and secure energy is necessary to alleviate energy crisis and to address environmental concerns. Distributed Generation (DG) are rapidly increasing across the globe because they can meet the increasing power demand while complying with the environmental regulations of low emissions [1, 2].

Interfacing the DG to the grid presents a quite different and challenging scenario because unlike the conventional system, the DG cannot be directly connected to the grid. A power conditioning interface between the DG and grid is required to match the characteristics of DG and the requirements of the grid connections such as voltage, frequency, active and reactive power control, harmonic minimization etc [3,4].

The increased use of non-linear devices results in many power quality problems in the power system network. These non-linear devices not only increase the reactive current but also generate significant current harmonics giving rise to non sinusoidal current and voltage waveforms at the point of common coupling (PCC). The increased reactive power and non-sinusoidal supply voltage



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E-Commerce and it impacts on world market trend

Author(s): Dr. P Subbarao

Abstract: This paper analyzes the estimation of internet business in the present worldwide economy while likewise distinguishing e-chance. The estimation of web based business incorporates its instrumental part in the worldwide commercial center, the advancement of virtual organizations, and the novel openings it furnishes for connecting advertisers with purchasers. Many economists and consultants believe that in recent years a revolution has occurred like the economic revolution that the planet has entered the data age. It makes giant changes within the economic social and cultural aspects. One facet of this transformation is changes in economic relations between people firms and governments. Industrial exchange between people that had been supported paper documents to transactions of by America the systems supported electronic info. During this article we are going to discuss the advantages of e commerce and its impact on the market.

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Redundancy Elimination of Stationary Image Using DWT

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Abstract: In present days, medical images and medical records are being stored in repositories so that physicians can engage in accurate diagnostic. Thus the repository requires large storage capacity and this kind of system is very expensive. So, "COMPRESSION" is one of the techniques to solve this problem. The main idea behind our paper is to compress an image, so that we can use the storage space effectively. In our project we are using lifting base DWT which is ideal for compressing images. The reason behind choosing the Lifting Base Algorithm is, complexity is reduced when compared with other algorithms and provides an efficient way to compute wavelet transform. The image compression analysis has been done by using the design metrics Peak Signal to Noise Ratio (PSNR), Mean Square Error (MSE).

Keywords: Compression, Lifting Scheme, Compression ratio, PSNR

I. Introduction

Uncompressed multimedia (graphics, audio and video) data requires considerably large storage capacity and transmission bandwidth. Despite rapid progress in mass-storage density, processor speeds, and digital communication system performance, demand for data storage capacity and data-transmission bandwidth continues to outstrip the capabilities of available technologies. The recent growth of data intensive multimedia-based web applications have not only sustained the need for more efficient ways to encode signals and images but have made compression of such signals central to storage and communication technology. Image compression research aims at reducing the number of bits needed to represent an image by removing the spatial and spectral redundancies as much as possible. Image compression is the application of data compression on digital images. The objective is to reduce redundancy of the image data in order to store or transmit data in an efficient form. The compression in an image reduces the cost of storage and increase the speed of transmission.

There are two types of image compression techniques namely lossy and loss-less.

- The lossy type aims to reduce the bits required for storing or transmitting an image without considering the image resolution.

- The lossless type of image compression focuses on preserving the quality of the compressed image so that it is same as the original image.

Though in lossy type there is some loss of data this loss cannot be noticed by the signal receiver, namely the Human Visual System (HVS).

Previous Methods:

One of the most commonly used techniques for image compression is DCT as it has strong energy compaction property. DCT has the property that, for a typical image most of the visually significant information about an image is concentrated in just few coefficients of DCT. After the computation of DCT coefficients, they are normalized according to a quantization table with different scales provided by the JPEG standard computed by psycho visual evidence. Selection of quantization table affects the entropy and compression ratio. For the lower compression ratio, the distortion is unnoticed by human visual perception. In order to achieve higher compression it is required to apply quantization followed by scaling to the transformed coefficient. For such higher compression ratio DCT has following two limitations: (i). Blocking artifacts (ii). False Contouring. Due to the disadvantages in DCT like blocking artifacts and false contouring we get degraded image. Hence in our proposed method we are trying to get rid of these false effects. In this paper, we are using Lifting Wavelet Transform. This transform generates an output which has better resolution when compared to previous techniques. The output image are said to be better resolute with respect to their PSNR values. The more is the PSNR value the greater is the resolution.

Proposed Method:

In this proposed method compression of an image is done using lifting base 2-D DWT. We have used lifting scheme of wavelet transform for compression because lifting scheme is having following advantages over conventional wavelet transform technique.

Fabrication of Piezoresistive MEMS/NEMS Nano Material Coated Cantilever and Their Resistance Response Based on Analytes Using OmniCant Experimentation

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Abstract

Nano technology playing a vital important role in the field of environmental, medical, electronics, etc., this paper, especially presented about NEMS piezoresistive cantilever to observe the behavior and response based on the different types of material coatings and analytes. Here we have used some combination of materials coating of cantilever like silicon, polyvinylpyridine, *6-mercaptopicotinic acid*, with combination of analytes to observe the response and behavior, which is useful for some of the applications. NEMS cantilever Experimentation is carried out from OmniCant with different changes of temperature with flow rate and compared resistance versus time for all the materials with analytes. OmniCant is a compact useful device which assists as an all-in-one solution with integrated gas flow control, temperature control and sensor instrumentation system along with real time display and data logging. The product has good features for designing different types of metric cantilevers specifically for conducting sensing experiments on target analytes and for understanding the response and the nature of Nano-Cantilever Sensors under the influence of various physical and chemical factors. Finally we can observe and variation of resistance for different coated materials with different analytes for the applications.

1. Introduction

In piezoresistive nano cantilevers, piezoresistor has been introduced in them, which shows a change in resistance when the cantilever turns. By measuring the alteration in resistance using an adjusted electrical circuit, cantilever evasion can be determined. The recognizable proof operation procedure of nano cantilevers would be

HEALTH MONITORING SYSTEM USING IOT

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Abstract

The main concept of this project is to create a low cost affordable health monitoring system for people in remote locations where availability of specialist doctors is not possible. This system is portable. Low cost and can be easily operated by anyone with limited knowledge. Also this concept is developed using IoT, so that we can send the data to a remote server from which it can be accessed by doctors. This project is designed using Arduino mega 2560 microcontroller development board, ADS1292r ECG shield, LM35 industrial grade temperature sensor, ESP8266 Wi-Fi controller chipset, 16X2 LCD Display. The ECG shield and LM35 are generating analog output, so they are interfaced to the analog pins of Arduino Mega. Using the Pulseoximeter, we can get the Pulse rate and BP. All the above readings (ECG graph, Blood pressure, Heartbeat, temperature) are read through respective pins and are stored in various variables along with displaying on LCD locally. An account has to be created in any one of the IoT platforms like Allthingstalk, Thingspeak, Smartliving, IBM Bluemix etc. The credentials of the IoT account like Username, Device-Id, Asset-Id, Secret key etc., has to be noted down to be added in the Arduino program. In the Arduino program, the above credentials are added along with unique pin numbers for assets (Parameters) to be differentiated. The parametric readings from above procedure which are stored in various variables along with their respective pin numbers (to identify them) are transmitted to the IoT account using ESP8266 Wi-Fi interface. Then the IoT platform processes them and adds to the previously stored values to log data. The logged parametric data can be accessed from anywhere by accessing our IoT account. Also, we can add multiple users to a single account to monitor data like remote specialis-t doctors etc.

1. INTRODUCTION

Previously it is impossible to monitor the patient by doctor in remote areas during critical conditions. So we introduced a method which continuously monitors the patient condition and automatically sends the data to server, so the doctor can access the data continuously and we can intimate caretaker when patient is in critical

Asymmetric Ground Circular Ring MIMO Antenna for UWB Applications

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Abstract—A Two-element antenna with defected ground structure is designed and analyzed. The designed antenna operates at the frequency range from 3.6-11.0GHz. The antenna covers the UWB frequency range nearly. The antenna is used for covering the many application like WiMAX, WLAN, etc. The proposed antenna uses a partial ground plane with two rectangular grooves which lie exactly below the respective 50 ohms microstrip feeding lines to obtain enhanced antenna's impedance bandwidth 102% from 3.6-11GHz. The antenna shows the maximum gain of 5.4dBi at 8.7GHz. Antenna has been analyzed through HFSS software and parameters such as reflection coefficient, e-field and radiation patterns and current distributions have been discussed. The results states that the antenna is best suitable for the hand-held applications and portable mobile applications in the day to day life at ultra-wideband technology.

Keywords—ultra wideband range, notch band, defected ground structure, multiple input and multiple output, mutual coupling.

I. INTRODUCTION

The Ultrawideband wireless communication link with high data rate with reliable communication link capability are in great requirement for current growing wireless applications [1]. High data communication links at present and future generations of wireless communication links without enlarging the power levels or frequency can be attained by installing multiple antennas at the base station terminals. To employ multiple antenna terminals at both the transmitter end and receiver end these configurations can be called as multiple

input multiple output and can be used to attain multipath propagation. MIMO technology has sustain significant attention by the researchers in the recent years, this technique provides high data rate, spectral efficiency and better reliability with the same bandwidth and has a better ability to overcome multipath fading in rich changing environment. Even though MIMO can improve the reliability and capacity of wireless communication systems but the mutual coupling between the antennas degrades the MIMO performances due to improvement in the signal correlation between multiple radio signals [2]. The mutual coupling can be degraded by placing multiple antennas with large spatial displacements, but it intercepts the realization of transceiver [3].

The important condition of the MIMO antenna technique is to multipath has been uncorrelated. For this reason, the MIMO antennas are organized in such a way that each antenna element is independent to one another. However, the mobile devices are moving towards small and thin dimensions, so the separate antennas cannot be placed far enough to reduce the correlation between the different signals. The antenna diversity, which includes angular diversity, polarization diversity, and frequency diversity, is proposed to overcome the challenges. MIMO antenna with two planar-monopole antenna elements has been presented in [4] for UWB applications. Design of microstrip line feeding is used for feeding the two antennas are placed orthogonally. MIMO antenna for UWB applications has been presented in [5]. The proposed structure is having two same radiating elements with 50 ohms Microstrip lines and placed on partial ground plane.

An Autonomous Forest Fire Detection System Based On Spatial Data Mining and Fuzzy Logic

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Summary

The need for data mining applications in describing, explaining and forecasting spatial patterns has been on a steady increase owing to the huge rise in the number of civilian satellite repositories and the efficient utilization of remotely sensed earth observation data for the study of earth system. Fire is one of the major causes of surface change and happens in the mass of vegetation zones across the world. Forest fires are key ecological threats that lead to deterioration of economy and environment besides endangering human lives. The motivation behind this paper is to obtain beneficial information from spatial data and use the same in the determination of spots at the risk of forest fire by utilizing data mining and artificial intelligence techniques. In this paper we have proposed a novel approach to detect the forest fire automatically from the spatial data corresponding to forest regions with the aid of clustering and fuzzy logic. Initially, the digital satellite images are converted into CIE Lab Color Space and clustering is performed to identify the regions showing hotspots of fire. A fuzzy set is formed with the color space values of the segmented regions which are followed by the derivation of fuzzy rules on basis of fuzzy logic reasoning for the detection of forest fires. The proposed system has been evaluated with the help of publicly available spatial data corresponding to forest regions.

Key words:

Spatial data mining, Remote Sensing, Forest Fire Detection, Clustering, K-means clustering, CIE Lab Color Space, Fuzzy logic, Fuzzy set, Fuzzy rules.

1. Introduction

The combination of Databases, Artificial Intelligence and Statistics has led to the evolution of a contemporary field called Data Mining. This field has attracted voluminous research in the recent times. Knowledge discovery in data bases comprises of several precise steps. Data mining is the core step that leads to the identification of hidden yet beneficial knowledge from enormous amount of data. Knowledge discovery in data bases can be formally defined as: "The non trivial extraction of implicit, previously unknown and potentially useful information from data" [1]. A data mining system involves diverse user categories thus the user behavior needs to be a constituent

of the system [2]. In general, data mining is classified into two categories namely descriptive and predictive data mining. The process of drawing the necessary features and properties of the data from the data base is called descriptive data mining. Some examples of descriptive mining techniques include Clustering, Association and Sequential mining. In case of predictive mining patterns from data are inferred so as to make predictions. Common predictive mining techniques include Classification, Regression and Deviation detection [3].

Data mining techniques have been successfully applied in many different fields, including marketing, manufacturing, process control, fraud detection and network management besides a variety of data sets like market basket data, web data, DNA data, text data, and spatial data [4]. The automated discovery of spatial knowledge is emphasized by the explosive growth of spatial data and widespread use of spatial databases [5], thereby leading to an increasing interest in mining interesting and useful but implicit spatial patterns [6, 7]. Mining knowledge from large amounts of spatial data can be referred as Spatial data mining, which is a demanding field since huge amounts of spatial data have been collected in various applications, ranging from environmental assessment and planning, remote sensing to geographical information systems (GIS), computer cartography [8]. The existent knowledge, the space relation or other meaningful modes of the space database are extracted by the spatial data mining technique. The mining of the synthetic data and spatial database are necessitated by spatial data mining [9]. The systematic structure of spatial data mining is depicted in Figure 1.

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A Hybrid Nonlinear Integrity Based Intrusion Detection Model for Dynamic WMNs

Cintre Simmi and M. Nagabhusana Rao

Abstract:

Due to the advancement of technology and rapid usage of internet, wireless mesh network is getting more vulnerable day by day. As the size of the wireless mesh network increases, it is difficult to provide data security and the node authentication to the entire network. Both insider attackers and outsider attackers are trying to access sensitive and confidential network information in the wireless mesh network. In WMNs, each mesh client is initialized to check its neighbors authentication against various types of attacks such as Active attacks, Passive attacks and message distraction. Most of the traditional node authentication models in WMNs require high computational memory and resource constraints for data security and node authentication. In order to overcome these problems in the traditional models, a novel non-linear integrity based intrusion detection model is designed and implemented in TOPTNET. This work shows a modified model

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Detection and Prevention of Internal External and Chain of Black Hole Attack Using Iecbhdp Methodology

Marepalli Radha and M. Nagabhusana Rao

Abstract:

A multi-hop wireless ad-hoc networks interconnects each and every node without any base stations or centralized management which is called as Mobile Ad-hoc Networks (MANET). It faced various security attacks that are conceded out contrary to them to interrupt and disturb the usual functioning of a network. The attack of blackhole is the full risky active attack once arises in a network; it drops the data packets during communication of data in MANET. In this study, we suggested a innovative method known as Internal-External and Black Hole Chain Attack Detection and Prevention (IECBHDP) to provide security and authentication for black hole attack in MANET. The internal attack is detected if a false reply is received by a node within the network and an external attack is detected when a false reply is received by a node outside of

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Internet of Things on Smart Villages

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Abstract

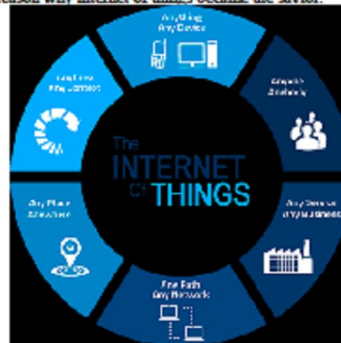
The idea of internet of things plays an important role in the development of future technology. IOT is the basic vision for the future success growth in finding the new technologies. The logical basis for a course of action behind the IOT working is the result of combining or uniting all the sources of communication technologies. All the devices which are present in the system are made to function with each other, just to perform their job in a balanced manner. Due to the increase in population, it lets the city and villages to facilitate and function in a better and smarter way. Therefore, above lines put together a reason for the invention of idea of smart cities. For this to work, these cities performed two different functions. First function is all about only fetching the information from both sensors and other remote devices. Second function analyzes the information which is observed from the above function and appropriate actions are made. This paper explains the idea about smart villages, it is focused completely on villages to study them and then provide the solution for those affected areas. It also helps in the improvement of their quality of life.

Keywords: IOT, Sensors, RFID, WSN, Smart Villages.

1. Introduction

The IOT have the capability of describing world wide network of some trillions of objects which are actually collected from the world wide physical environment, that can be spread or promote widely by the internet and are transmitted to the end users finally. Users can connect with these smart objects by internet and can make queries for needed. Their objective is to generate a wide network which contains of different smart devices which facilitate data of sharing about the worldwide things at anywhere and time easily. Internet of things will lead in the fore coming technology in communications it plays the main role in the concept of idea of smart cities and villages. It allows all the components which are in the system to act in smarter terms for smooth functioning of the system by interaction and coordination with each other. These items are associated through the remote system. The said devices will be appended with clever decision making parts. There are diverse advancements which are utilized as a part of IOT which are named as RFID, Cloud Computing and so on. RFID is determined as the Radio Frequency Identification. It's really doled out to identify labels with different items. At that point these labels will transmit the data which is as of now read by RSID reader and it will be utilized by the necessity. These labels at that point transform the typical items into intelligent devices. Indeed, even the Sensors assume a principle part in IOT in which they are utilized to gather and interfere with the information from different assets. The 3s innovation mostly comprises of Global Position System both Geography Information System and Remote Sense play an important role in telling about the whereabouts of the diverse devices by utilizing some kind of sensors and satellites and so forth lastly process that data. Also Wireless Sensor Network (WSN) are used to transmit the data in IOT. Cloud administrations gives systems and assets to data warehousing and calculation which are incorporated into the WSN. The cloud services are basically loca-

tion independent. These services are supplied immediately when they are required and this can be done easily. The technology of internet of things has created the concept of smart cities. This concept is offering a neat and efficient way to implement the technology of IOT by introducing this technology particularly in all categories of jobs of modern cities in the day to day life. The devices like computer and mobiles are connected conventionally by the internet. Similarly, internet of things connect all the possible devices which in turns as a smart device i.e tag as a smart device. These devices which are stated above will interact among themselves and do the operations accordingly. In country like japan the devices are mainly used to interrelate each other through out the internet. Similarly, developing country like India where there is a rise in a population, due to this the necessity had grown up for the use of available resources in the best possible manner. The more efficient usage of resources had made the demands increasing, this is the reason why internet of things became the savior.



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Visual Safe Road Travel App Over Google Maps About the Traffic and External Conditions

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 [Cite this publication](#)



Dr S.Hrushikesava Raju



Dr M.Nagabhushana Rao



Dr N.Sudheer



Dr P.Kavitharani

Abstract

In travelling on the roads, Most of our people might get accidents because of lack of road awareness and the traffic potential, also this unpredicted traffic leads to delay in the predicted travel duration. To avoid this kind of odd experiences, the proposed work focuses on the vehicle load characteristics in the available road paths traffic that is existing in the distance of 2-3 kilometers. The characteristics dealt here are vehicle load moving in the same direction as well as vehicle load moving in the opposite direction, danger zones, any wild turns, floods status on the road, group of animals crossing or on the road, any road works intimation, any bridges or flyover conditions, any situational areas like forests, high mountains, lack of public in the areas in the coming 2-3 kilometers in that road if it is two way path in the same road or separate paths infrastructure available. This is more secure because authorized users only will use this kind of facility where users are authorized by their Unique aadhar Number along with their family member details.



Temperature based fan speed control and observing utilizing arduino

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Abstract

For the most part in various climatic conditions individuals will attempting to control the speed of the roof Fan in their room by physically controlling the Fan controller. Yet, by doing this physically is somewhat repetitive undertaking and not exact. Switching Fan regulator more often through manual control may damage the regulator and sometimes leads to current shock. The above discussed problems can be avoided by implementing the speed control mechanism of the fan in automatic way. A sensor is placed in the room to sense the room temperature in degree centigrade. As indicated by distinguished temperature a control circuit will control the speed of the fan. On the off chance that the room temperature is all the more, at that point the speed of the fan will increment. In the event that the room temperature is less, at that point the speed of the fan will naturally diminishes by the control circuit. The innovation OR the circuits utilized as a part of this undertaking are temperature sensor like LM35, and an arduino UNO.

Keywords: Fan Regulator, Sensor, LM35, Arduino UNO.

1. Introduction

As of late, the home indoor environment has seen a quick presentation of system empowered computerized innovation. This artificial Technology offers new and emerging chances to expand the network of devices inside the home with the end goal of home mechanization [1]. Nonetheless, the appropriation of home mechanization frameworks has been moderate. Thus, this work is a Standard programmed fan speed controller that controls the speed of an electric fan as indicated by our prerequisite. Utilization of Embedded innovation influences this shut circle input to control framework proficient and solid. Miniaturized scale controller permits Dynamic and quicker control. Fluid precious stone show (LCD) makes the framework easy to use. The detected temperature and fan speed level esteems are at the same time shown on the LCD board.

This undertaking is an independent programmed fan speed controller that controls the speed of an electric fan as indicated by the necessity. Utilization of implanted innovation influences this shut circle criticism to control framework effective and solid. The microcontroller (MCU) ATmega8/168/328 permits dynamic and speedier control and the LCD makes the framework easy to understand. Detected temperature and fan speed levels are all the while showed on the LCD board. The undertaking is extremely smaller and utilizes a couple of parts as it were. It can be executed for a few applications including aeration and cooling systems, water-warmers, snow-melters, stoves, warm exchangers, blenders, heaters, hatcheries, warm showers and veterinary working tables. The task will help spare vitality/power [9].

2. Fan speed control system components

The arduino is the core of the framework. It acknowledges contributions from the temperature sensor, LM35 which takes into account the estimation of the present room temperature, at that point the controller will give the activity to keep up the required fan speed [4]. LCD is utilized to show the fan speed and room temperature. These can be condensed in a chart as appeared in Fig. 1

2.1. Fan speed control system

A low-recurrence beat width tweak (PWM) flag, more often than not in the scope of around 30Hz, whose obligation cycle is changed to alter the fan's speed is utilized. An economical, single, little pass transistor can be utilized here. It is effective in light of the fact that the pass transistor is utilized as a switch.



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An intelligent approach in parking system for car parking guidance and damage notification in light of GPS

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Abstract

Every motorist dreams for a vehicle which can stop itself with negligible help from the driver. This paper introduces a smart approach in stopping framework (IPS) that has two capacities: Car stopping direction and auto harm notice. IPS is a propelled programmed driving framework which offer stationed support to the vehicle drivers when the vehicle has been stopping. Intelligence parking system (IPS); adjusts the intrigue responsibilities which ensure smooth stopping, by empowering GPS construct application that keeps running in PDA light which facilitates the vehicle drivers for detecting the remote placing spot, wig out harms, stopping inside an appropriate spots in very low time & grasping a warning when it stopped auto can be harmed when there is no person in that auto or vehicle. Amid stopping procedure, person has alarmed with the help of perceptible and signals of sound. A harm warning framework encompasses the vehicle or auto; camera and sensors at before and back side of an auto/vehicle which observes the all the things even the drive is not there.

Keywords: Control Car System; Path Planning; Client Device; Damage Notification

1. Introduction

With the progression in current life, the measure of autos is developing quickly and stopping for these turns into an issue in the swarmed urban ranges. People in general parking spot can't fulfill the expanding request. These days vehicles are utilizing present day electronic advancements, for example, GPS associations that assistance a considerable measure in enhancing the driver stopping abilities and decrease the hazard for auto harms. This paper proposes a creative and shrewd stopping framework which is the canny stopping framework that has functionalities of arranged direction stopping and harms notice for vehicles occurrences. This framework includes three primary components such as regulating an auto framework, auto moment program & a notice framework keeping in mind an end goal to have a protected and secure stopping process without harms, and in addition getting told when the auto is harmed while stopped in an uncontrolled territory. With the presentation of GPS and the developing fame of cell phones, the requirement for area based applications has expanded [1]. GPS is accessible to all anyplace and any climate condition with no charges. On the off chance that the driver is having GPS beneficiary in his telephone then he can without much of a stretch decide his momentum position on earth. It tells the correct position of the auto. The GPS speaks to the position as far as scope and longitude esteems. For a case, when a client needs to stop his auto at a close space to him utilizing any portable application, it is important to first decide the present area and after that find all the closest administrations to that position. Visual and sound signs caution the driver amid stopping process. The visual flag that shows up in the dashboard PC framework, trains the driver how to move into the spot. From the sound flag, he can know whether the auto is close to limits or not. Harm warning framework can be prepared by introducing the auto camera stun sensors to the front and back of the auto. At the point when the

driver begins the auto, it will transmit a red light. The driver can get to the warning through a show unit in the dashboard system

2. Motivation section & related previous work

Surviving automatic stopping autos ventures had been just implemented "Intelligent Parking System & Damage Notification". This GPS joined framework is to detect client's present area. A few vehicle producers, for example, BMW, Mercedes, Valeo and Siemens had begun including current advances inside autos for stopping direction [2].

2.1. BMW is self-parking system

Utilizing the stopping help innovation the auto can stop with no assistance from the driver. However, this innovation has an impediment that it doesn't work all over the place, since a few parts are required to be introduced in the auto and some in the assigned parking space [3]. An intelligent focal point must be introduced parking space contra mass & auto front side camcorder for measuring difference & auto edge in connection of focal point & different sensors guarantee to no less than auto left, right sides of 8 crawls room.

2.2. Toyota's intelligent vehicle parking assistance

Intelligent Parking of Toyota's Assistance comprises precise situated auto direction and a following calculation which regulates effectively stopping the vehicle [4]. framework operates utilizing wave sensors i.e ultrasonic which is in count of 4 introduced in guard edges. Implemented camera & provided sensor which gives direction introduced at vehicle back side. In wake of distinguishing of obstruction, when the sound wave/signal & perceptible flag are visible by light to the driver. Regulating sensor utilize given edge of guiding for distinguish available adjacent hindrances separation



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Quick Identification of Specific Activity by Processing of Large-Size Videos Using Advanced Spotter

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Abstract

Now-a-days, the most organizations are using cameras at all places in order to monitor the activities going in their daily works 24/7 type. The purpose of recording all activities is to provide security and safeness to the property of their organization, as well as to find out the thefts happened or to identify any odd behavior of person about the complained situation. In this context, It takes more time to watch the long length video in predicting the right entity. There were other methods which require witness of some persons and time of the day. It is a manual approach to check the scene in the video recorded. It is unreliable. The alternative approach proposed is usage of advanced spotter in which cameras with sensors were attached in all places. The benefits of this proposed study is automatic fixing of spot in the recording of the videos when the objects behavior is predicted beyond the normal level. Hence, this automatic approach helps to the organizations where less time taken to find out the odd scenes which are tracked by the advanced spotter.

Keywords: Organizations, spotter, recorded videos, time, automatic.

1. Introduction

In the olden days, there are many manual approaches to enquiry about some event happened which might involves robbery, theft, murder, identifying whether a person is attended the office or not in relevance to the case given, and etc. First approach is purely manual method in which the enquiry starts by interacting with many objects like persons to know about the truth of the happened event. This method is much waiting take taking process in solving the problem. The duration may be 1 day to few days to even a month. Second is semi manual method in which both equipment and persons interaction are involved. This method involves watching of equipment like web cameras in identifying the actuals and requires interactions with the persons. It is some-how better performance than purely manual method. It takes less time to predict the solution for the problem raised. To overcome delay in time to provide a solution for the event occurred, a novel method is required which is fully dependent on the equipment using spotter as a mark in the recording of a video and less dependent on interaction with required persons. This method has more accuracy in giving the solution for a given problem. There are many benefits of using advanced spotter software in the sensor-ed inbuilt cameras.

Here is a list of methods used in solving a problem ad their disadvantages and advantages are mentioned along with them.

Table 1. Comparison of methods used for solution

Method Name	Disadvantage	Advantage
Manual method	Requires persons response, time for the solution is not guaranteed, forgery may be	Solution might be dependant on persons related to the event occurred

	allowed	
Semi Manual method	Requires to interact with equipment like camera for watching the video.	1) It is better compared to manual 2) Solution guaranteed
Automatic Method	Dependent on the software in the equipment	1) Most better than earlier methods 2) Solution guaranteed

Among listed methods, automated method gives the result in less time and is not dependent on external people. Only operator is enough to give judgment about the specific activity happened.

2. Proposed Methodology

Here, the methodology taken is cameras with built in sensors using advanced spotter technology at the client side in order to get solution after the enquiry.

Here, the architecture and working functionality of this proposed model is brought out. Also, the advanced spotter software technology is developed using specific pseudo code.

The following specifies the pseudo code of proposed model:

Pseudo_Procedure Advanced_Spotter(Input Rvideo, Input SensorData):

Input: Rvideo, sensors
Output: video_with_spotters

1. First load sample clips in identifying and usage of tools or abnormal behaviors in the video recorded as an initial step.



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IOT Based Home Automation System with Cloud Organizing

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S Hrshikesava Raju



Dr M.Nagabhushana Rao



N Sudheer



P Kavitharani

Abstract



Agri-Iot: a Sustainable Environment for Improvement of Crops Revenue in the Field of Agriculture Using Iot

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Abstract

Agriculture is a field where farmers experience less income because of natural disorders like less rain fall, floods, lack of weather forecasting at the farmers end, unaware of technology to use for their crop benefit, lack of automatic functioning of equipment, lack of interconnection among the components involved in the process and most of other bad experiences. To lift the farmers life not only in the state's economy and also in any nation's economy, a technology to be needed that will help the crops to get yielding's in time without any delays, and also make merchants to contact the farmers directly by offering the high prices for the quality crop yielding's. The proposed technique called Internet of Things (IoT) is a new technology which is adapted for the agriculture field for increasing the farmers crop revenue. This developed IoT design in which components required such as sensors, motors, transmitters, and other required devices to function in the integrated collaboration of internet. The expected results are noted in the Results chapter and are found necessary for future generations of farmers. This design and functioning of the IoT for the agriculture is proven the best approach to follow in this modern world.

Keywords: Internet Of Things (IoT), sensors, software, crop yielding, results, process.

1. Introduction

In traditional culture, agriculture is one field where most of countries people survive their families with the revenue generated by their seasonal crops yielding. The most traditional crops the farmers crop are sugar cane, papaya, ground nut, rice, wheat, mango, bananas, lemon, musombi, coconut etc. In this traditional agricultural approach in earlier days, there is least number of new viruses which could damage the crop at the levels of crop growth. To strengthen the crop, traditional method follows supplying of cows, goats, sheep dungs, and some plants ashes like neem, and other trees leaves. In those old days, viruses are less and strength supplied to the crops is withstanding and expected what the farmers dreaming in their mind. But the world moving towards modern technology, new and new viruses are generating because unexpected nature which are mutable in nature cause damaging the farmer's crop. This results less income experienced by the farmers. In the agriculture field, so far less research is occurred. This research won't be helpful to the old generation of farmers' community. Now-a-days, enough research on agriculture crops is happened, new rules and regulations are framed for each kind of crop for increasing the crop's revenue. People also realized the value of horticulture. Now-a-days, there is enough staff available in the horticulture to help and guide the farmers in the growth of crops. New medicines are also invented and new seeds also invented for welfare of crops so that farmers can get the yielding are in time without any delays.

But still there is no generation of good income because of poor marketing and its direct price. To provide good revenue and income to the farmers in the field of their crop growth and selling its yielding in the global market, A new technology Internet Of Things(IoT) is required which is an essential technology required for the farmers now-a-days. This IoT is to be explained in Proposed Chapter with its detail functioning, communication between the farmers and nearest agricultural office hubs having officers called specialist experts about weather changes and supply of enough agricultural medicines to the crop growth, communication about the their farmers crop to the their cell phones, duration of exact cutting of crop, and outputting of good revenue to their crop in the global market. The technology IoT benefits the farmer community a better compared to traditional or semi-traditional agriculture. How the benefits will be achieved is to be discussed through Proposed Chapter. The traditional agriculture is to be functioned based on following architecture. The architecture describes about inputs to be given for the type of crop like soil prepared to be ready based on season, water supply at right times, complexes to be supplied for crop growth, and other factors like external animals like birds, monkeys, pigs to spoil the crop at the cropping time and etc.

This traditional agriculture architecture is dependent more on man knowledge and nature smoothening. This will yield worst crop if natural hazards occurred, delays in supplying right proteins and lack of right supply of water. To overcome these problems in traditional agriculture, modern agriculture using Internet Of Things (IoT) is preferred. The detail explanation about IoT is discussed in Proposed Chapter.



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Smart Green House Based on IOT

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Abstract

In conventional strategy for cultivating, human works was necessary to see the greenhouse at particular point want to observe all the required levels physically. The regular technique is observed to be slow and require a large amount of effort and energy. Along these lines this analysis around building up a framework that can consequently screen and anticipate various changes in light, temperature Soil moisture and humidity levels of the greenhouse. The goal of the survey is that to build up a programmed monitoring device observing framework utilizing sensors and send email warnings and messages to the mobiles. The recommended framework has an estimation which equipped for identifying the levels of light, temperature, soil moisture and humidity. The framework additionally had an instrument to caution agriculturists with respect to the limitation change in the conservatory then safeguard measures can be taken in advance. In this examination, a few experiments was directed to a particular final aim to demonstrate the suitability of framework. Test outcomes showed that the dependability of the framework in spreading data straightforwardly to the agriculturists could be picked up astoundingly in different conditions

Keywords: Microcontroller, different sensors, ESP8266, email notifications.

1. Introduction

1.1 Contexts

A nursery is constructed by the crystal or plastic housetop and intermittently crystal or plastic dividers, objects are the inner parts of that place. In different meaning, a nursery is the construction ordinarily build with the crystal or plain synthetic that gives confirmation and a managed area for growing plants it warms up in light of the way that moving toward sun powered radioactivity from the daylight that can warm soil, plants and alternative inner parts. water is one of the basic segment in human life. Lack of water leads to the problem in sustaining ourselves. Although we likely mindful, an expansive bit of the horticulture laborer occupations manual structure towards their plant in the plant besides, in addition to that nursery. The structure is unsuitable. Exactly when it is done physically, the likelihood to gain a couple of plant that can choke. In ask for to vanquish the issue, modified nursery had been used

1.2 Purpose

The primary target of the particular undertaking is to consequently manage the framework in plant house utilizing humidity, temperature moisture and light sensors. The worry with a great deal of shopper require and interest of farming items has animated mindfulness in the group of agriculturists that expands their items in the marketplace by executing development in the particular industry. The items which are essential that can go to the agriculturist's advantage that manages the utilization for the regular resources and regular habitat that manages farming with different perspectives. In this paper utilizes different sensors and ESP8266 for email notifications and messages to the user mobile benefit to whole data from the greenhouse with sensors specifically alarm

the agriculturists to their portable telephone. In this manner, this issue makes agriculturists' intrigue to actualize agro conditions sending alarm warning messages to farmers utilizing ESP8266.

1.3 Scope

This paper includes the advancement of light, temperature, moisture and humidity naturally. The programmed managing of the limitations in the framework is utilized as a part of a greenhouse. sensor used for changing the temperature will be LM35. this framework ought to likewise screen the climate level. The programmed checking framework can be actualized in different conditions, for example, in checking temperature, humidity, light also, soil moisture levels. This paper concentrates exclusively in checking different levels of the limitations in the green house. By using the present innovation, The characteristic condition also, asset whatever we receive normally, the temperature is exceptionally essential standards of plants that should be checked productively. Already, people work has the major role in checking cultivation. For a few significant plants similar to veggie lover what's more, blossoms shrubs, which require a day consideration from the people then the shrub amounts what's more, characteristics are controlled with appropriate administration by the gathered information what's more, data from the fields. It will give huge establishment for further growth what's more, future advancement of their plants in the green house. Be that as it may, with the expanding estimate in cultivating regions, this type of manual home is increments time devouring what's more, cost of the work. In any case, with the development of administration in farming procedures and with present day media transmission advancements which furnish extraordinary help by the execution in farming production



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Security Issues and Challenges in IOT: a Comprehensive Study

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Abstract

The Internet of Things (IoT) is a revolutionary model, with rising wireless sensor network technology. In IoT network devices are connected and communicated with each other or with human. IoT is extremely available to security assaults. In recent years, the internet of things has a continuous support in research. In the upcoming scenario, IoT will play an important role and changes our day-to-day life, principles as well as industry models. In this paper we provide ensuring security of data exchange, IoT architecture and IoT Security architecture, applications, drawbacks of IoT. We study about various security issues, Problems, normal and Denial of service attacks in different layers, issues and research defy in IoT are also discussed.

Keywords: Internet of Things; Security; Challenges; Open Issues.

1 Introduction

Computer technology will drastically change every aspect of human life which gave rise to the Internet of Things. It is the hot research topic in the real world scenario, which reduces the human intervention in performing the actions. It is also coined as IoT; it is a cutting-edge technology which provides the concept of communication between the intelligent objects. According to the Technology, IoT is not new for us by its name, it collects data from different things and converge it to any virtual platform works on infrastructure connected to internet.

The Carnegie Mellon coke Machine is the first machine that is connected to the internet of a computer which tracks on how many bottles were left and could measure the level and reports whether drinks were cold which gave rise to IoT in the year 1982. In 1999, Mark Weiser gave rise to the concept of ubiquitous computing; Bill joy gave a hint for device to device communication, IoT is projected by Kevin Ashton [1].

The fundamental initiative of IoT is to permit exchange of valuable and valid information between the real world entities or objects or things around the world. IoT can be developed by using the RFID and WSN technologies in sensing and decision making on the situation and automated action is to be performed.

1.1 What is Internet of Things?

The main motto of Internet of Things is to unite more and more devices to the Web and the Storing the data using cloud, where the devices converse themselves to gather the information and to interrelate with the environment around them. Internet is the vast area where many computers are located to exchange the infor-

mation throughout the world. The things are objects or devices. Exact definition for IoT is not existed; **Internet of Things** is defined as the interconnected devices or objects which exchange the information to complete task in a smarter way. IoT is implemented in many areas like transportation, logistics, healthcare, agriculture and building smart homes.

1.2 Architecture of Internet of Things

There are many types of architectures three layers, four layers and six layers but figure1 represents five layered architecture consists of business, Application, Middleware, Network and Perception Layers[2]. Each Layer is discussed briefly:



Figure 1: Five Layer IoT Architecture

Business Layer: Business layer is liable to improve research in IoT and support the services and applications of IoT. It builds different business strategies used in effective manner and business models.

Application Layer: This layer is used to develop applications for different industry sectors based on the data which is stored and processed. It promotes the increase of IoT in the large scale environment.



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Collaborative filtering-based recommendation of online social voting

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Abstract

Social voting is becoming the new reason behind social recommendation these days. It helps in providing accurate recommendations with the help of factors like social trust etc. Here we propose Matrix factorization (MF) and nearest neighbor-based recommender systems accommodating the factors of user activities and also compared them with the peer reviewers, to provide a accurate recommendation. Through experiments we realized that the affiliation factors are very much needed for improving the accuracy of the recommender systems. This information helps us to overcome the cold start problem of the recommendation system and also y the analysis this information was much useful to cold users than to heavy users. In our experiments simple neighborhood model outperform the computerized matrix factorization models in the hot voting and non hot voting recommendation. We also proposed a hybrid recommender system producing a top-k recommendation inculcating different single approaches.

Keywords: Matrix Factorization; Nearest Neighbor; Recommendations; Recommender Systems; Social Voting.

1. Introduction

The Internet rein has arrived and is ruling the needs of the human. From booking a flight ticket to ordering vegetables everything has a website or an application to make use with. In such vast and soon developing period, customers decision making ability is also getting effected. So, the main aim of any business website let it be with e-commerce, or a movie website is to provide the users with accurate information by using an efficient recommender system

Recommender system is basically an algorithm used to provide the user or the customer an accurate suggestion of the product or a movie review/rating they have been looking for [1]. This is basically done in two different ways, one of which includes suggesting a relevant item based on the user's history which is his/her previous activity related to it (Personalized method). Another one is the non-personalized method which can be described as the seasonal sale that is prediction based on stock availability.

Many Recommender systems basically work on collaborative filtering. Collaborative filtering is one of the best method and a backbone method of today's social recommender systems [2]. In this fast-growing era, there comes the problem of big data because of the growing users of the internet [3]. So, to give an accurate prediction to the user, any recommendation technique used should search the whole database and find an accurate prediction, which is a typical task. Collaborative filtering works in a similar manner but in a different way, where the database search is done with respect to user's previous activities, find similarities with the other database by using suitable algorithms and then find a top prediction for the user. In this way, it also paves a way to a vast research area with many arising complexities. Improvising these methods will be a great advantage as this is used by many leading business websites [14] like Amazon, Book my Show etc.

When coming to the websites like book my show, it not only enables us to book movie tickets but also lets us know what rating it

has gained. These ratings are given based on a individual's voting or opinion. But if we consider a case as an example where only a single user or a less number of users have given the review as good or above average, the overall review delivered would be a good or above average because only some users have rated it. In this way an accurate prediction is not delivered to the end user. So, this paper proposes a hybrid collaborative system, which calculates the movie overall review by comparing the individual's review based on previous activities, based on the comparison of the users with the others who gave similar ratings and compares the individual ratings to all other people's rating for the very same movie and ranks it based on Top 10, Top 20 and Top 50. The review is based on hot voting and cold voting where the hot voting is based on the user's participation in giving the rating and a cold user who rarely gives the review. We show that simple meta path-based NN models outperform computation-intensive MF models in hot-voting recommendation, while users' interests for nonhot voting can be better mined by MF models. Also, this paper proposes a method to know whether a user is likely to watch a movie or not based on the k-nearest neighbor algorithm.

2. Background

Recommender systems makes use of many filtering algorithms for giving a accurate prediction. Some of the frequently used algorithms are Random Prediction algorithm, Frequent Sequence Algorithm, Collaborative Filtering, Content Based Filtering, Demographic Filtering etc. [4].

Random Prediction algorithm suggests the top product by picking up the products without any criteria. Therefore, this algorithm accuracy depends only on luck, as they are more chances of failure.

Frequent Sequence algorithm predicts using the user's purchase history where in which it calculates the frequently bought items and calculates the similarity and gives the suggestion as the top product



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Importance of Social Media in Emergency Communication Networks: A Survey
Bomma RamaKrishna*, M.Nagabhushana Rao, Ramesh Babu Pittala

Abstract:

Social media playing major role in sharing the various kinds of the information in the different patterns. The data shared among those will be useful in finding especially in emergency situations. The need of importance of social media will be useful in finding the different situations to save the people, animals, things etc. In this paper studied the various kinds of Social Medias existed nowadays to share the information. This Social Media will be helpful in finding the location of the person or other information to help him in the situation.

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A Comprehensive Study of IoT: Security Issues and Challenges
***M.Bhargavi, M.Nagabhushana Rao**

Abstract:

The Internet of Things (IoT) is a revolutionary model, with rising wireless sensor network technology. In IoT network devices are connected and communicated with each other or with human. Wireless communication networks, IoT are highly prone to security threats. In recent years, the internet of things has a continuous support in research. In future, IoT will play a vital role and will change our livelihood, standards as well as business models. In this paper we provide ensuring security of data exchange, IoT architecture and IoT Security architecture, applications, drawbacks of IoT. We study about various security issues, Problems, normal and Denial of service attacks in different layers, open issues and research challenges in IoT are also discussed and presented.

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An Algorithm to Find the Geo-Map Using the Social Media-Facebook
Bomma RamaKrishna*,M.Nagabhushana Rao,Ramesh Babu Pittala

Abstract:

Over the decades, numerous kinds of knowledge discovering and sharing of the data techniques are playing a major role to reach the information quickly. As we know that the social media are used for fast sharing the data throughout the world. The data in the form of personal information updating status, tagging the location and many more features. This data considers to examine to know the emergency services and to respond for that in the entire world in fraction of seconds by using social media, for this purpose we are using Facebook to solve the problems. Taking this into the consideration, prepared an algorithm to find out the location of the person based upon the information shared. This is implemented on a most popular social media Facebook to identify the posts.

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Robust Features for Emotion Recognition from Speech by Using Gaussian Mixture Model Classification

Authors

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M. Navyasri , R. RajeswarRao, A. DaveeduRaju, M. Ramakrishnamurthy

Conference paper

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Abstract

Identification of emotions from speech is a system which recognizes the particular emotion automatically without basing on any particular text or a particular speaker. An essential step in emotion recognition from speech is to select significant features which carry large emotional information about the speech signal, speech signal has an important features. The features extracted from the shape of speech signal are used such as MFCC, spectral centroid, spectral skewness, spectral pitch chroma. These features have been modeled by Gaussian mixture model and optimal number of Gaussians is identified. IITKGP-Simulated Emotion Speech corpus is used as database and four basic emotions such as anger, fear, neutral and happy are considered. The different mixture of spectral features is extracted and experiments were conducted.

Keywords

Pattern recognition

Mel frequency

Gaussian

Centroid

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**RELIABILITY CONSTRAINED PLANNING OF DISTRIBUTION SYSTEM UNDER
HIGH PENETRATION OF STOCHASTIC DG UNITS**

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DOI: 10.5281/zenodo.1199473

ABSTRACT

Reliability worth is very important in power system planning and operation. Due to continuous growth of demand, power system restructuring, and deregulation, small scattered generators referred as Dispersed Generation (DG) units are gaining momentum due to their network support capabilities and modular designs. Integration of the DG units into distribution systems is one of the effective and viable planning option for improving the supply quality and reliability of the system with ever increasing demand. It is predicted that non-conventional DG units may play key role in future power distribution systems for sustainable and emission free energy supply. However the stochastic nature and the uncertainties associated with the renewable sources introduce special technical and economical challenges that have to be comprehensively investigated in order to facilitate the deployment of these stochastic DG units in the distribution system. With this intent, this paper aims to analyze the effectiveness of various stochastic DG units available in literature based on the calculations of various reliability indices. The focus of this paper is on generating a probabilistic generation-load model that combines all possible operating conditions of the stochastic renewable DG units with their probabilities, hence accommodating this model in a deterministic planning problem for enhancement of system reliability.



SSFPM: Selective Search based Frequent Pattern Mining over Structured Data Streams

***Dr. Kalli Srinivasa Nageswara Prasad, Dr. Annaluri Sreenivasa Rao, Dr. Attili Venkata Ramana,**

Abstract:

The mining practices in regard to data streams are typical and unique that compared to the mining practices related to the static data corpuses. This since, the lack of prior knowledge of the count of records streaming, dimensionality of the values projected in streaming records and the streaming speed. The mining methods tend to perform the information retrieval from data streams should aim to deal the data in minimal scans, to achieve the efficient memory usage. The considerable contributions on frequent itemset mining over data streams are evincing in contemporary literature. However, these models are not competent if the data is streaming at high speed and having significant dimensionality in values projected to frame the records. This is since the due to the considerable speed in streaming the records the maximal number of records are buffering, and due to the diversified dimensionality in the values projected to frame the records, multiple scans are unavoidable. In this regard, a novel three layer hierarchy to organize the streaming records and a selective search technique are proposed to identify the frequent itemsets at any event of time, which tends to balance the scans and memory usage. The model depicted in this manuscript is referred as Selective Search based Frequent Pattern Mining (SSFPM) over Structured Data Streams. The experimental study explores the significance, scalability and robustness of the proposed model that compared to other contemporary model

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Ultra Wideband MIMO Notched Antenna for WLAN and Mobile Applications

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Abstract—A printed antenna with Two element multiple input multiple output antenna with defected ground structure is proposed in this article. The proposed antenna covers ultra-wideband range(3.1-10.6GHz) having single rejection at the band at WIMAX band. It shows good characteristics at reflection as well as isolation characteristics and gain of almost 3.7db on an average the proposed antenna works at WLAN application with a radiation efficiency of 94 percent and front to back ratio of 64. The recent trends in communications leads to a scope in 5G communications also. Antenna has been analyzed through HFSS software and parameters such as reflection coefficient, e-field and radiation patterns and current distributions have been discussed. The results states that the antenna is best suitable for the hand-held applications and portable mobile applications in the day to day life at ultra-wideband technology.

Keywords—ultra wideband range, notch band,defected ground structure,multiple input and multiple output

I. INTRODUCTION

The main challenges today's wireless networks focused for the best use of smart mobile devices increases the interest in the use of multiple input and multiple output technologies. To improve the performance and to use the available spectrum of bands the MIMO technique is best suitable [1]. The MIMO systems can increase the systems data rate in both uplink and downlink with limited power and with considerable bandwidth [2]. A PIFA based MIMO system design is seen in [3] which operates at long term evolution band. A planar multiband monopole antenna has been designed and analyzed in [4] which the antenna works at five bands by using meandering lines. In [5] a printed monopole antenna with the implanting defected ground structure. A 4G MIMO antenna has been

designed with defected ground structure on the other side of the substrate to make the design simple and ease for fabrication Mohammed et al [6] made a compact structure of size 20*20 which is used for the hand-held devices and mobile terminals. A planar diversity antenna with less mutual coupling has been proposed by Mohan in [7]. MIMO antenna plays a vital role in both 4G as well as 5G applications basically the MIMO diversity techniques plays a much attention due to their various advantages over the communication systems as stated [8-9]. A dual band compact bowtie antenna is by zheg in [10]. he compared designed antenna with existing antenna arrays and later with 12 ports in which 6 are horizontal ports and 6 are vertical ports which are formed a symmetric of angle 60 degrees which is used for MIMO-WLAN applications. Loop antennas with high gain has been seen in [11] for a triple band application. The MIMO diversity technique have been used for the proposed antenna and notched at the frequency which are unwanted

A dual element MIMO antenna designed and analyzed through HFSS software and FR-4 is taken as the dielectric material which is having the loss tangent of 0.02. The designed antenna has been working in almost ultra-wideband range having notch band at 3-4.2 GHz i.e., at the WIMAX band. MIMO diversity technique and polarization of the proposed antenna has been observed in this article. The analyzed antenna has low profile and easy to fabricate and compact in dimension and exhibits ultra-wide band range. This type of antennas is needed in the day to day life. The parameters such as gain radiation efficiency and radiation patterns of the antenna is also analyzed. The proposed antenna is used for the mobile applications and WLAN

Implementation Of Highly Optimized Design For Low Power Devices

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Abstract—In this paper mainly discuss about area reduction of digital devices. Generally to minimize the area of the digital circuit is depends upon the constituent of the particular system. In this paper implementation of area optimized shift registers by using non overlapped clock pulse. Generally the speed of shift register is more crucial the shift register encompassed by using the flip flops which are operated with the clock it increases the latency.

In this approach by using pulsed latches minimizes the area and power utilization than ordinary flip flop implementation's part from that it also eliminates the timing problem by using heterogeneous non overlapped clock. In this design shift registers uses a several number of clocked pulsed latches and one latch is used to store the data.

Keywords—*Latches, FlipFlops, PulsedClock, ShiftRegister, Pulsed Latch, overlapped clock pulse.*

1 Introduction

The A shift register is the main Constituent in a Digital system Generally these are worn in data transfer, Data manipulation, counters and Data processing ICs. Now a days to store the information required huge memory space to fabricate those memories required the shift registers, to generate the delay in the circuits delay lines are required those delay lines can also be implemented by using the shift registers. shift registers it can be used in image processing applications ICs. A 4K-bit shift register used in image extraction process as well as vector generation. It can also be used in the serial communication s such as parallel form input data in to converted in to serial form is transferred via channel and converted serial form to parallel form data in such applications also used. Suppose if the word length of the shift registers increase should be take care of the power consumption and area occupancy of the design.

In low power system design shift registers are implemented various methods power and area optimization possible voltage scaling, single feed through scheme, clock gating, double edge triggered flip flop use of multiple voltage supply etc. total

power At present, by decreasing CMOS technology process stated by Moore's law, more transistors can be integrated on the single silicon wafer. Applying more transistors is accompanied by high amount of transition that brings out more energy dissipation in the mode of heat and radiation. The heat and consistency of integrated circuits are addressed as important drivers of low power design procedures in RFID applications. The packaging and cooling cannot remove additional heat, so the matter of heat is significant issue in the era. FFs are addressed as fundamental storage element which is vastly finds application in all types of digital design

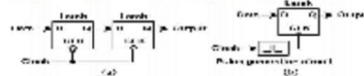


Figure 1: (a) Flip Flop (b) Latch with pulse generation Circuit

In this paper to obtain low area and low power implemented shift register by adopting explicit pulse triggered flip flop established on Signal feed through arrangement is used.

2. PROPOSED METHOD

Generally Shift Register Can Be Implemented By Using The Latch Is shown in the below Figure2. In that if we apply clock signal to that shift register which is encompassed of latches the individual latch outputs delayed by one bit because of single clock pulse is used to produce the outputs shown in the Figure2.

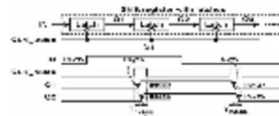


Figure 2: Shift register with latches

To avoid delay in the circuits two possible methods are there one is adding the delay elements in between the latches delay element is inserted it can compensate the delay associated by

Design And Implementation Of A High Efficient Architecture Of FFT Processor

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ABSTRACT: The complexity of communications and signal processing circuits increases every year. This is made possible by the CMOS technology scaling that enables the integration of more and more transistors on a single device. This increased complexity makes the circuits more vulnerable to errors. At the same time, the scaling means that transistors operate with lower voltages and are more susceptible to errors caused by noise and manufacturing variations. Soft errors pose a reliability threat to modern electronic circuits. This makes protection against soft errors a requirement for many applications. For some applications, an interesting option is to utilize algorithmic-based fault tolerance (ABFT) techniques that try to exploit the algorithmic properties to detect and correct errors. Signal processing and communication applications are well suited for ABFT. One example is fast Fourier transforms (FFTs) that are a key building block in many systems. Several protection schemes have been proposed to detect and correct errors in FFTs. In modern communication systems, it is increasingly common to find several blocks operating in parallel. Recently, a technique that exploits this fact to implement fault tolerance on parallel filters has been proposed. In this brief, this technique is first applied to protect FFTs. Then, two improved protection schemes that combine the use of error correction codes and Perceval checks are proposed and evaluated.

KEY WORDS: Error Correction Codes (ECC), Fast Fourier Transforms (FFTs), Soft Errors

1.INTRODUCTION

One of the main problem in real time communication is repetition of corrupt messages. Here the data should be delivered with low delay and the use of techniques will avoid the overloads by transmitting. During the digital information transmitting through a channel, practically inevitable errors are produced. To ensure reliable transmission, the data are further encoded Via Error Correcting Code (ECC). This could be used to recognize and correct errors. In this work the well-known binary linear block Hamming codes are used because they have been used in the optimization problems that we accelerate thanks to the circuit explained further on. A binary linear (N, k) code is a k -dimensional subspace of the space of N -bit code words, and therefore has 2^k code words. But we solve for blocks or subsets of M code words in the code, where $M \leq 2^k$, used to transmit a message. When a message is transmitted, its binary string can suffer modifications (changed bits), arriving an incorrect code word in the receiver side

The complexity of correspondences and flag preparing circuits builds each year. This is made conceivable by the CMOS innovation scaling that empowers the mix

The Importance of Dithering Technique Revisited With Biomedical Images—A Survey

Publisher: IEEE

7 Author(s)

Liu Yue ; Packyanathan Ganesan; B. S. Sathish; C. Manikandan; A. Niranjan; V. Elamaran; Ahmed F... [View All Authors](#)

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Abstract

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Abstract:

Dithering is used regularly for printing monochrome images. Newspaper photographs are dithered for example. In the monochrome images, each pixel is stored as a single bit. The smallest unit of the digital image is a pixel, i.e., the picture element. The bits-per-pixel is the significant metric to the appearance level of the nature of the image. To obtain the diverse gray shades, different patterns of white and black dots are used. This paper deals with the underlying fundamental behind the dithering with medical test images. The techniques such as quantization, dithered, dithered and quantized, dithered and quantized with subtraction, and the adoption of filtering kernel are implemented. The performance of each one is evaluated with mean-square-error and peak signal-to-noise ratio metrics. Three medical test images such as one mammogram image, one angiogram image, and one thermal image are used in this paper. The Matlab R2018a tool is used to obtain the simulation results.

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Abstract

Abstract:

In this manuscript the projected method overcome the drawback created by this current GPS, the alternate system of finding a human position. An alternating technique be term as IPS technique. Present GPS structure provide us the essential direct of people's spot, although its most important problem is more difficult while the individual depart inside or if he enter consign which have an extremely deprived signal connectivity.

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RESEARCH ARTICLE

A 5-LEVEL MIXED FRAMEWORK FOR BALANCING THE DC-LINK CAPACITOR.

Jarabala Ranga and S. K. B Pradeep Kumar.

Associate Professor, Dept Of Eee, Ramachandracollege Of Engineering, Eluru, Ap, India.

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Keywords:-

Multilevel Inverter; Flying Capacitor;
Active Neutral Point Clamped; Diode
Clamped.

Abstract

component counts to attain a great loss distribution, avoid direct series connection of semiconductor products, keep your balanced operation of electricity-link capacitors and keep the amount of pricey components for example capacitors and switches low. The characteristics from the suggested topology are investigated and in comparison with other available topologies. Simulation answers are presented to verify the performance from the ripper tools for medium current programs. This paper proposes a brand new five-level hybrid topology mixing options that come with neutral point clamped and flying capacitor inverters. For that suggested inverter, a hybrid modulation strategy is needed because of the hybrid structure from the topology. The needed modulation technique is developed and the whole process of the suggested topology is analyzed.

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CONCOMITANT POWER CONTROLLING BY MULTIPOINT DC-DC CONVERTER FOR RENEWABLE ENERGY SOURCES USING PI CONTROLLER

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ABSTRACT

In this paper, for providing the optimal operation of multipoint dc-dc converter for renewable energy sources, PI Controller has been implemented. Here, the proposed controller is utilized to achieve the concurrent power management of compound renewable energy sources, which are of various types and capacities. Initially, the modeling and control topology is designed after that, the principle and operations are analyzed. The suggested dc-dc converter uses only one switch for control in every port where the source is associated. The photovoltaic (PV) and Wind Turbine Generator (WTG) are considered as the sources and these are associated with the converter. The PV is worked in view of the maximum power point tracking (MPPT) controller and WTG is associated with the battery source. In MATLAB/Simulink environment, anticipated method is implemented and their performances have been evaluated. The performance of the suggested method is compared with the existing controller. The simulation results are shown to validate the effectiveness of the proposed converter. Then the efficiency of the converter is also determined to evaluate simultaneous power management of the PV and WTG panels for converter.

Keywords: multipoint DC-DC converter, PI controller, WTG, PV.

INTRODUCTION

The power converters have as of late gotten a ton of consideration because of the expanding need to frameworks with the capacity of vitality exchange. A power electronic converter is utilized as an interfacing gadget. Essential dc-dc converters, for example, buck, boost etc., help converters and its subsidiaries don't have bidirectional force stream ability [5]. The fundamental downside of the Dual Active Bridge (DAB) converter is that it can't deal with an extensive voltage range. In such a case, the delicate exchanging district of operation will be altogether decreased. In the previous decades, customary force converter topologies have been advancing in different headings, a few bidirectional topologies, for example, full-extension and half-connect topologies, have been produced. These two topologies use numerous switches with entangled drive and control circuits [3].

A multipoint converter, a promising idea for option vitality frameworks, has pulled in expanding research intrigue as of late [6] [7]. It has less savvy, adaptable, and more proficient vitality preparing by using just a solitary force stage. The multipoint dc-dc converters are utilized to accomplish the force exchange amongst sources and load. Because of the upsides of multi-port converters, numerous topologies have been proposed, which can be partitioned into the disengaged multi-port converters and non-segregated partners. The segregated dc-dc converter has numerous info ports for interfacing distinctive sources, for example, photovoltaic (PV) boards, wind turbine generators (WTGs), energy units, and so on., [4] [8]. The converter not just manages the low-level dc voltages of the sources to a steady abnormal state required by the inverter but also additionally gives other essential control capacities, for example, most extreme force point following (MPPT) [1] [2].

PI BASED MULTIPOINT DC-DC CONVERTER

In this section, the multipoint DC-DC converter performance is designed and analyzed their performances using the proposed controller. The proposed controller is the PI Controller to provide the simultaneous power management. Actually, the multi-port converter with 'm' number of inputs (1 to m) can be implemented. But in this paper, for convenience, two inputs (one PV and one WTG) are taken as inputs. The block diagram of proposed PI based multipoint DC-DC converter with hybrid generation system is depicted in Figure-1. It represents the PV panel, Wind Turbine Generator (WTG) and Battery is connected with the proposed converter. For the renewable resources, two capacitors and two switches are connected to get the optimal operation. The flow of change of wind is added significantly rather than the solar irradiance and the temperature. Before analyzing the proposed control strategy, the operations of the offered multipoint DC-DC converter is analyzed and the detailed description is explained as below.



Figure-1. Block diagram of multipoint DC-DC converter with proposed method.

Design and Analysis of Integrated PIFA for Wireless Applications

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Abstract - A Compact low profile Planar Inverted F-Antenna based on self-affinity is proposed with a wide frequency band for WLAN, HiperLAN & WiMAX applications. The multiband performance is realized by the integration of L-shaped slots in the radiating patch and introducing an air gap between radiating element and dielectric medium. The optimized size for the proposed structure is 35.9mm x 58.94mm x 3.45mm. This antenna achieved almost unidirectional radiation pattern. From the electrical characteristics of designed antenna, it is clear that antenna resonates at 1.20GHz, 2.82GHz, 3.58GHz, 4.02GHz and 6.68GHz with impedance bandwidths 90MHz, 60MHz, 50MHz, 260MHz and 190MHz respectively.

Keywords - PIFA, Slot Antenna, Fractals, Air gap, Multiband and Efficiency.

I. INTRODUCTION

Wireless communication is a boon to mankind that gave hype for the transmission of information to a very large extent in distant areas. Wireless communication has enhanced fast, secure and high data transmission rates to the consumers. There are different kinds of wireless communication technologies like Infrared, Broadcast Radio, Microwave Radio and Satellite communication. Wireless communications gratis from the repression of traditional wired network.

Antenna plays a very important role in the wireless communication. Antennas act like transducers to convert the electrical energy to electromagnetic waves. The electromagnetic waves are transferred from the sender to the receiver using antennas at both ends. Communication to very large distance can be achieved either by using repeaters or by the use of satellite communication. Today wireless communication is entirely dependent on antennas. The antennas are used simply to radiate electromagnetic energy in an omnidirectional or finally in some systems for point-to-

point communication purpose in which increased gain and reduced wave interference are required.

A multiband antenna is an antenna that is designed to operate in multiple bands of frequencies. Multiband is does not require lot of space and is simple to construct and is of low cost. The Inverted F Antenna (IFA) typically consists of a rectangular planar element located above a ground plane, a short circuiting plate or pin, and a feeding mechanism for the planar element. The main advantages of PIFA are it can be hiding into the housing of the mobile when comparable to whip/rod/helix antennas; it exhibits moderate to high gain in both vertical and horizontal states of polarization.

There are several methods to develop multibands, which are used for various applications like wireless, satellite, long distance data transmission and telemedicine applications etc. 5G communication technology is focusing on to generate multiple bands at 6GHz, 10GHz, 15GHz, 28GHz and 38GHz for high data transmission rate upto 10Gbps. M K Ishfaq, T A Rahman, H T Chattha, M U Rehman proposed a design suitable for 5G applications, by using inversed L-shaped parasitic element, a rectangular parasitic shaped element and a split ring resonator (SRR) is etched in the patch of PIFA. The designed antenna covers 5-7GHz, 9-10.8GHz and 14-15GHz [1]. To alleviate the drawbacks encountered when wire antennas are used for mobile communications, low profile antennas such as planar inverted F-antennas [2-5] and microstrip antennas [6-8] due to their compactness and robustness.

In this paper, Planar Inverted F-Antenna is developed for multiband characteristics by integrating L-shaped slots in the radiating patch and patch is placed at some height to the substrate. The radiating patch considered with thickness of 0.25mm. Section 2 describes about the literature survey for this work. Section 3 explains design methodology of proposed antenna and it's parametric. Section 4 gives results and its discussion. Section 5 notes conclusion. Section 6 about acknowledgement and finally section 7 mentions references.

EXPERIMENTAL STUDY ON PARTIAL REPLACEMENT OF CEMENT WITH GGBFS AND FINE AGGREGATE WITH CERAMIC WASTE

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ABSTRACT— In INDIA now-a-days construction is becoming more popular. In construction concrete is the main ingredient in that cement is a sustainable material so we have to replace with another sustainable material and sand is non-renewable resources, so we have to minimize the usage of sand in fine aggregate and also cement and fine aggregate. We replace both cement and fine aggregate with ceramic waste. Ceramic waste is the waste obtained from the ceramic industry so it is so economical to use in concrete. In this we replace the materials with different proportions. In this we compare the compressive strength with the compare of normal concrete.

Key words—GGBFS, Ceramic Waste, Non-renewable, Sustainable.

I INTRODUCTION

Concrete is out and away the foremost wide used construction material these days the flexibility and adaptability in concrete, its high compressive strength and also the discovery of the reinforcing and pre stressing techniques that facilitate to create up for its strength have contributed for the most part to its widespread use. Area unitable to justifiably say we have a tendency to are in age of concrete. However today because of zoom in construction cement is extremely expensive.

Also because of giant growth in industrialisation there's an outsized quantity of wastes generated, that is risky to setting and living beings. To beat on top of issues ways generated are often used as various materials. GGBFS and Ceramic Waste are often used as replacements for cement and fine aggregate.

The aim of the project is to review the GGBFS and Ceramic Waste to seek out its suitability of replacement within the concrete. To review the strength parameters of the GGBFS and Ceramic Waste mixed specimens and to check it with standard specimens. This project analyses the comparison of GGBFS and Ceramic Waste in concrete by partial replacement of cement and fine aggregate at the quantitative relation of 100% cement and build it constant in terribly proportion and ranging 10%, 20%, 30%, 40% in ceramic waste. The experimental examines the mechanical properties of compressive strength.

The main ingredients contains standard hydraulic cement, ggbfs, ceramic waste, fine aggregate, coarse aggregate, & water. Once combining, concrete specimens were casted and after all check specimens were cured in water at 7 & 28 days with the required combos of ggbfs and ceramic waste and compare it with the controlled concrete specimens. During this project M₂₀ concrete is meant for varied combos.

In construction sector there's invariably a requirement material for effective replacement of cement since producing of cement causes environmental pollution and lack of natural resources to a bigger extent. Nowadays everywhere the planet aimed toward increasing the employ and usage product, where it's technically, economically or environmentally acceptable.

The aim of this study is to work out the suitability of ggbfs and ceramic waste to be used in partial replacement of cement and fine aggregate in concrete production. The objectives embrace ascertaining the optimum replacement level of hydraulic cement with ggbfs and ceramic waste with fine aggregate which will still provide needed compressive strength likewise as compare the setting times of OPC cement with ggbfs and fine aggregate with ceramic waste varied replacement levels.

II OBJECTIVES OF STUDY

1. Developing combine style for concrete relevant to IS:10262-2009.
2. To review the strength properties of concrete of grade M₂₀.
3. To review the influence of partial replacement of cement with ceramic waste to check it with ggbfs and fine aggregate combination with ceramic waste to check it with the compressive strength.
4. We have a tendency to also are making an attempt to search out the proportion of ggbfs and ceramic waste replaced in concrete that produces the strength of the concrete most.

A STUDY ON COMPATIBILITY OF CONCRETE WITH USAGE OF TREATED DOMESTIC WASTE WATER IN CONCRETING.

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Abstract-

The water that is nonheritable from the biodegradable pollution treatment plant is termed as treated domestic sewer water. Where, because the water that traditionally used for drinking and different construction purpose is noted as normal or potable water. Rather than of potable water that is employed for concrete, we have a tendency to replacement the treated domestic sewer water. Superplasticizer is additional as a chemical admixture to that. The addition of superplasticizer to concrete imparts high strength and workability to that, even at terribly smaller water-cement ratios. The explanation behind the employment of superplasticizer was to attenuate the amount of treated domestic sewer water so as to attenuate the adverse effects if any. However to urge the most have the benefit of this integration of concrete and superplasticizer, the incompatibility issues between these 2 ought to be studied. With in the gift work, the aim is to seek out the optimum dose for various superplasticizers, for a specific grade of cement, vicimisation Marsh Cone check and comparison of compressive strength between the cubes solid with each traditional and treated domestic sewer water. Conjointly completely different attenuate w/c ratios are taken to indicate the compressive strengths with the addition of superplasticizer in concrete.

KEYWORDS: Compatibility, Marsh cone, Treated domestic sewer water, Superplasticizers.

I INTRODUCTION

The term compatibility refers to the required impact on performance once a particular combination of cement and therefore the chemical admixture is employed. The advanced interaction between cement and chemical admixtures in concrete mixtures typically ends up in the unpredictable performance of concrete within the field that is usually outlined as concrete incompatibilities. Common issues throughout concreting together with flash setting, delayed setting, rapid slump loss, improper strength gain, excessive cracking, bleeding etc. arise thanks to incompatibility between cement and chemical admixtures. These problems, in turn, have an effect on the hardened properties of concrete primarily strength and durability. Modern concrete i.e. ready-mix concrete, high strength concrete, high performance, self-compacting concrete etc. nearly always possess some additives, within the mineral kind or chemical kind.

Underneath bound circumstances, compatibility between admixtures and cement could also be of great concern. Predicting the compatibility of admixtures together with cement is associate in nursing virtually not possible exploit to perform by chemical analysis alone. Admixtures and cement are each complexes in their nature. Portland cement and chemical admixtures are multi-component materials, that bear advanced chemical reactions throughout the association of hydraulic cement paste.

In a trial created made to solid concrete with treated domestic sewer water with one among the popularly used superplasticizer as a chemical admixture, excessive bleeding was determined. The explanation behind the employment of superplasticizer was to attenuate the adverse impact if any. Therein case, a matter was raised regarding the compatibility of the superplasticizer with treated domestic sewer water in concrete. So as to research the compatibility issue, a study was conducted for cement and superplasticizer at completely different proportion of superplasticizer dose so as to seek out the optimum dose of superplasticizer.

Within the gift state of affairs there's a inadequacy of potable drinkable water in several areas of the country. Therefore the method of utilization encompasses a heap of importance. Getting decent drinkable water with acceptable quality underneath circumstances of lack, like drought, may be a huge challenge in drought-prone areas of the country. During a scenario like this utilization of the potable water for the development, the aim are an enormous burden for them and usage the treated domestic sewer water will be an effective alternative.

The inadequacy of water is turning into a essential environmental issue worldwide. Within the previous few decades, there has been an incredible increase within the quantity of each domestic sewer water and industrial sewer water generated thanks to the rising of population and accelerated pace industrialisation. Within the coming back years, Asian nation is goes to face an enormous drawback during an agitate reduced freshwater availableness and reduced sewer water thanks to raised population and industrialisation. There's associate in nursing increasing trend of considering water recycle as a necessary element of water deficient areas, however within the water luxuriant areas still. As long because

A EXPERIMENTAL STUDY ON BOTH CEMENT AND FINE AGGREGATE BY PARTIAL REPLACEMENT WITH POND ASH

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Abstract - This paper presents on a experimental study on cement and fine aggregate by partial replacement with pond ash. The amount of coal ash waste produced in a thermal power plant in vijayawada is huge amount of pond ash can be produced. Improper disposal of pond ash will effect the ground water table and effect environmental problems like air pollution and ground pollution. By these conditions, during this study we tend to attempt notice an answer by utilizing pond ash material for concrete producing. The disposal of pond ash used in wet method and also used in land fill. In cement 20% fly ash used in concrete, so we were presented cement is partial replacement with pond ash in project starts with 20%, 25%, 30%, 35%, 40%. The optimum usage of pond ash used in concrete and check the properties of fresh concrete and compare with conventional concrete by compressive strength test and workability.

In this study pond ash partial replaced in both cement and fine aggregate in 10%, 15%, 20%. This study is to save the natural resources and reuse of pond ash in construction activity and decrease the disposal problem of pond ash. Pond ash contain two types of ashes they are bottom ash and fly ash. As compared to conventional concrete the strength has been increased 25% by adding 30% of pond ash in cement, fine aggregate and cement replaced with pond ash with 10%, increases 30% of strength as compared to the conventional concrete strength.

Key words - pond ash, fly ash bottom ash, land fill, compressive strength, workability, natural resources, wet method.

Study on- 1. Cement partial replacement with pond ash

2. Cement and fine aggregate both are partial replacement with pond ash.

1. INTRODUCTION

In India, most of the Thermal power plants adopt wet method of ash disposal. Pond ash is collected from Thermal power plant at the bottom. Pond ash utilization helps to reduce the consumption of natural resources. Also it is help to solve the problem of disposal of Pond ash because it contains huge amount of chemical compounds such as SiO_2 , Al_2O_3 etc. These chemical compounds (SiO_2 , Al_2O_3) are plays an important role in hydration reaction and helps to produce bond between two adjacent particles. Use of Pond Ash in concrete is an important eco efficiency drive.

Continuous research efforts have proved concrete as a versatile material. Concrete needed for a wide range of construction activity can be made easily available since all the constituents of concrete are of geological origin. If proper replacement level and procedure is used then pond ash concrete may be used for highway embankments, mass concreting, Plain Cement Concreting (PCC), etc.

Since construct any infrastructure the required cement cost will be high. Pond ash defined as a residue and by-product of thermal power plants can be an inexpensive alternative to the cement. The un-utilised electro static precipitator ash and bottom ash are mixed in slurry form and taken to lagoons for deposition which are known as pond ash.

The amount of coal ash waste produced in a thermal power plant in vijayawada is very high and dumped in a mixed state between fly ash and bottom ash. The coal ash waste is not well managed because the sites between the production and disposal process of power plant are not separated, so it accumulates and requires a larger final disposal area.

2. MATERIALS USED

Cement

Cement used this study was KCP brand ordinary portland cement of grade 43. The cement was kept in an airtight container and sorted in the humidity controlled room to prevent cement from being exposed to moisture, which conforming to IS 12269:1987 have been procured and following tests have been carried out according to the IS:8112-1989.

AN EXPERIMENTAL STUDY ON PAPERCRETE BRICKS MANUFACTURED USING PAPER PULP, GGBS, QUARRY DUST, AND FLY ASH.

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Abstract: Papercrete is nothing but paper and concrete wherever the papers like newspaper, cardboards etc. are chopped into paper pulp and thereby adding hydraulic cement and sand to it. The chemical element bonds gift in microstructure of paper offers strength to it. Same as concrete, this thick combine may be poured to any moulds and solid into any desired form or size. As most of the materials employed in it are industrial wastes and construction materials in reduced quantity, it's a sustainable material. This idea conjointly helps in reducing environmental hazards caused by construction industry. However there's no correct code for the combo proportioning of papercrete bricks. So a combination proportion of [Cement: Paper: sand] 1:1:2 was chosen unproved and error basis. During this study, cement is partly replaced by GGBS because it has cement properties and composition. Rather than sand, Quarry dust is employed that is partly replaced by fly ash to boost the strength to weight quantitative relation. All the required engineering properties are studied and compared with the standard bricks and discussions on its potential uses are created.

Key words- Papercrete, Ground Granulated Blast Furnace Slag (GGBS), Fly Ash, Quarry dust, Compressive strength, Sustainable building and Paper waste.

I INTRODUCTION

1.1 General:

The civil engineers are demanded to use industrial wastes instead of building materials due to the shortage of materials. As the population increases demand for building industry increases which in turn need bulk amount of building materials. There is an increase in popularity of using environmental friendly, low-cost and sustainable construction materials in building industry. This made engineers to find how this can be achieved by benefiting the environment and also to meet the material requirements affirmed in the standards. Consequently this experimental study is carried out to resolve these issues.

1.2 Needs to select papercrete:

Generally great deal of paper is employed for various activities and four hundred and fifty (450) million heaps of paper is created across the planet. It involves chopping off trees that poses a significant environmental drawback long-faced by our society within the current scenario, as forty second of all international wood harvest is employed to supply paper.

The production and use of paper incorporates a variety of adverse effects on the surroundings that are called paper pollution. As forty fifth of discarded papers are recycled annually and 55% thrown away or goes in to the land fill, it's troublesome to spot lowland sites to deposit them. Ultimately it results in threat to developing countries. This study aims to form the simplest of worst by victimization paper waste as artefact. The aim of this analysis is to require advantage of the waste materials like paper and to exchange the expensive and rare standard building materials.

1.3 Objective of the project:

The major Objective of the project is replacement of the expensive and scarce typical building bricks by an innovative and different building bricks, that satisfies the subsequent characteristics, required

- Price effective
- Environmental friendly
- Less weight
- Ignitable
- Less water absorption
- Simply obtainable

STUDY ON STRENGTH BEHAVIOUR OF BLACK COTTON SOIL USING TREATED COIR FIBRE AND QUARRY DUST USING CBR

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Abstract : In general black cotton soil is widely distributed all over the india. Construction of land based structures become very difficult on black cotton soil because of black cotton soil characteristics like high swelling index and shrinkage. So we are interested to counter act its characteristics by using waste materials like quarry dust and coir fiber those are of less cost and also minimizing the wastes. It was also a best method of disposal of wastes. Coir fibers are decomposable material to preserve that it was treated with sodium hydroxide (NAOH).

Keywords: black cotton soil, quarry dust, coir fiber, NAOH, Index properties, CBR

1. INTRODUCTION

The bearing capacity of the footing/foundation entirely depends on the bearing capacity of the soil for that soil should have sufficient strength to withstand the loads from structures. To attain the required strength we are stabilizing the soil with using coir fiber and quarry dust.

Soil stabilization means improving the existing properties of the soil by adding any material or admixture. Those all soil properties related to strength. Generally the problems with soil occurs during and after the construction of structure due to change in ground water table. we know that black cotton soil is highly active with change in water content. Due to presence of clayey mineral montmorillonite exhibits high swelling and shrinkage.

In recent works it has been investigated that addition of fibers will improve the ductility behavior of soil. Hence reduce the cracks during shrinkage. Use of artificial posses some environmental problems . Use of natural fibers' like coir, jute and wood pulp can be used as reinforcing material for soil. coir fiber will counter act the shrinkage property of soil.

Quarry dust is a waste material from quarries which have high bonding property. When this quarry dust mixed with soil it will act against swelling property of soil. Thus making the soil stable/strengthen later using the strengthen soil it will have less problems of failures compared to unstabilized soil.

2. Advantages of soil stabilization

- Problems with soil are less because of stabilization
- Easy way of stabilization using quarry dust and coir fiber
- Economical
- Increase in shear strength due to coir fiber
- Increase in tensile strength due to quarry dust
- Depth of footing is less
- Reduces permeability and seepage of soil

3. Methodology

The black cotton used in this study was blended with quarry dust and coir fiber with varying percentages coir fiber with 2%,4%,6%,10%,12%,15%,and quarry dust of 10%,20%,30% were performed on a black cotton soil sample. The following experiments were conducted as per IS code with different percentages.

Sieve analysis

Index properties of soil

Standard compaction

Unconfined compressive strength (UCC)

CBR (California bearing ratio)

DESIGN OF RAIN WATER HARVESTING SYSTEM FOR RAMACHANDRA COLLEGE OF ENGINEERING CAMPUS

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Abstract – The technical aspect of this paper is rainwater harvesting which is considered to be catchment areas of RAMACHANDRA COLLEGE OF ENGINEERING campus, Eluru. The campus is situated at the distance of 13 km from Eluru city in a large area of about 11.5 acres with strength of about 2300 students and more than 250 staff. To meet the demands of students and staff Water is the only natural source. If this demand is not met, then it will be lead to water scarcity. This paper dealt with all aspect of improving the water scarcity problem in the Ramachandra College campus by implementing ancient old technique of rainwater harvesting. At present 1,65,52,900 litres of ground water is being extracted every year. In case the RWH project is implemented then 1,10,43,390 litres (66.72% of current total ground water requirement) will be accumulated, which can be used to recharge ground water aquifer. This rainwater harvesting is implemented by the usage of pits.

Keywords: Rain water harvesting, Catchment area, water scarcity, accumulated, recharge, aquifer.

I Introduction

Most of the water resources are rapidly exploited without recharging as a result the scarcity is also rapidly increasing. Rain water harvesting is one of the water conservation methods on small scale. It is the gathering or accumulating and storing of rain water. These water can be used for drinking, irrigation and for ground water recharge purpose.

Rain water can be collected from roofs, rain water coming from roofs tops are in the good quality compared to others. The increase in demand for water has increased awareness among the people towards the use of artificial recharge to augment ground water supplies. Stated simply artificial recharge is a process by which excess surface water is directed into the ground.

II Study Area

As discussed earlier in the section of introduction-importance of rain water harvesting at RAMACHANDRA COLLEGE OF ENGINEERING. To know that all the advantages which we can draw out by implementing these small but highly efficient technique in the campus. When the catchment area is large then more amount of water can be harvested with the help of rainfall. Therefore as much as possible, we have included and considered all the buildings having rooftop areas.

III Methodology

A. Data Collection

The rain water harvesting potential study is based on primary data as well as secondary data. Primary data regarding area of buildings, was collected from campus field survey and secondary data especially rainfall data was obtained from the internet.

B. Rainfall Data

Table 1: Monthly rainfall data in mm for the years 2009-2018

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2009	0.2	0	1.3	3.8	52.6	140.7	280.6	452.4	469.5	182.9	470.6	1.1	4068.7
2010	109.5	0.7	87.5	1.7	161.2	128.8	448.93	274.1	212.5	132.67	115.3	116.5	3800.4
2011	0.9	14.6	0.4	26.4	50.8	98.66	228.7	213	152.3	100.4	4.9	7.2	2909.26
2012	2	0	11.3	7.3	22.8	84.4	224.5	190.3	1992	71.8	115.3	0	2940.9
2013	1.8	17.2	0	29.8	31.8	119.6	208.9	233.51	150.67	168.15	48.61	12.99	3036.03

OPTIMISING THE SLUMP IN CONCRETE BY ADDING CALCIUM OXIDE AND CEMENT

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Abstract - Concrete is versatile engineering composite material made with cement, aggregates and admixtures in some cases. Due to the day by day innovations and developments in construction fields, the usage of concrete is increase in construction. If the sometimes site has high slump problem due to that the concrete is not used because of strength problems In this study the slump content is optimised with the following materials i.e., calcium oxide and cement and combination of the CaO and cement at different proportions to increase the strength properties of concrete. Using it provides several advantages, such as improves slump and compression strength and workability properties and increase of long-term strength. The material added to concrete to reduce slump from high level to low level without loss the nominal strength of concrete for that 80 mm slump is reduced to 60mm slump value and 100mm slump is reduced to 60 mm without any change in strength of concrete.

Keywords: calcium oxide, cement, slump test and compression test, slump reduce.

I. INTRODUCTION

Various types of cements are used for concrete works which have different properties and applications. Some of the types of cement are portland pozzolana cement (ppc), rapid hardening cement, sulphate resistant cement etc. Materials are mixed in specific proportions to obtain the required strength. Strength of mix is specified as m5, m10, m15, m20, m25, m30 etc, where m signifies mix and 5, 10, 15 etc. As their strength in KN/m². In United States, concrete strength is specific water cement ratio plays an important role which influences various properties such as workability, strength and durability. Adequate water cement ratio is required for production of workable concrete.

When water is mixed with materials, cement reacts with water and hydration reaction starts. This reaction helps ingredients to form a hard matrix that binds the materials together into a durable stone-like material. Concrete can be casted in any shape. Since it is a plastic material in fresh state, various shapes and sizes of forms or formworks are used to provide different shapes such as rectangular, circular etc. Various structural members such as beams, slabs, footings, columns, lintels etc., are constructed with concrete.

The factors affecting the performance of concrete are shown in the below flow chart. the concept of treating concrete is its entity as a building material rather than its ingredients is gaining popularity. The user is now interested in the concrete having the described properties without bothering about the ingredients. This concept is symbolized with the progress of ready mixed concrete industry where the consumer can specify the concrete of his needs and further in the precast concrete industry where the consumer obtains finished structural components satisfying the performance requirements.

The various aspects covered in the following chapters are materials, mix proportioning, elements of workmanship, example, compaction and curing, methods and testing and relevant statistical approach to quality control. The discussion on these aspects are based on the appropriate provisions in the Indian standard codes.

II. MATERIALS USED

Cement:

A cement is a binder, a substance used for construction that sets, hardens, and adheres to other materials to bind them together. Cement is seldom used on its own, but rather to bind sand and gravel (aggregate) together. Cement mixed with fine aggregate produces mortar for masonry. Cement is the most widely used material in existence and is only behind water as the planet's most-consumed resource. Slump value is of great importance when concrete is in its fresh state. Slump value represents the workability property of concrete.

Experimental Study on Use of Sugar Cane Pulp Ash & Fly ash in Concrete by Partially Replacement with cement

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Abstract - There are countless of environmental impacts of cement on our ecology. Cement trade making environmental downside by emission of CO₂ throughout producing of cement. Today researchers are additional focusing towards the atmosphere issue globally. On the opposite facet Sugar cane pulp ash generated in sugar mill making atmosphere issue as most of the half is employed as a land fill. In this work sugar cane pulp ash which is taken from sugarcane industry and fly ash from thermal power plant used in M25 grade of concrete by combination partial replacement in cement 5%,10%,15%,20%,25%,30%,35&40% by weight and compare with normal M25 grade of concrete to check the achievability of combination sugar cane pulp ash & fly ash in concrete.

Key Words – Sugarcane Pulp Ash, Fly Ash, Compressive Strength, Workability, Optimum percentage.

1. INTRODUCTION

Sugarcane pulp ash may be a byproduct of sugar factories found onus burning sugarcane pulp which itself is found after the extraction of all economical sugar from sugarcane. The disposal of this material is already inflicting environmental issues round the sugar factories. On the opposite hand, the boost in construction activities in the country created shortage in most of concrete making materials especially cement, resulting in an increase in price. This study examined the potential use of sugarcane pulp ash as a partial cement replacement material.

Therefore, it absolutely was extremely counseled to conducting analysis on the pulp and their impact on concrete behavior. Generally, the pulp waste is disposed to the landfills or disposal sites where ever present with in the country and rare studies has been sent nevertheless. The pulp ash is used as partial cement replacement in concrete. Meanwhile, with in the present era there's an enormous rise with in the production of sugar worldwide, and virtually 1500 Million a lot of sugarcane are yearly produced in all over the world, which leaves around 40 - 45% pulp afterward juice removal. So, a normal yearly production of pulp is projected as 600Million tons, which is a bulky waste from sugar industry. For the construction industry the concrete is one of the most vital item which is prepared for mixing of cement, fine aggregates and coarse aggregates and within the concrete the role of cement is very vital.

2. MATERIALS USED

Cement

Cement used this study was KCP brand ordinary Portland cement of grade 43. The cement was kept in an airtight container and sorted in the humidity controlled room to prevent cement from being exposed to moisture, which conforming to IS 12269:1987 have been procured and following tests have been carried out according to the IS:8112-1989.

Table 1
Physical Properties of Cement

Property	Result
Specific gravity	3.1
Fineness	4%
Normal consistency	32%
Initial and final Setting time	32 and 245 minutes

Coarse Aggregates:

Locally available graded aggregate of maximum size of 12.4 mm is used for our present investigations. Testing of coarse aggregate was done as per IS: 383-1970. The 12.4 mm aggregates used were first sieved through 12.4 mm sieve and the retained on 4.74mm sieve. They were then washed to remove impurities such as dust, clay particles and organic matters thereby dried to surface at dry condition. The coarse aggregate is also tested for its various properties by using IS:2386-1963.



Role of Heat Treatment on Al₂₀₂₄/B₄C/Graphite Hybrid Metal Matrix Composites

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Abstract

In recent years Al₂₀₂₄ alloy had increasing applications in all the areas due to its good formability, excellent properties and etc. By using nano size B₄C as size and graphite as reinforcements the fabrication process are done by Powder metallurgy process with overall 12 compositions primary and secondary specimens. Nano B₄C are used as reinforcements from 3-15% with step of 3% as primary specimen and with addition of graphite of 3% in every reinforcements same manufactured. All specimens are manufactured by powder metallurgy technique and had a wide application. Hardness values are taken and each specimen is subjected to aging process. In aging process are subjected to 495°C and soaking for 2 to 10 hours. The cooling process can done by in three medium water. In each case hardness values are taken with micro Vickers tests. All results are taken shows that increase in hardness with aging process. FESEM analysis is conducted to know the microstructure of composites.

Keywords: Powder metallurgy technique; Micro hardness; Micro structure; SEM analysis; Non hybrid composite and hybrid composite

Introduction

Aluminium alloys has low specific weight, high strength and excellent corrosive resistance had many applications in aerospace industries. For the above reasons steel is replaced in almost all industries for that purpose aluminium metal matrix has wide range applications. The various reinforcements that have been tried out to develop AMCs are graphite, silicon carbide, titanium carbide, tungsten, boron, Al₂O₃, fly ash, Zr, Si₃N₄, TiB₂. The conventional aluminium based composites possess only one type of reinforcements and there was more than one reinforcements is used in hybrid composites. Addition of Gr particulates facilitates easy machining and results in reduced wear of Al-Gr composites compared to Al alloy [1]. Due to properties including specific strength, specific stiffness, wear resistance, excellent corrosion resistance and high elastic modulus Aluminium based Metal Matrix Composites (AMMC's) have been attracting a lot of attention in the fields of automotive, aerospace engineering and structural applications [2-4]. The composites have been fabricated by many manufacturing processes. In general, most metal matrix composites are produced by casting and powder metallurgy techniques [5]. Powder metallurgy techniques had limitations of size and shape of manufacturing and having a great advantage of simple and economical for large production rate [6]. The limitations in powder metallurgy process are non-uniform distributions of reinforcements particles, non-wet ability and incomplete adhesion and some casting defects are occurs [7,8]. In the mechanical properties of view MMC reinforcement had vital role in type, size of particles in the size point view as the size decrease from micron to Nano there is a tremendous increase in the properties of composite. Among all aluminium alloys series Al₂₀₂₄ had application in aerospace structure, rivets, hydraulic vales. B₄C occupies next place of the diamond in the hardness criteria. Graphite improves its machining properties of component. By the combinations of all mechanical properties had to be improves the base material. The production and mixing of compositions of composite and hybrid composite are based on rule of mixture. All the defects that are occurred as the casting defects are minimised are avoided effectively by the pre heating and heat treatment process [9]. Secondary process of all materials improves mechanical properties that can be either cold working or hot working

operations [10,11]. It was experimentally proved that there is an increase in all the properties like stiffness strength wear resistance corrosive resistance and exhibit excellent mechanical strength compared to initial manufacturing process like casting powder metallurgy and sonic casting methodology [12]. Among all the available secondary processing techniques, aging is the most preferred because it can offer large plastic deformation without the failure of formed parts [13]. Some researchers have concluded that mechanically deformed and heat treated composites yields the maximum improvement in wear resistance as compared with the 'as-cast' composite [14]. Nano size reinforcements are perceived to be able to impart excellent properties to the Al₂₀₂₄ alloy matrix [15,16]. Heat treatment also improves the properties by grain size modifications. The grain size modifications are depends on the type of cooling. Cooling can be broad classified as the rapid cooling and slow cooling. In the former case i.e, rapid cooling process the biggest size of grains splits into small size grains that becomes hardness has more than that of initial hardness. By the slow cooling process small size particles small size grains will become big size particles that will be lead as the hardness less than that of initial hardness. Besides the advantage of rapid cooling hardness there will be disadvantage of outer hardness is higher than lower harness that will lead saviour failure of operations. For the purpose of making the composite homogeneous though its sections is done by aging process. By the classification are can be done by maintaining of constant temperature for few hours. The experimental procedures are done by the two stage operations, in the first stage at high temperature quenching of material and second stage there will be maintaining of temperature for few hours for uniform grain growth of material particles.

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Volume 08, Issue 05, Pages: 233–243.

Paper Authors

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Novel Weather Data Analysis Using Hadoop and MapReduce – A Case Study

Publisher: IEEE

4 Author(s) V. Suryanarayana ; B.S. Sathish ; A. Ranganayakulu ; P. Ganesan [View All Authors](#)

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Abstract

Abstract:

Document Sections

I. Introduction

Nowadays analyzing data of very large amount has become a big challenge. Data could be medical, scientific, climatically, meteorological, marketing or financial. Techniques of Data mining are used for extraction of unpledged material from large data set. Weather forecasting can be preferred to help many important sectors which are affected by climate like agriculture, air traffic, water resources, and tourism

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Advanced "ETL" Types and Tools for Analysis in Data Mining

Dr.V. Suryanarayana, Ch. Hemanand, Ch. Raghu Kumar, K. Gopi and M. Raghuchandra

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Abstract

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Transitive LI – ideals of Lattice Implication Algebra

V. Amarendra Babu, T. Anitha and N. Srinivas

Pages: 6-13

Authentication and security models in Wireless Mesh Networks: A Survey

Cintre Simmi, Research scholar, Department of Computer Science and Engineering, Rayalaseema university, Andhra Pradesh, India.

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Abstract— Security is a key parameter in supporting data communication over wireless mesh networks(WMNs). Due to high computational time, memory, traffic and bandwidth, several routes in the WMNs are not secured for data communication. Mesh routers are always stationary and essential for constructing the network backbone. On the other hand, the network coverage must be enhanced along with high scalability. The most important characteristic of WMN is to relay the information that are transmitted from different nodes. As wireless routers are interconnected through wireless links and mesh clients, it is extremely difficult to find the malicious packets or attacks in the network during the data communication. In this paper, we survey authentication and security models in WMNs. Also, the issues and challenges of the traditional authentication and security models are studied in this paper.

Keywords— Mesh networks, Authentication, Data security, Encryption, Attacks

I INTRODUCTION

Wireless mesh network (WMNs) can be defined as the basic radio frequency based networks. This network contains different numbers of mesh routers and mesh clients. The mesh routers are also known as routing devices or access points. Mesh routers are stationary in nature and these are responsible for building the backbone of the network. Mesh clients have restricted amount of energy than that of mesh routers. Mobility, flexibility and robustness can be achieved with the help of WMNs. Apart from this, the network coverage can also be enhanced with high scalability. The applications of wireless mesh networks include healthcare, enterprise networking, security surveillance, etc.

Two types of attacks are possible in WMNs, those are active and passive attacks. Both passive as well as active attacks in WMNs communicate through wireless multi-hop process. In case of wireless mesh networks, passive attacks may violate confidentiality. On

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Advanced "ETL" Types and Tools for Analysis in Data Mining

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Transitive LI – ideals of Lattice Implication Algebra

V. Amarendra Babu, T. Anitha and N. Srinivas

Prediction of Students' Performance for a Multi Class Problem Using Naïve Bayes Classifier

A Daveedu Raju, Ch Gaayathre, G Leela Deepthi, K Madhuri, D Maheswari

Abstract: Many engineering colleges in India are competing with one another to improve the standards of the college by providing best education to the students. The major marking sign among the various criteria is the pass percentage of the students. Sometimes the college management is miffed by stake holders such as parents, other professional bodies, alumni due to the pressure impounded on the students to get the best pass percentage. The proposed paper uses the traditional, but powerful naive Bayes classifier for forecast the student performance, that in turn help the faculty and management to take appropriate movements. The data is collected from the students of 4 year bachelor degree programs of Computer Science and Electronics programs. The data preprocessed for missing value imputation and attribute subset selection. The Bayes classifier model is built by the preprocessed data. The model is tested for check of accuracy and that provided satisfactory results on unknown class label forecasting or prediction, although the features are assumed to be independent as norms of Bayes' theorem. This helps the teachers and all the stakeholders of the academic institutions that lead to know the performance of the students and to give them the knowledge based on their performance. Further the students and the stakeholders can take corrective actions against the students, whose result is dissatisfactory and it helps to improve their result.

Keywords: Naïve Bayes classifier, prediction preprocessing, student performance.

I. INTRODUCTION

Data mining in general is the process of extracting the useful information from the raw data. Various data mining tasks are partitioned in to descriptive and predictive tasks. Descriptive tasks provide the whole description of the data depending on the user requirements. Characterization and discrimination comes under this category. Predictive tasks deals with the finding of unknown label by considering all other independent variables/attributes. Classification and prediction are comes under this task [1]. Classification is the process of building a model or function that portrays the data classes. This model is built by training set and tested for its integrity by test set. The training and test both have the independent and dependent (target) class variables. But the test set tuples hide the class label while it applied on to the model.

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The classification tasks are comes under the supervised learning as it utilizes the class label for building the model. Various classification methods are decision trees, naive Bayes, stochastic gradient descent, logistic regression, k-nearest neighbors, decision trees, random forest, and support vector machine (SVM) [2].

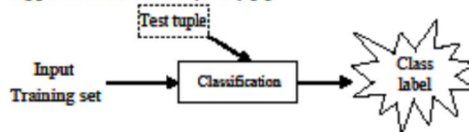


Figure 1. Schematic diagram for class label prediction.

Among the various prediction techniques, Bayes classifier has its own advantages for its simplicity by considering the attributes that are not influence one another and carries the equal weights. The schematic diagram of finding the class label for test tuple is shown in Fig. 1. Few outlines of the classification are prescribed here.

A. Bayes classifier

Naïve Bayesian classifier adopts the Bayes' theorem which predicts the class membership probabilities, that indicates the probability of a particular tuple that belongs to a specific class.

B. Bayes' Theorem

The theorem is named after the statistician and philosopher, Thomas Bayes [3], who formulated the theorem $P(A|B) = P(B|A)P(A)/P(B)$, which comes in to light by Richard Price, a preacher and philosopher after Bayes called to glory.

The description of the terms in the theorem is stated below. $P(A|B)$ represents the probability that occurrence of variable A given that B is true, it is a conditional probability known as posterior probability. $P(A)$ and $P(B)$ represents probabilities of the occurrence of variable A and B respectively.

$P(B|A)$ represents the probability that occurrence of variable B given that A is true, it is the likelihood or conditional probability.

Further $P(A)$ is called the prior probability of proposition and $P(B)$ is called the prior probability of evidence.

In the naïve Bayes classification, it is written as

$$P(C_i|X) = \frac{P(X|C_i)P(C_i)}{P(X)}$$
$$P(X|C_i) = \prod_{k=1}^n P(x_k|C_i)$$



AN EFFICIENT AND PRIVACY PRESERVING BIOMETRIC IDENTIFICATION SCHEME IN CLOUD

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ABSTRACT

Biometric identification has become increasingly popular in recent years. With the development of cloud computing, database owners are motivated to outsource the large size of biometric data and identification tasks to the cloud. However, outsourcing biometric data to the cloud incurs storage and computation costs, which however brings potential security and privacy concerns. In this paper, we propose an efficient



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INTEGRATION OF RANKED MULTIPLE ACCESS AND ADVANCE COMPUTING FOR IOT-BASED BOLD CITIES USING COMBINATIONAL IOT

Y. Nagendra Kumar, G.Hari Hara Kumar

ABSTRACT

The Internet of Things (IoT) is associated with rising technology that extends to attach a large number of devices along and to the Internet. Based on this IoT, a smart town is enabled with time period observance, omnipresent sensing, universal connectivity, and intelligent informatics and management. Associate degree IoT-based smart town offers various good services to all types of users, therefore increasing the usage of public transportation, health care, surroundings, and entertainment. The combination of transformation, computation, and store has an important role in the development of versatile and effective IoT in smart cities. However, with the introduction of Radical Massive networking (RMN) and Mobile Line computing (MLC). In doing, therefore, economical multiple access and advanced computing need to be addressed within the physical layer and Medium Access Control sublayer. Here we propose an extensible and continuous IoT framework that integrates Radical Massive networking (RMN) -based ranked multiple access and advanced computing between MLC and cloud to support the smart town view. The suggested framework will reduce the end-to-end delay and consumption of energy. Additionally, we tend to discuss a variety of open analysis problems in implementing the proposed framework.



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ABSTRACT:

This App we get any important and emergency calls or message, we don't have option to see that information till we get back to mobile. Few times by not attempting calls / Messages for long hours we may need to face few issues later on. To avoid this we are coming up with an application where we can integrate the mobile with SMTP email system so that employee/user will get the notifications of email or SMS to their email client which is installed at his/her work stations.

INTRODUCTION

Purpose:

One of the fastest growing industries now a day is mobile industry. There are many competitors in this area who are doing research and development on new platforms & user experience. One such technology is Android from Google which is supported for many manufactured phones. These phones are described as next Generation mobiles [As

VARIOUS IoT TECHNIQUES THAT IMPACT THE HUMAN HARDSHIP – A CASE STUDY

A Daveedu Raju, PVK Kumar, M Raghu Chandra, G Srinivasa Rao, P
Chakradhar

Abstract: Many of the tasks that are performed by human are well substituted to perform well by robots or machines through IoT without changing the integrity and reliability that performed by humans. This IoT elevated from Kitchen appliances to astronaut modules. The impact of the IoT influences a lot on the human hardship as it make them work effortlessly. The advancement of technology is also an added advantage to IoT as that hybridized with vast areas like cloud technology, networking, and data science. The proposed paper deliberates various areas of the IoT applications that change the hardship of the people who habituated to perform their tasks through manual methods that so far eradicated their efficiency as they discharged their services to various unworthy issues. The different areas such as manufacturing, production, prediction, accessibility etc. is well explained.

Keywords: hardship, IoT, services, utili



A Review on Omni Channel Retailing in Modern Era

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Abstract

Omni-channel retailing is the concept of complete integration of all channels and it has developed as an extension of multi-channel retailing. The development of Omni-channel retailing is to combine the benefits of both the digital and the non-digital retailing in order to give the customer a seamless retail experience. Advantages related to online sales include price transparency, the availability of reviews and unlimited selection of products while benefits related to offline retailing are for example face-to-face interaction, instant gratification and hands-on product experience.

Introduction

Some retailers have begun to take the channel integration even further, as they aim for complete integration of their channels, through the implementation of an Omni-channel strategy (Protowicz & Cuthbertson, 2014). An Omni-channel retailer can for example allow the customer to place an order online with the possibility of collecting the product(s) in the physical store (Kumar et al., 2012), often referred to as 'click-and-collect'. They can also install 'in-store online terminals' in the physical stores as a way to leverage the benefit of the online sales channel, offering a wider product assortment, with the convenience of in-store assistance (Rigby, 2011). In addition to this, in order to make the website more Omni-channel oriented, the retailer can provide information on in-store product availability as well as store location as a way to connect the website with the physical stores (Herhausen, Binder, Schögel & Herrmann, 2015). Essentially, an Omni-channel allows the customer to combine the benefits of the different retail channels and improve customer service, increase sales and higher customer loyalty are many times incentives for retailers to implement an Omni-channel strategy (McCormick, Cartwright, Perry, Barnes, Lynch & Ba, 2014; Zhang, Farris, Irvin, Kushwaha, Steenburgh & Weitz, 2010; Capgemini Consulting, 2014). Large chains such as IKEA, Louis Vuitton and J.C. Penney are some examples of retailers that have gone in this direction (Herhausen et al., 2015).

While the incentives for implementing an Omni-channel strategy can be strong, there are also, however, various reasons to why some retailers are hesitant towards the implementation of an Omni-channel. This includes an increased level of complexity, originating from the many structural differences between the channels. The online channel for example differs in many aspects from the offline channel in terms of e.g. logistics, customer behavior, return policies and service expectations (Johnson & Whang, 2002). The high costs and effort of changing the processes and investing in new technology is another factor of concern related to an Omni-channel strategy (Herhausen et al., 2015). Another drawback is the internal conflicts that can occur when the goals of the different channels are incompatible (Agatz et al., 2008). Not only is the integration an operational and

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**IMPACT OF CONSUMER ETHOCENTRICISM ON THEIR
PURCHASE INTENTIONS OVER FOREIGN PRODUCTS WITH
REFERENCE TO INDIA**

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A CRITICAL REVIEW ON FRAMEWORK OF INDUSTRIAL RELATIONS

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Abstract

Industrial Relations is a field of study and practice dealing with a set of interactions at the workplace predicated upon employment contract involving work parties and their representatives in job regulation. The meaning givers in this definition are: study field/practice, set of interactions, employment contract, work parties' representatives, and job regulation. It started with the factory employment system consequent upon the industrial revolution of the 18th century. It has since developed into an independent discipline with its own jargon and increased significance in society. industrial relations, employment relations adopt a wider range including other sectors such as services sector, focusing more on individual relationships between employer and employee than collective ones, without conflicts and on a participatory management approach, based on trust, loyalty and understanding the needs of employees. Employee relations management places a particular emphasis on communication between managers and employees and also among employees between them.

Introduction

Industrial Relations is a field of study and practice dealing with a set of interactions at the workplace predicated upon employment contract involving work parties and their representatives in job regulation. The meaning givers in this definition are: study field/practice, set of interactions, employment contract, work parties' representatives, and job regulation. It started with the factory employment system consequent upon the industrial revolution of the 18th century. It has since developed into an independent discipline with its own jargon and increased significance in society. However, there is still a debate over what really is its focus and approach with scholars having different perspectives. Giri(2002), gave a sample of these perspectives to include: System, Oxford, Industrial Sociology, Unitary, Industrial Conflict, Class Conflict, Integrated, and Political Economic perspectives or approaches. According to Green (1994), even attempts at defining its content by focusing on certain institutions, characteristics, procedures and topics have not solved its problem of definition and analysis. Employee relations' is a term that has become commonly used only in relatively recent years to indicate a particular area of subject matter. Prior to this it is likely that you would have found the term 'industrial relations' in more common use.

**A DYADIC PERSPECTIVE ON CORPORATE SOCIAL
RESPONSIBILITY AND FINANCIAL PERFORMANCE**

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ON CAYLEY-SYMMETRIC Γ - SEMIGROUPS

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ABSTRACT. The concept of Cayley-symmetric Γ - semigroups is introduced, and many equivalent conditions of a Cayley-symmetric Γ - semigroups are given. It is proved that a strong semilattice of self-decomposable Γ - semigroups S_α is Cayley-symmetric if and only if each S_α is Cayley-symmetric.

Key words: Generalized Cayley graphs, Cayley-Symmetric Γ - semigroup, strong semilattice of Γ - semigroups, self-decomposable.

I. INTRODUCTION

Based on the research papers on Cayley graphs of semigroups, Yongwen Zhu first introduced the concept of generalized Cayley graphs of semigroups in which some fundamental properties of generalized Cayley graphs of semigroups were studied. Based on the works on Cayley graphs of semigroups, we introduced the concept of Cayley-symmetric Γ - semigroups. Several equivalent conditions of a Cayley-symmetric Γ -semigroup are presented in this paper and established a necessary and sufficient condition for a semilattices of Γ - semigroups to be Cayley-symmetric.

II. PRELIMINARIES

Definition 2.1. Let T be an ideal extension of a semigroup S and $\rho \subseteq T^1 \times T^1$, T^1 is a semigroup T with identity adjoined. Then Cayley graph $\text{Cay}(S, \rho)$ of S relative to ρ is defined as the graph with vertex set S and edge set $E(\text{Cay}(S, \rho))$ consisting of those ordered pairs (a, b) , where $xay = b$ for some $(x, y) \in \rho$. Also we call these defined Cayley graphs as generalized Cayley graphs.

Notation 2.1. If S is a semigroup and $a \in S$, then $P(a) = S^1 a S^1$, $L(a) = S^1 a$, $R(a) = a S^1$ are the principal, left, right ideals generated by a resp. where S^1 is a semigroup with identity adjoined.

Definition 2.2. Let $S_L = S^1 \times \{1\}$, $S_R = \{1\} \times S^1$, $S_U = S^1 \times S^1$ be the left, right and the universal relations on S^1 , then the generalized Cayley graphs $\text{Cay}(S, S_L)$, $\text{Cay}(S, S_R)$, $\text{Cay}(S, S_U)$ are called the left universal, right universal and universal Cayley graphs of S resp.

Definition 2.3. A semigroup S is called Cayley-symmetric if $\text{Cay}(S, S_L) = \text{Cay}(S, S_R)$

Definition 2.4. Let T be an ideal extension of a semigroup S . If $\text{Cay}(S, T_L) = \text{Cay}(S, T_R)$, then we say that S is Cayley-symmetric in T .

Definition 2.4. Let $S = \{x, y, z, \dots\}$ and $\Gamma = \{\alpha, \beta, \gamma, \dots\}$ be two non-empty sets. Then S is called a Γ -semigroup if it satisfies (i) $x\gamma y \in S$ and (ii) $(x\beta y)\gamma z = x\beta(y\gamma z)$, for all $x, y, z \in S$ and $\beta, \gamma \in \Gamma$

Definition 2.5. A non-empty subset A of a Γ -semigroup S is called a Γ -subsemigroup of S if $A\Gamma A \subseteq A$.

Definition 2.6. A left (right) Γ -ideal of a Γ -semigroup S is a non-empty subset A of S such that $S\Gamma A \subseteq A$ ($A\Gamma S \subseteq A$) and a two sided Γ -ideal or simply a Γ -ideal is that which is both a left and right Γ -ideal of S .

III. CAYLEY-SYMMETRIC Γ -SEMIGROUPS

Definition 3.1. Let T be an ideal extension of a Γ -semigroup S and $\rho \subseteq T^1 \times T^1$, T^1 is a Γ -semigroup T with identity adjoined. Then Cayley graph $\text{Cay}(S, \rho)$ of S relative to ρ is defined as the graph with vertex set S and edge set $E(\text{Cay}(S, \rho))$ consisting of those ordered pairs (a, b) , where $x\alpha\beta y = b$ for some $(x, y) \in \rho$ and $\alpha, \beta \in \Gamma$

Notation 3.1. If T is an ideal extension of a Γ -semigroup S and $\subseteq S$, then $P_T(A)$, $L_T(A)$ and $R_T(A)$ are the ideal, left ideal and right ideal generated by A .

Here $P_T(a) = T^1\Gamma a\Gamma T^1$, $L_T(a) = T^1\Gamma a$, $R_T(a) = a\Gamma T^1$ where $a \in A$ and

$$P(a) = S^1\Gamma a\Gamma S^1, L(a) = S^1\Gamma a, R(a) = a\Gamma S^1, a \in A$$

Lemma 3.1. If T is an ideal extension of a Γ -semigroup S , then the following are equivalent:

- (1) $L_T(a) = R_T(a)$ for every $a \in S$
- (2) $L_T(a)$ is a right ideal of T and $R_T(a)$ is a left ideal of T for every $a \in S$

Definition 3.2. Let T be an ideal extension of a Γ -semigroup S . If $\text{Cay}(S, T_L) = \text{Cay}(S, T_R)$, then we say that S is Cayley-symmetric in T .

Theorem 3.2. If T is an ideal extension of a Γ -semigroup S , then the following statements are equivalent:

A Study on impact of 5p's on Women Health

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ABSTRACT:

Women effort to seem more beautiful. To enhance their beauty women depend on cosmetics. Beauty products fulfill the inner desires and dreams of women. Even though the concept of beauty varies from culture to culture the usage of cosmetics is global. Cosmetics are used to alter the appearance of the face, fragrance and texture of the body. These include skin-care creams, creams, powders, fragrances, lipsticks, nail polish, eye and facial makeup, hair colors, oral sprays, deodorants etc. Due to the wide usage of these products health related issues are pertaining to women of all age groups. The tendency to develop disorders related to breast cancer, fibroids or reproduction is unique to women's health as per earlier studies. The study aims at examining the factors that are responsible for health deterioration in women. This review also addresses studies looking at the use of 5 products used in cosmetics and their exposure and outcomes on women's health. Parabens, Phthalates, Polyquaternum, Polyethylene glycol, petrolatum are the harmful toxins used in beauty products. These act as Endocrine-disrupting chemicals which pose severe threat to women health. Breast and uterine cancer are the most frequent female-related cancers whose growth is mostly estrogen dependent. The present paper discuss about the impact of these 5P's on women health.

Introduction

Globalization, Education and Changing trends are changing the life style of women. Life of women in developing countries is changing day by day. Economy and awareness lead the women progressive in developing nations. Women are now educated and improved the quality of life through good career. This economical development made the women life independent and changed the lifestyle of modern women. Women became stylish with the recent trends of fashion. They want to look more beautiful. Now a day's women are dependent on cosmetics to enhance their beauty. Though the usage of cosmetics for beauty is an old concept. Dependence on cosmetics for looking beautiful is increasing day by day. Cosmetic products are used as moisturizers, sun screen lotions, skin care products, perfumes, talcum powders, deodorants etc. These products are used to improve the skin colour, moisturize, to get good fragrance and to promote attractiveness. Cosmetics improve the external appearance and also cover the flaws of that person using that product. Women who apply make-up are insecure, anxious and not confident according to the study of (Robertson et al.). Some factors such as advertisement, peer pressure and social acceptance, influence the choice of skincare products applied by most women (Okereke et.al.2015). Usage of Cosmetics had become a part of life of women in present day life.

Methodology

This review paper present the earlier studies from 1988 to 2018. Various articles on use of cosmetics and their effect on health were reviewed. Many papers from well reputed journals give a scope of study about various chemicals used in cosmetics. Their impact on health and their use in production process is taken into consideration for writing this paper. All the articles were searched through Google scholar and other search engines. Key words like Cosmetics, endocrine disruptors, Health impacts, Body care products, Hazardous chemicals in cosmetics are used for searching the articles. The referred papers are from medical journals

International Journal of Scientific Research and Reviews

Optical and IR studies of Cr³⁺ doped Li₂O-K₂O-B₂O₃ glasses

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ABSTRACT:

The glasses of Cr³⁺ doped Lithium potassium borate (LKB) glasses with variable concentrations of alkali content were prepared by melt quenching technique. The prepared samples were characterized by UV-vis absorption, EPR and FT-IR spectroscopy. Various physical parameters are evaluated and non-linear variation in physical parameters for different glasses was observed, which gives the evidence of MAE. optical absorption studies reveals the covalent nature of the Cr³⁺ doped LKB glasses. The evaluated bonding parameters suggest the covalent nature. The FT-IR spectra of the glasses showed the presence of trigonal BO₃ and tetrahedral BO₄ structural units.

KEYWORDS: Borate glass; Mixed alkali effect; Optical absorption; Melt quenching.

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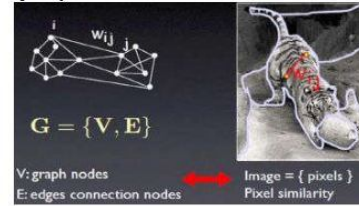
Graph Theoretical Techniques for Microarray Image Segmentation

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Abstract ---Image segmentation is a crucial and essential process in image processing and image pattern technologies. One of the most challenging tasks in image segmentation process is microarray image analysis, recognition and spot segmentation. Each microarray image initially segmented coarsely, and represented as a graph model. In order to find and capture spots, proposed an Enhanced Hough Transformation algorithm within the microarray image. Enhanced Hough Transformation (EHT) is a powerful feature extraction technology used in digital image processing to analysis. EHT algorithm is applied on the DNA microarray images to prepare the accurate spots localization, addressing and segmentation process. The main goal to EHT algorithm to occurrence of spots within certain cl applying a voting procedure on the DNA microarray images for spots localization, addressing and

Because of the confinement of bunching, division comes about got by the k-implies calculation are frequently not all that tasteful.



Diagrammatic diagram of graph-based image segmentation[7].

With the quick improvement of diagram hypothesis,

Compact Four Port Pentaband MIMO Antenna for Low Power Wireless Applications

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Abstract – A compact four port pentaband Multiple Output Multiple Input (MIMO) with envelope correlation coefficient (ECC) is presented in this paper. The overall structure is simulated on with FR4 epoxy with dielectric constant 4.4 on 75mm x 75mm size. The mutual effect can be reduced by arranging the antennas in orthogonal places and also along with concentric ring grounds. This proposed antenna has wide bandwidths such as 120MHz (4.75-4.87GHz), 150MHz (5.37-5.52GHz), 80MHz (6.05-6.13GHz), 240MHz (7.14-7.38GHz) and 1430MHz (9.61-11.04GHz). The isolation between antennas is more than 25dB. Due to the advantages of multiple resonances, wide bandwidth and good isolation between antennas, this antenna is more compatible for lower power wireless applications and for 5G applications.

Keywords – Four port MIMO, Multiband, Mutual coupling, Diversity gain, ECC

I. INTRODUCTION

Along with the growth of wireless communication technology, data rate and quality of service (QoS) are highly demanded. Therefore, Multiple input multiple output (MIMO) antennas are required because of without additional bandwidth and high transmit power. MIMO antenna transmits data through multi channels nothing but multipath propagation. Due to this method, the channel capacity of radio link increases. From few decades onwards, MIMOs are implemented for IEEE 802.11n (Wi-Fi), IEEE802.11ac (Wi-Fi), 3G, 4G and Long Term Evaluation (LTE) technologies [1].

One of the major parameter in the MIMO antenna performance is Envelope Correlation Coefficient (ECC), its value should be less than 0.5 then only there is a strong mutual coupling between antennas within the physical area [2].

In this paper, various MIMO configurations are presented for wireless and future 5G applications. The electrical characteristics such as reflection coefficient, isolation and far field characteristics are depicted in this paper. This antenna shows good ECC and strong mutual coupling between antennas. This complete work has been simulated on High Frequency Structure Simulator (HFSS).

II. INITIAL DESIGN METHODOLOGY, IMPLEMENTATION AND ITS RESULTS

First, a printed circular patch antenna was designed on top layer of a FR4-epoxy substrate with dielectric permittivity, $\epsilon_r = 4.4$ and thickness of this material is $h=1.6\text{mm}$. The complete structure designed on overall area of $45\text{mm} \times 30\text{mm}$. As we known that the initial circular patch antenna has been implemented for narrowband applications using fundamental principles [3-6]. Figure 1(a) shows the initial design of circular patch antenna. The circular patch with radius $R_1=12.62\text{mm}$ was fed by a line of length $L_f=15\text{mm}$ and width $W_f=0.6\text{mm}$. From this basic design, a new hybrid antenna developed looks like a sriyantra shape, which is constructed by using various methodologies [7-11] as shown in figure 1(b).

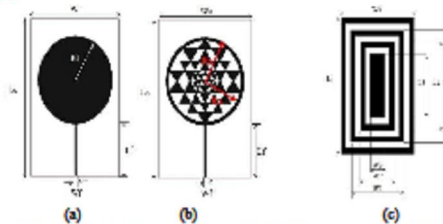


Figure 1: a) Circular patch antenna b) hybrid shaped structure c) DGS applied for hybrid structure

The zeroth iteration of circular radiator is simply capacitive loading. Gradual slots in the radiator produce multiple

A Low Profile Circularly Polarized Triple Band Antenna for Diverse Applications

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Abstract - A compact low profile smaller size (0.608λ x 0.456λ x 0.024λ) triple band antenna for diverse applications is proposed. Multiband operation is accomplished by developing peano fractal on square patch and step shape unit cell DGS implemented. This antenna centered at 2.56GHz, 6.16GHz and 10.50GHz with fractional bandwidths are 380MHz, 670MHz and 1220MHz respectively. This antenna supports circular polarization at resonant frequencies. The main advantage of this antenna is smaller in size, multiple resonances with maximum peak gains, circularly polarized and high radiation efficiency. This antenna has also good impedance matching and radiation characteristics. This antenna is most suitable for fixed mobile, earth-to-earth communication applications.

Keywords - Peano curve; DGS; Tripleband; Circular polarization; Radiation efficiency.

I. INTRODUCTION

Wireless Communication plays a Major role in technology. It involves in transmission of the signals over Thousands of Km without the help of cables or wires. A Vast Growth in wireless Technology. Antennas Plays a major role in telecommunication. Antennas are basic components of any electrical circuit as they provide interconnecting links between transmitter and free space or between free space and receiver. In Present generation currently using Wireless systems are Cellular System, Wireless LANS, Satellite System, Paging System, PANS (Bluetooth).

Recently miniaturized antennas has gained significant lead in the field of modern wireless communication technology because of smaller in size, low profile, easily integrated with circuits, simultaneous occurrence of multibands, easy fabrication, maximum gain and radiation efficiency [1-3]. This microstrip antenna is also known as internal antenna. It supports both linear and circular polarization.

Regarding this literature survey reports huge number of methods are implemented to obtain multiband antennas such as etching slots in patch and ground [4-9], fractal antennas [10-12], different parasitic elements [13-15] etc. From all these methods, fractals are preferred because of self-similar structure & space filling property [16].

In this paper, a low profile hexagon modeled peano curves loaded on square patch antenna, which is suitable for diverse applications. Section 2 explains about the existing models and its results discussion. Section 3 describes about the design implementation of proposed structure with simulation results and its discussion. Section 4 demonstrates the design summary of proposed antenna. Section 5 shows the comparison of proposed antenna characteristics with

existing works. Finally section 6 concludes this work with applications in conclusion.

II. EXISTING METHODS

Figure 1 shows the initiator and generator of the Giuseppe peano curve [17]. Figure 2(a-c) shows the rectangular, circular and triangular modeled peano curves loaded on square patch antenna [18-20]. Figure 3 shows the simulated reflection coefficient characteristics of these antennas.



Fig.1: Initiator and generator of the Giuseppe peano fractal

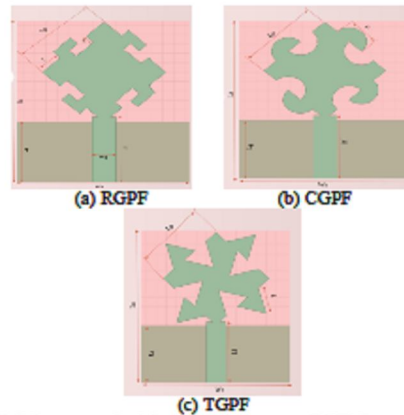


Fig 2: Peano curves loaded on square patch antenna (RGPF- Rectangular modeled peano curve, CGPF- Circular modeled peano curve, TGPF- triangular modeled peano curve)

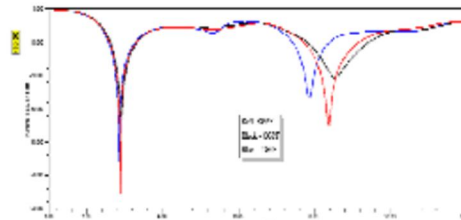


Fig 3: Reflection coefficient characteristics comparison of existing models

From figure 3, red colour solid line shows the return loss characteristics of RGPF. This antenna resonates at two

LOW POWER SEQUENTIAL CIRCUITS DESIGN USING RECONFIGURABLE PULSED LATCH AND CONTROL UNIT FOR RELIABILITY ENHANCEMENT

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Abstract:

In low power ASIC designs, pulsed latches are gaining increased visibility. They provide an alternative sequence with high performance, low area consumption. While the circuit reliability,

I.Introduction:

The operation of pulsed latches (PLs) is based on enabling the latch for a short time generated by the pulser circuit. study the effects of PVT variations on PL operation, the effects on

Design of CPW-Fed Elliptical Monopole Antenna for Wideband Applications

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Abstract -In this paper, ellipse shaped patch antenna design is proposed for wide band applications. The main purpose of this work is to obtain a maximum bandwidth. Initially, the planar elliptical antenna has Ultra Wideband (UWB) characteristics. The dual band antenna resonates at 6.44GHz and 9.04GHz. The Tri - Wide band antenna resonates at 4.05GHz,5.96GHz and 14.42GHz with the impedance bandwidths 460MHz(3.83-4.29GHz),1.83GHz(4.62-6.45GHz),9.03GHz(7.45-16.5GHz) respectively. The proposed antenna has Omni -directional radiation characteristics and has its applications over S-band, C-band, X-band and Ku-band such as weather and ship radars, Wi-Fi, satellite and wireless communication.

Keywords - Elliptical patch, CPW-fed, UWB, Dual band, Tri band, Omnidirectional

I. INTRODUCTION

Wireless communication meant the transmission of information or message over a distance without the help of wires, cables or any other forms of electrical conductors. It incorporates all procedures and forms of connecting and communicating between two or more devices using a wireless signal through wireless communication technologies and devices and has brought much advancement with its effective features in the field of communications. The main feature of this wireless communications is that the information can be transmitted from the range of meters to thousands and lakhs of kilometers easily when compared to the other types of communications and some other features such as cost effectiveness, flexibility, convenience, speed accessibility, constant connectivity, etc. has made to use it in a large scale. It has a wide range of applications in different fields such as cellular telephony, wireless access to the internet, wireless home networking, etc. Some other applications of wireless communications includes GPS units, garage door openers, wireless computer mice, keyboards and headsets, headphones, radio receivers, satellite television, broadcast television and cordless telephones.

The immense development in the field of wireless communications lead to the increase in the demand of low profile antenna with compact size and which can be used over a wide range of frequencies for different applications and has Omni-directional propagation had increased a lot. As, it is known that the above requirements are met by microstrip patch antenna. Hence, microstrip patch antennas are used in a large scale. In addition to the above

advantages, some of the advantages of the microstrip antennas includes low fabrication cost, light weight, robust when mounted on rigid surfaces of the devices, microstrip patches of various shapes e.g. rectangular, square, triangular etc. are easily etched, they are easily etched on any PCB and will also provide easy access for troubleshooting during design and development [1-4].

However, these MPA with regular patch shape it may be either circular or rectangular or any other shape occupies a large physical size and results in narrow bandwidth, poor radiation efficiency and it is unable to satisfy the requirements of modern wireless communication systems. In order to achieve the wide band width and high radiation efficiency many researchers have been carried out by the researchers to design multi-band MPAs [5-7].

Now a day's several techniques are available for the designing of compact multi-band MPAs with material aids in the creation of operation of multi-bands. Different techniques are opted for the designing of ground, patch and feed lines in order to obtain multi-band operation. Recently CPW (Coplanar Wave Guide) feeding technique has gained the immense attraction of the researchers due to its advantages over other feeding techniques. Some of the advantages of the CPW feeding includes low cost, less dispersion, simple realization due to etching on one side, broadband performance, as it does not need via holes for shunt and series elements ,etc [8-10].

In this work, a new design approach is introduced for achieving multi-band frequencies suitable for S-band, C-band, X-band and K_u-band applications. All these antennas

Design of Single Element & 1 X 3 Array Antenna Inspired by DGS for WLAN Applications

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Abstract: In this paper, an array antenna has been proposed for wireless applications. A square patch antenna is loaded with Giuseppe peano curve fractal and inspired by defected ground structure (DGS) to obtain the efficient electrical and far-field reports of square patch antenna. The impedance bandwidths of single proposed radiating element are 380MHz, 670MHz and 1220MHz with peak gains are 1.58dB, 2.55dB and 4dB. For 1 X 3 array antenna, the impedance bandwidths are 450MHz, 750MHz and 1450MHz with peak gains are 2.44dB, 3.89dB and 4.28dB respectively. Our goal is to obtain the high directivity and high gain to use for low power wireless applications.

Keywords – Square patch element, 1 X 2 array, 1 X 3 array, Fractals, DGS, High directivity, Maximum peak gain

1. INTRODUCTION

Now a day's Wireless communication has vast growth in our country. So many applications are there based on wireless communication. It plays a major role in society and any of the places in country the Electronic Gadget is working based on the wireless communication. It plays a major role in developed countries; mainly it is used in the satellite communication [1-3].

Initially the wireless communication is developed at the starting stage of Industries. In the starting stage the systems transmit the information using smoke signals, torch signaling, flashing mirrors, semaphore flags. The main aim of the wireless communication is to exchange the information between the people or devices without using wires, but it already existed, Wireless communication is used to transfer the information between the multiple devices at a time from anywhere in the world. It is used to provide the connection between the computers, phones, monitoring systems [4-6].

It is used in military applications like tracking enemy targets, detection of chemical and biological attacks. Wireless communication includes voice, Internet access, and web browsing and paging. It is used to transfer the information without using any physical connection between two or more points. It helps to easily access the remote areas where the ground lines can't be properly laid. It can operate the system faster than the system which is connected with wires and also stop's the working of machine if anything goes wrong.

Array antenna is a set of multiple antennas. The main objective of antenna array is to improve the gain characteristic. The signal from the antennas are combined or processed in order to improve the performance. Antenna arrays are group of isotropic radiation of electromagnetic frequency; they provide a solution to the problems caused by single antennas. The array antennas are used to transmit and receive the radio waves [7-8].

2. PERFORMANCE OF SINGLE RADIATING ELEMENT

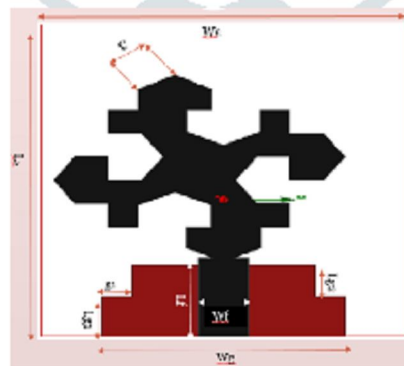


Fig 1: Hexagonal Antenna

Here first designed the Rectangular Square Patch antenna with a FR-4 epoxy material. Later hexagonal modeled peano curve is loaded on square element to get the proposed structure. Due to the more irregularities in the hexagonal shape, current distributions fixed at some frequencies to produce multiple resonances. The size of antenna is 40mm x 30mm. Figure 1 shows the

Design and Analysis of Asymmetric CPW-Fed Arcs Loaded Circular Patch Antenna

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Abstract: A novel asymmetric grounded coplanar waveguide (CPW) circular patch antenna with arcs loaded are presented for multiband applications. This antenna is formulated of a monopole, extended circle, arcs loaded and asymmetrical ground planes. This structure excites at four frequencies such as 2.38GHz, 3.40GHz, 7.66GHz and 8.95GHz with impedance bandwidths are 160MHz (2.30-2.46GHz), 90MHz (3.35-3.44GHz), 7.66GHz (7.00-7.91GHz) and 630MHz (8.62-9.25GHz). The radiation characteristics at the centered frequencies are closer to Omni-directional patterns. Although this proposed antenna resonant frequencies could be easily adjusted to some commercial applications like Bluetooth, GPS, WLAN, broadband satellite communication.

sections. Section 2 describes model designing and parameters listed in tables. Section 3 describes the results and discussion comparison shown in tables. Sections 4 describes conclusion and section 5 about describes about references.

II. CIRCULAR PATCH ANTENNA CONFIGURATION AND ITS RESULTS

Initially the circular patch antenna designed having antenna dimensions 21mm x 25mm is considered with asymmetrical coplanar wave guide (CPW) feeding. The view of circular patch antennas are proposed antenna is simulated on FR4 epoxy substrate material with dielectric constant 4.4 and loss tangent is 0.02 by using High Frequency

An UWB, Tri-Pentaband Spiral Fork Shaped Hexagonal Microstrip Patch Antenna for Wireless Applications

P Satya Sai, T Venkata Suma, Ch Murali Krishna

*Abstract: A spiral fork shaped hexagonal micro strip patch antenna is designed to operate at different frequencies, which are in ultra-wide band range (3.1-10.6GHz). The proposed antenna is designed on a FR4 epoxy material with dielectric constant 4.4 and overall size of structure is 28*28mm². Coplanar waveguide feeding (CPW) is used in this design for easy simulation. This proposed triband structure resonates at 1.36GHz, 5.74GHz and 8.8GHz. The proposed pentaband antenna resonates at 3.64GHz, 6.76GHz, 7.36GHz and 8.98GHz. The impedance bandwidths are 200MHz, 70MHz, 170MHz, 520MHz*

frequencies. It has several advantages such as smaller in size, low profile, easy to fabricate, low cost and low spurious radiation [2]. These are capable of supporting multiple frequency bands and support dual polarization types. These are resistant to shock and vibration. There are different irregular shape microstrip antennas are available such as [4], circular [5], triangular, modified optical [7] etc.

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A Review of Active Power Filters and Their Control Strategies

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ABSTRACT

Active power filters are the emerging devices, which can perform the job of harmonic elimination more effectively. The active power filters are used to filter out higher as well as lower order harmonics in the power system. The report deals with the basic working and classifications of active power filters, its reference signal generation techniques and some of the controlling schemes of APF. One of the key points for a proper implementation of an active filter is to use a good method for current/voltage reference generation. There exist many implementations supported by different theories proposing ever better solutions. This paper introduces some of the commonly used theories. Also for efficient working of active power filter better controlling techniques have to be implemented. The paper presents a brief study of active power filter (APF) control strategies put forward recently. It is aimed at providing a broad perspective on the status of APF control methods for better operation of the system.

KEYWORDS: Reference signal estimation techniques, Gating signal generation methods, Active power filter, Harmonics mitigation, Power quality, control strategy, Power system harmonics.

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An Overview of Power Quality Issues and FACTS Controllers for Enhancement of Power Quality

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Abstract— This Large penetration of non-conventional sources of energy (such as wind and solar) into the utility grid usually leads to power quality deterioration of the net system due to the intermittency nature associated with such energy sources. Power quality parameters that may likely be disturbed by such interconnection include voltage profile, frequency waveform, power factor, as well as active and reactive power of the power system. However, grid operators and consumers at all level of usage requires a perfectly balanced three phase A.C power of constant frequency and magnitude with smooth sinusoidal wave shape. In order to compensate for such disturbances, Flexible A.C Transmission System (FACTS) controllers were developed. This paper presents a technological review of power quality, necessity of power quality, evaluation and problems related to power quality. We will focus on issues such as harmonic distortion, short interruption, long interruption, low voltage, voltage sags, Unbalanced Loads, voltage swell, voltage spike, wiring and grounding, Energy wastage on unoccupied space ,poor power factor and different types of FACTS controllers and their application for power quality enhancement in a grid network composing of conventional and non-conventional energy sources.

Keywords— Include at least 5 keywords or phrases Power quality, FACTS Controller, Reactive Power, Voltage Regulation, harmonic distortion, interruption, voltage sags, voltage swell, voltage spike.

I. INTRODUCTION

This In spite of review papers, articles, and books published in the area of electric power quality, its definition has not been universally decided upon. However, everybody accepts that it is a very important aspect of power systems and electric machinery with direct results on efficiency, safety, and reliability. Various sources use the term “power quality” with different aspects. It is used commonly with “supply reliability”, “service quality”, “voltage quality”, “current quality”, “quality of supply” and “quality of consumption”. Reading all the different definitions, power quality is generally meant to present the quality of voltage and/or the quality of current and can be defined as: the measure, analysis, and improvement of the bus voltage to maintain a sinusoidal waveform at rated voltage and frequency [1].

Regulating Electricity Demand Management of Residential Loads Using Fuzzy controller

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Abstract

This paper demonstrates a new technique for regulating electricity demand for home appliances. To accomplish this target, a Fuzzy Control System (FCS) has been implemented. The main theme behind this is, all home appliances are divided in to priority classes and the maximum power consumption limit is specified. The power consumption of appliances should not exceed the threshold during peak hours. If they exceeds maximum specified limit, FCS delays the operation of some of the appliances and keep the power consumption with in threshold. This is the way, power consumption be allowed for low electricity bills for acc

Keywords: Fuzzy Control System, Home Appliances, Priority Classes