

**INFLUENCE OF PROCESS PARAMETERS ON PERFORMANCE
CHARACTERISTICS DURING ELECTRICAL DISCHARGE MACHINING OF**

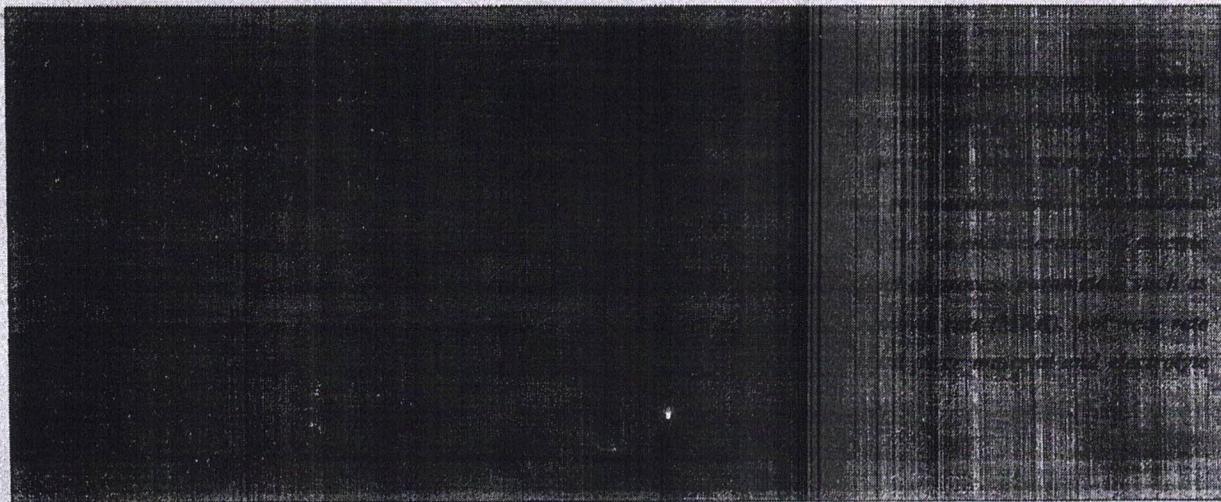
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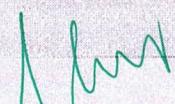


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1. INTRODUCTION

The EDM is one of the significant assembling forms broadly applied in pass on and form making industry to create profound and three-dimensional complex pits in various classes of materials under roughing and completing tasks [1]. Die-sinking EDM is a procedure which depends on flash disintegration to fabricate confused shapes through electrically conductive work pieces by utilizing a terminal. The material in EDM is expelled by disintegration process with dreary sparkle releases created by throbbing DC power gracefully. Around a huge number of sparkles are created every second and each flash melts and disintegrates extremely limited quantities of material and produces an infinitesimal pit [2]. Precision and precision are critical in the machining of bite the dust prepares, which requires advancement of EDM process boundaries to improve the presentation of the procedure with respect to the SR, dimensional exactness, cathode wear rate (EWR) and MRR of the EDM procedure [3]. Die-sinking EDM is a non-customary assembling process and will be utilized for establishing negative connection of the terminal on the work piece. The machining will be done in the dielectric lowered condition. By and large machining cathode will be of Copper and Graphite and work piece will be of any conductive material and their compounds. The present the vast majority of the bite the dust sinking EDM applications require various goes to get the ideal exactness and surface completion on the machined parts. This is finished by applying diverse blend of machining boundaries like current,

Original Article



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CONSIGNMENT INVENTORY SIMULATION MODEL FOR SINGLE VENDOR- MULTI BUYERS

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ABSTRACT

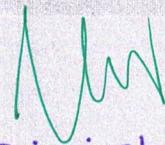
The focus on the studies of supply chain management has been increasing in recent years among academics as well as practitioners. In this paper, we present an extendable multi agent supply chain simulation model for consignment stock inventory model for a single vendor - multiple buyers. The simulation study dealt the quantitative measures of performance of consignment stock model with respect to number of shipments, delay deliveries, number of shipments shifted due to partial information sharing, average inventory levels of buyer and vendor and joint total economic cost (JTEC) as key performance parameters. Flexsim V3.0 a discrete event simulation software is used for simulating the model.

Key words: Consignment stock, Delay delivery, Information sharing.

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1. INTRODUCTION

In today's global market place, firms are no longer competing as independent entities with unique brand names, but rather as an integral part of entire network links. As such, the ultimate success of a firm will depend on its managerial ability to integrate and coordinate the intricate network of business relationships among Supply Chain (SC) members (Drucker, 1998, Douglas & Cooper, 2000). Since the holding of inventories in a supply chain can cost anywhere between 20% to 40% of product value, hence the effective management of inventory is critical in SC operations (Ballou, 1992) In this environment Supply Chain Management (SCM) has become a means of further adding value to products and to gain a global competitive advantage in the business strategy. Thus the efficient and effective management of inventory control throughout the supply chain significantly improves and ultimate provides service to the customer (Lee & Billington, 1992). Houlahan (1985) is credited to be the first person for coining the term SC with insight concepts for viewing the SC as a strategy is described the holistic approach of integrating the SCM global strategic business decisions. Many definitions of SCM have been mentioned in the literature and in



STRATEGIES OF DELAY DELIVERY AND CONTROLLABLE LEAD TIME IN SUPPLY CHAIN CONSIGNMENT INVENTORY

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ABSTRACT

This paper describes about two strategies in consignment inventory based supply chain with controllable lead time and delaying last delivery comprising a two level supply chain involving single vendor and multi buyers. This model would give minimum joint total expected cost of the strategies involving vendor and buyer, simultaneously to optimize quantitative decision variables. Numerical examples are presented to demonstrate the benefit of the proposed strategies and the effect of changes on the cost and parameters are studied.

Key words: consignment inventory; supply chain; joint total expected cost; delay delivery; controllable lead time; crashing cost.

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1. INTRODUCTION

The global competitive and technology has brought a big challenge to the enterprises to meet the customer needs in the way of service and acceptable costs. In order to fulfil the customer needs, the entrepreneurs have to see the network optimization to customer mode network business models with the aim of minimizing cost and maximizing service without compromising the quality of customer need end product. Since the inventories can cost approximately between 8 to 20 percentage of total product value, hence an effective controlling of inventory is critical and most essential. The new demand pointed towards reduction in product total manufacturing cost, which in turn pointed towards their suppliers and this formed a chain reaction. Eventually in this aspect inventory is one of the most widely discussed area to improve efficiency. Hence the vendor plays a key role in the maintain the inventory. Since 1980, the popularity of Vendor Managed Inventory (VMI) has grown with the introduction of this concept in Wal-Mart, Procter & Gamble, and later initiated by other companies including Campbell Soup, Johnson & Johnson and by European firms.

To reduce inventory cost in business, Supply Chain (SC) has become a suitable tool. Supply chain is the process of planning, implementing, and controlling the activities as



A review of performance optimization and current research in PMEDM

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ABSTRACT

The EDM method is non-conventional in machining for machining of geometrically unpredictable or hard materials and electrically conductive materials that cannot be machined with ordinary forms of machining. With latest strategies, research has emphasized EDM's increased machining efficiency. PMEDM is an ongoing method where a Mixed conductive powder with the dielectric liquid to improve EDM machining capabilities in this direction. This paper introduces the review work done to improve the performance characteristics of machining like MRR, SR and TWR for different Machining parameters like I_p , Duty factor, T_{on} , T_{off} , Work piece material, powder type, concentrated powder with different dielectric liquids and powder materials. Also in the paper reports and summaries Current trends in the research, PMEDM using various powders such as Nano powders mixed in dielectric fluids and examined the current challenges, future scope of research and impediments of the PMEDM process.

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1. Introduction

EDM is a non-conventional technique of electro-thermal machining, sometimes called spark eroding, sparks machining method. It is used primarily for machining hard materials and high quality safe materials such as titanium, super combinations of solidified steels that are generally used in aircraft and other mechanical applications [1]. It is manufacturing processes where electrical energy is acquired by favoured shape to produce electrical sparks, and the material removal is due to spark thermal energy [2]. In EDM work piece is generally associated with positive terminal and tool with negative terminal. And possible differentiation is connected between work piece and tool. Many input parameters mainly affect EDM efficiency such as circuit voltage (V_o), operating voltage (V_w), peak current (I_w), t_{on} , t_{off} , work piece gap and tool gap, polarity, dielectric medium and internal flushing through the gap of the spark. EDM is an electro thermal technique involving the Plasma channel arrangement between the tools and piece of work, primarily used to machine such hard-to-machine alloys as well as high quality and temperature safe alloys (HSTR). These materials are widely in the die and mould manufacturing industries [3].

1.1. Working principle of PMEDM

PMEDM was developed in the previous few centuries One of the most significant and creative processes to overcome the inconvenience of the EDM method and to upgrade the EDM limit [4]. The concept of powdered blended EDM appears in Fig. 1. PMEDM is used to enhance the MRR and to decrease the contrast between SR and standard EDM by increase the Work piece gap and electrode gap. When the voltage was applied to the Powder particles, it becomes strong and continues with a crisscross pattern [5]. These loaded Particles are being accelerated and behave as conductors promoting the gap breakdown due to the electrical field. This improves the gap between the piece of work and the tool. These particles come close to one another under the sparking region and organize in the shape of the chain like constructions. In the present flow direction, the Powder particles interlocking happen. The formation of chain enables to bridge the distance between the discharge electrodes. Due to the impact of bridging, the insulation intensity of dielectric fluid decreases, resulting in a simple short circuit. This results in early explosion in and below the gap area the series discharge begins. The quicker sparking in a spill creates quicker erosion from the job piece's surface and thus improves the MRR. PMEDM was used to enhance rough machining effectiveness. PMEDM has enabled machining efficiency to be improved by

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DYNAMIC RESOURCE DISTRIBUTION FOR PROFIT MAXIMIZATION IN CLOUD COMPUTING

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Abstract

Cloud computing provides resources and services to customers in a powerful premise. That is the reason it has become an effective and very efficient path for computing. Benefit assumes a very significant role from perspective of a cloud service provider. This benefit will be determined based on how a cloud service platform has been configured and it likewise depends on market demand. Generally a single long haul renting will be used to configure a cloud platform which isn't capable of quality service and it likewise leads to a greater resource waste.

Introduction

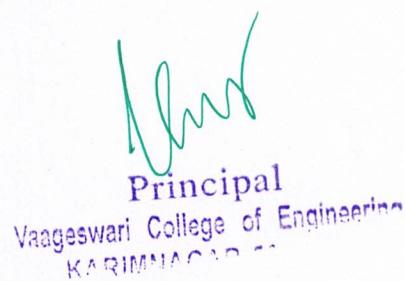
Cloud computing is a novel worldview which enables omnipresent, on-demand, convenient network access to a shared pool of computing resources, that are flexibly provisioned and released with insignificant management effort or service provider interaction. The cloud computing phenomena is creating great interest as it provides services "on-demand", at lower cost, with reduced complexity and improved adaptability. The cloud resources are available in the Data Centers (DC), which are geographically distributed in the cloud environment. The computing resources namely Virtual Machines (VM), storage resources and networking resources are the essential elements of the data center in cloud computing. Customers utilize these resources through networks. Every one of these resources are made available to the customers as per their needs by the cloud providers. The cloud provider needs to fulfill the user demands with promised Quality of Service (QoS), just as keeps up its benefit level to persist in the market.

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Sentiment Analysis for Multi-Attribute Data in OSNs Using Hybrid Approach

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Sentiment Analysis for Multi-Attribute Data in OSNs Using Hybrid Approach

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Abstract: Increasing popularity of social networks like LinkedIn, MySpace and other networks in present days. Communication is also increased in between users present in social networks. Large amount of data being move on social media because of increase data outsourcing. Sentiment analysis is impressive and interest concept for online social networks, while different types of existing methods to find sentiment in online social networks to define communication between different users to categorize patterns with respect to similar attributes to analyze large data. We present and suggest the Hybrid Machine Learning method in this paper.(which is combination of Balanced Window and Classification based on Parts of Speech) to handle outsourced data of social networks from Face Book and other blogging services are trained and then classify the relation based on emotional aspect like positive or negative and other relations in social streams. The performance of our proposed approach is to extensively close to machine learning and identify important relevant features randomly and perform sentiment analysis in different data streams. Our experimental results show exhaustive level of classification results with comparison of existing approaches in real time environment.

Keywords: Online social networks, sentiment analysis, relevant data streams, machine learning and data pre- processing and social data streams.

1. Introduction

Present day's online social networks being improved network to share different users opinions, different network sharing platforms like LinkedIn, Face book, Twitter share web data logging with server computing systems [2]. The bewildering measure of information coursing through interpersonal organizations has made digging for helpful bits of learning inside informal organizations a field of huge enthusiasm for late circumstances. Because of its expansive volume of information stream, information mining in interpersonal organizations has turned into a well known research field, with slant examination being a zone exceptionally compelling[1]. The clients of an informal organization can every now and again be part into particular gatherings in light of regular interests. By recognizing these gatherings it is conceivable to show their general estimation as a delegate of a bigger populace, utilizing the sub- category in a specific OSN as a test. Notion examination reviews information displayed by people inside the bigger gatherings and, given an example, takes into account the assurance of the general disposition or sentiment of that gathering towards specific points[3].



CAPABLE MECHANISM FOR HIGH ELEVATION UTILITY GROUPS

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Abstract: We face all the challenges of proposing a unique structure to find the best set of tool items, where k could be the desired number of HUIs. High Utility Elemental Mine (HUI) is definitely a new data extraction problem describing how to find all element groups by getting a software application that meets the specified minimum for specific use - useful. . However, properly positioning Min-util is a really difficult problem. Two types of robust algorithms, called TKU and TKO, are proposed to extract these groups of elements without having to specify small utilities. We offer a structured comparison of algorithms while discussing their advantages and limitations. Empirical assessments of real and artificial data reveal that the performance of the proposed algorithms is similar to that of high-tech public service mining algorithms. The current search may be successful in some applications. It is not produced to disassemble groups of very useful elements, but it is still subject to the subtle problem of setting appropriate limits. We suggest a method called NU, which is used while creating the UP tree. Using k instead of min_util is highly desirable in many applications. TKU formula accepts a dense tree-based structure called UP tree to preserve a set of elements and data useful for the event. TKU inherits the useful features of the TVU model and includes two steps.

Keywords: Utility mining, top- k high utility item set mining, high utility item set mining.

1. INTRODUCTION:

In most cases, finding the right minimum for the tool by learning from errors is a tricky process for users. If min_util is missing, many HUIs are created, which can make the mining process really inefficient. If min_util is exceeded, the HUI is unlikely to be found. In this article, we address the above issues by proposing a completely new framework for finding the best excavation for groups of high utility components, where k may be the recommended amount of existing HUIs. In order to accurately control the size of outputs and find the best utilities for

Optimized Localization of Wireless Sensor Nodes with RSSI in Wireless Sensor Networks

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Abstract:

In WSNs localization is an important issue for many applications as it increases the lifetime of the nodes, power consumption calculations, data routing etc., we optimized the localization of *Wireless Sensor Nodes* at a given network area where we used some known location Anchor nodes for better results. By considering the anchor nodes as reference nodes at given area, the localization of unknown sensor Nodes Location be able to be estimated, to approximate the sensor nodes triangulation method was adopted. In this paper Delaunay Triangulation (DT) method was implemented for exact estimation of unknown nodes in the network area. DT method proves better localization algorithm compared with other methods. Anchor nodes measures the RSSI of nearest neighbour nodes, based on RSSI values DT method approximates the nearest neighbour nodes and DT triangles are formed.

Keywords: RSSI, Delaunay Triangulation, Wireless Sensor Nodes.

I. INTRODUCTION:

In the recent years *Wireless sensor networks (WSN)* are the most vigorous investigate area from the past few years, as the demand for sensor nodes in real time applications are growing gradually. In WSNs the location of sensor nodes is the critical element in the deployed area where especially nodes are in motion, then it is very complicated to find the exact location of unknown node, and it's complicated to estimate how far unknown nodes away from the anchor nodes. Many algorithms were proposed to estimate the correct Location of sensor nodes but when the nodes are in motion, most of the algorithms failed to approximate the exact Location of Target nodes.

We proposed triangulation method to find the correct Location of unknown nodes, whose location is frequently changes with this scenario it is very difficult for the anchor nodes to estimate the exact

location of targeted nodes, we addressed above problem to provide a optimal solution for Localization of WSNs to identify its neighbouring mobile nodes frequently and updates the status of mobile nodes time to time.

The proposed work we described in the following sections as: in Section-II we discussed about RSSI model based on the literature survey on different wireless sensor networks nodes localization techniques, which are exploited in Section-II, Section-III Grey prediction method, Section-IV describes DT triangle method, and in Section-V Simulation Results.

II. Distance Measurement based on RSSI model

The most widely used wireless network models are FSP model, Hata Model, LDPL model, TRGR model, Log-Normal Shadowing Model, etc [2]. As in paper [2] LNS model is best suited for RSSI

Study, Analysis of Various Time Synchronizing protocols in WSN

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Abstract: In recent year's time-synchronization plays a crucial part in WSN to preserve shared data among various sensor nodes observed in real world environment. Wireless networks consists of different types of sensors which are conjugate with each other to gather sensed data from the field such as temp, animal tracking and etc., the main goal of sensors is to maintain reliable information accomplished when nodes are time synchronized. The most common limitations of sensor networks such as security, bandwidth, storage, energy etc., in these prospect earlier researchers mainly paid attention on study of various protocols. Earlier effort and study in wireless sensor networks proposed different algorithms. The main aim of this paper is to investigate diverse time synchronisation algorithms and explore investigation based on qualitative and quantitative criterion. The analysis will help the researchers in studying various time synchronization protocols.

Keywords: Time-synchronisation, WSN, protocols, synchronization.

I. INTRODUCTION

In recent year's researchers showing keen interest time-synchronisation algorithms in WSNs as it acts a vital task in real world applications such as medical, military, environmental and industrial applications. Most of the wireless sensor networks are distributed systems with G-Clock operates independently with local clocks difficult to maintain synchronization with each other. It is very complicated to interpret and incorporate sensed data among nodes. Sensor nodes local clocks suffer drift and clock skews, which creates problem for synchronized notion of time in some applications, especially surveillance, weather forecasting and very difficult to have a common time stamp among all sensor nodes [1]. Some of the sensor limitations are energy optimization, cost reduction, security and quality associated with it. This paper focused broadly to analyze various protocols like GPS, TPSN, NTP, FTSP and RBS. The time-synchronisation problems have been considered comprehensively in Local Networks and in internet [1]. Most of the available synchronization protocols depend on the GPS clock information, where it is highly cost effective may not suitable for tiny sensor nodes. The cost effectiveness of sensor nodes motivated towards the development of software based schemes to accomplish internetwork clock synchronization.

This paper presents various sections as follows: Section II describes related work on various time synchronization methods, Section III describes existing time synchronization methods, Section IV describe comparative analysis of various time synchronization protocols, and final section concludes the paper.

II. METHODS OF TIME SYNCHRONIZATION

Synchronization of time in distributed sensor network systems is an vital parameter of a WSNs, intends to present a general timescale for localclocks of nodes in the network, which presents a detailed analysis. Many researchers described various existing protocols in which they focused to discuss on common challenges of synchronization and methods [2]. Hardware sensor nodes clocks are inadequate, localclocks of sensor nodes try to drift in time with each other and the observed clocks may vary for nodes in network.

• NTP

Synchronization plays a vital role in all the areas, network time protocol mostly utilized in regular networks of computers to maintain the synchronized clock. It uses UTC, where NTP utilizes clock-servers level to maintain time synchronization. Stratum known at each level assigned level value labeled as '0', label '1' is assigned to the next level and the same procedure is repeated for all the levels. Generally stratum'0' is a atomic-clocks or GPS-clock. Network Time Protocol client transmit multiples request to server and keeps pair of offset & delay for future computations. NTP's drawback is it needs to transmit multiple messages to the server for synchronization.

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Article in Letters in Organic Chemistry · April 2019

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Microwave-Assisted Synthesis, Biological Evaluation and QSAR Studies of Novel Chalcone Derivatives

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Abstract:

Novel Chalcones is considered as an important chemical for the synthesis of various physiological significance and pharmacological utilized molecules. Traditionally, chalcones are prepared by Claisen-Schmidt condensation of equimolar concentrations of arylaldehydes and acetophenones which are generally base catalyzed. The structures of the newly synthesized compounds (**3a-3t**) were elucidated by IR, 1H-NMR, Mass spectroscopy. All the synthesized compounds (**3a-3t**) screened for their anti-fungal activity and QSAR analysis was applied to a data set of 20 obtained Novel Chalcones derivatives and the best model described a strongly correlation between the anti-fungal activity and molecular descriptors as refractivity (MR), Ovality, HOMO energy (HE), LUMO energy (LE), partition coefficient (CLogP, LogP, Connolly accessible area (CAA), Connolly molecular area (CMA), Connolly solvent excluded area (CSEV). All the parameters showed significant correlation with biological activity ($r < 0.8$), but the molar refractivity exhibited best correlation ($r > 0.9$) of high statistical significance $> 93.52\%$. The statistical quality of the resulting models depicted in Eqs. (1-4) is determined by r^2 ($r^2 > 0.9$). Calculated parameters and correlation matrix needed for MRA (Multiple Regression Analysis).

Keywords: Chalcones, Claisen-Schmidt condensation, Antifungal activity, QSAR; Multilinear-regression.

1. INTRODUCTION

Green chemistry is a new and rapidly emerging field of chemistry. Its growing importance is in utilization of the maximum possible resources in such a way that, there is negligible or minimum production of chemical waste. It is one of the best alternatives for traditional chemical synthesis processes. By applying the green synthesis method, we can not only avoid the use of hazardous, toxic solvents, but also the formation of by-products is avoided. Thus, they are perfectly amenable to automation for combinatorial synthesis (Domling et al 2006). In 1986, Gedye and Giguere reported for the first time that organic reactions could be conducted very rapidly under microwave irradiation.

Schiff bases are aldehyde or ketone-like compounds in which the carbonyl group is replaced by an imine or azomethine group. They are widely used for industrial purposes and also exhibit a broad range of biological activities. They have been reported in their biological properties, such as, antibacterial, antifungal activities (Williams et al 1972; Campos et al 1999; Sari et al 2003; Verma et al 2004). Isatin is considered as important class of bioactive compounds exhibiting caspase (Chu.W et al 2009) inhibitor antibacterial and antiproliferative activity (Chu. W et al). Schiff bases of isatin analogous have anti smallpox (Pairing. C.M et al 2005) and GAL3 receptor antagonist capabilities (Konkelet. M. J et al 2006). Isatin derivatives reported to show antiviral (Jarraphouret.A et al 2007), antiinflammatory, analgesic (Sharaf.O.A et al

2009), and anticonvulsant activities (Verma. M et al 2004). Isatin- β -thiosemicarbazone derivatives were found to demonstrate a range of chemotherapeutic activities (Teitz.Y et al 2006).

Chalcones are abundantly present in nature from ferns to higher plants (Star and Marby, 1971). They are aromatic compounds with an unsaturated side chain and are often cytotoxic in vitro (Dhar, 1981). Chalcones have also been reported to be antiinflammatory, analgesic and antipyretic (Satyanarayana and Rao, 1993). Some chalcones possess bactericidal, antifungal and insecticidal activity and some of their derivatives are reported to be antimutagenic (Torigoo et al., 1983). Chalcones are 1,3-diphenyl-2-propene-1-one (Nowakowska, 2007 and Maayan et al., 2005), in which two aromatic rings are linked by a three carbon a, b-unsaturated carbonyl system. These are abundant in edible plants and are considered to be the precursors of flavonoids and isoflavonoids. Chalcones are synthesized by Claisen-Schmidt condensation, which involves cross aldol condensation of appropriate aldehydes and ketones by base catalysed or acid catalysed reactions followed by dehydration. Chalcone is a common natural pigment and one of the important intermediates in the biosynthesis of flavonoids. Synthetic and naturally occurring chalcones have been extensively studied and developed as one of the pharmaceutically important molecules. Chalcone derivatives are screened for their anti-inflammatory activity (Kim et al., 2007), chemo preventive activity (Shen Jeu et al., 2005), cardiovascular



Digital Payments in Indian Banking Sector – A Study

E. Hari Prasad★ G.V. Bhavani Prasad★★

Abstract

The Indian banking sector has undergone several changes and recorded a remarkable growth since liberalization. With the development of technological innovations in the banking sector, new regulations along with increasing needs of customers, the banking sector is facing challenges. Indian banking sector has been introducing new technology enabled operations to satisfy its customers. The present paper is aimed to study the technological innovations introduced in the banking sector for digital payments which made easy for payments and settlements of banks as well as customers. Demonetization of rupee was expected to increase in digitalization of payments and settlement systems in India. This study uses monthly data to study degree of digitalization of banking system in both pre and post demonetization periods. The paper considers four forms of digital transactions over the period 44 months (22 months for pre-demonetization (Jan.2015 to Oct.2016) and 22 months for post-demonetization (Nov.2016 to Aug.2018) from the RBI website. Kolmogorov-Smirnov (K-S) and Shapiro-Wilk normality tests and equality of variance in selected modes of payment systems between the two periods have been conducted. Then t tests have been conducted for each form of digital transaction to test hypotheses of equality of variance.

Keywords: Indian Banking Sector, Technological innovations, Challenges in Banking Sector, Digital Payments, Product and Services.

Introduction

The banking sector in India has undergone tremendous changes after 1991 industrial liberalization to meet increasing needs of customers. Advance in the technology has changed the perceptions of customers towards banking services. To meet changing needs and perceptions of customers, banking sector began to introduce innovative methods in their operations to provide immediate, fast, fair, prompt and transparent services to their customers with an objective of creating more value for customers. Now a day, banking sector has two types operational system e.g. i. electronic system and ii. Currency notes system. Financial sector in India has been moving from

currency notes system to electronic system. The main objective of the introduction of technology in banking services e.g. electronic system is to reduce and make 'zero' the currency note system for fair and prompt operations. At present, all the banks have started multi-channels like ATM (Automatic Teller Machine) debit cards, credit cards, internet banking, mobile banking, telephonic banking etc. Now, the role of banking has been redefining and becoming financial super markets that are providing not only financial intermediary but also various financial services under single roof. Banking institutions are facing high competition and are looking for innovative ways of services to attract and retain customers and trying to gain competitive advantages against their competitors.

Evolution of Innovations in Banking Payment Systems in India:

Advancement in information technology has

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Fiber Reinforced Self Compacting Concrete Admixture with Fly Ash and Silica Fume

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ABSTRACT

SCC is generally defined as the "concrete that does not need compaction". It means SCC gets compacted without external efforts like vibration, floating, or poking. The mix therefore is required to have the ability of flowing, filling voids and being stable. The present experimental investigation deals with the strength properties of fibrous SCC with triple blending. Fly ash and condensed silica fume (CSF) are both employed as replacement to cement at various percentages to give triple blending. By doing this kind of triple blending, it is expected to derive the beneficial properties of both the mineral admixtures. Concrete mixtures of two grades M25 and M30 are designed and tried for the SCC. Steel fibres of different aspect ratios ranging from 15-25 are tried in the present investigation. SCC mixtures with various combinations were tested for workability, compressive strength, split tensile strength and flexural strength. Comparisons are made. Based on the experimental investigation carried out in the present project, important and practically useful conclusions are drawn.

Keywords: Triple Blending, Self Compacting, Superplasticiser, VMA, Flowability.

I. INTRODUCTION

Preparation of Self Compacting Concrete

Development of self-compacting concrete (SCC) is a desirable achievement in the construction industry in order to overcome problems associated with cast-in place concrete. Self-compacting concrete (SCC) is an innovative concrete which does not require vibration for placing and compaction. It is able to flow under its own weight completely filling form work and achieving full compaction even in the presence of congested reinforcement. The hardened concrete is dense, homogeneous and has the same engineering properties and durability as traditional vibrated concrete. With regard to its composition, self-compacting concrete consists of the same components as conventionally vibrated concrete, which are cement, aggregates, and water, with the addition of chemical and mineral admixtures in different

proportions. Usually, the chemical admixtures used are high-range water reducers (super plasticizers) and viscosity-modifying agents, which change the rheological properties of concrete. Mineral admixtures are used as an extra fine material, besides cement, and in some cases, they replace cement. In this study, the cement content was partially replaced with mineral admixtures, like fly ash and silica fume. Admixtures improve the flowing and strengthening characteristics of the concrete.

Development of Self-Compacting Concrete for Modern Concrete Construction

Due to a gradual reduction in the number of skilled workers in Japan's construction industry, a similar reduction in the quality of construction work took place. As a result of this fact, one solution for the achievement of durable concrete structures independent of the quality of construction work was

STUDY OF SPEED CHARACTERISTICS ON MULTILANE HIGHWAY

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Abstract

Speed is one of the basic traffic flow parameter and useful in understanding of vehicular interactions for calculating highway traffic capacity and formulation of effective traffic regulation and control measures. In this paper an appropriate method was adopted to study the speed characteristics on urban multilane highway. The traffic flow data was collected at certain location on Delhi-Gurgaon expressway (NH-8) using videography technique. The probability distribution function and descriptive statistics of traffic stream speed was investigated. It was found that the speed follows the



A Study on Partial Replacement of Course and Fine Aggregate by Coconut Shell and Quarry Dust Mix

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Abstract- In developing countries where concrete is commonly used, increase in cost of concrete made construction extremely pricey. The production of concrete require a choice of materials like Cement, Fine aggregate and Coarse Aggregate. Due to wide usage of concrete cost of materials is being increased. So another material is used for partial replacement of Fine aggregate and coarse aggregate in concrete. Main aim of this project is to decrease the cost of concrete. Research work have been conducted with gathering of materials required, the data required for mix design are obtained by sieve analysis and specific gravity test. Sieve analysis is carried out from a variety of fine aggregates (FA) and coarse aggregates (CA) samples and the sample which suit the condition is selected. Specific gravity tests are carried out for fine and coarse aggregate. FA is replaced by Quarry dust of 30 % along with the partial replacement of CA with coconut shell. Coarse aggregate is replaced with 10 %, 20%, 30% and 40 % by coconut shell. Design Mix used is M20 grade (1:1.5:3) with W/C Ratio 0.5. The Conventional concrete and Coconut shell with quarry dust concrete specimens were casted and tested for compressive strength and split tensile strength for 7 and 28 days. The compressive strength of the CS10%+QD30% and CS20%+QD30% was 24.35N/mm² and 24.98 N/mm², Split tensile strength is 3.45N/mm² and 3.500N/mm² respectively at 28days. A Study On Partial Replacement Of Coarse And Fine Aggregate By Coconut Shell And Quarry Dust Mix.

Keywords- fine aggregates (FA), coarse aggregates (CA), Coconut shell.

I.INTRODUCTION

Civil engineering construction material is concrete. Its manufacturing process involves the some of substances like cement, sand, aggregates, water and admixtures. Due to the infrastructural development across the world, the demand for the construction material is increasing day by day. Greenhouse gases emission are produced during coarse aggregate production, which are major concern for global warming and climate change. Environmental problems such as water retentions in lakes and rivers are caused by excavating of Fine aggregate. Therefore, to use concrete mix there is a need to find some alternate or sustainable materials.

Day to day different types of waste materials production is increasing and creating many environmental issues. Making use of these waste materials in manufacturing of concrete will decrease environmental pollution and the cost of concrete. The concrete mixture consists of coarse and fine aggregate. Coarse aggregate is naturally available and factory crushed. Fine aggregate is often obtained from river beds. River sand quality usually depends on its source and for the most part of the time it varies rather a lot. Usage of fine aggregate in concrete is more than 30% of the composite, its mechanical properties have an effect

on the quality of concrete. The alternative material should be waste materials in the aspects of reduction in environmental load and waste management cost, reduction of production cost of concrete. Hence crushed sand has been identified as a substitute for river sand and coarse aggregate occupy more than 30% in concrete there for coarse aggregate is partially replaced by coconut shell in concrete by this agriculture waste material get reduced and minimize environment problems.

Production of cement Coconut shell and Silica fume in India

1. Cement

The composition of World Cement Consumption in the year 2012 is 3,313 Million metric Tons. Among that 7.0% in India 57.7% in China, 9.4% in Developed Countries, 25.9% in Other Emerging.

2. Coconut shell

India is the third largest producer of coconut products in the world. Coconut trees are widely cultivated in the southern states of India, especially Kerala. Kerala got its name itself derived from a word, 'kera' meaning coconut tree.

Effect of Lime & Sisal Fibre on Volume Change and Compressibility Change in Expansive Soils

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ABSTRACT

Soil improvement is of significant worry in the development exercises because of fast development of urbanization and industrialization. Particularly far reaching soils are overall tricky soil which is related with huge volume change conduct when it experiences an adjustment in the water content. Among those, dark cotton soil are one sort of far reaching soils and they shows high swell shrinkage conduct attributable to fluctuating water content. In India, dark cotton soil covers as high as 20% of the complete land zone and significantly in focal and south India. In the event that it ought to be utilized as establishment material, Improvement of soil should be finished by receiving different strategies like soil adjustment, support and so forth. Use of locally accessible admixtures is successful regarding simple versatility and economy.

In present examination, the dirt examples arranged with expansion of sisal filaments by 0.25%, 0.5%, 0.75%, and 1% at 4% lime as steady added substance. The normal length of sisal fiber is going to use in this examination is around 10-15mm. From the start, Optimum Moisture Content (OMC) was resolved through delegate test. At those OMC, a few tests like CBR, UCS, Consolidations tests were directed. CBR test was conveyed in both un splashed and doused condition and Consolidation characters are additionally improved for all examples.

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INTRODUCTION

Soil improvement is of major concern in the construction activities due to rapid growth of urbanization and industrialization. The term soil improvement is used for the techniques which improve the index properties and other engineering characteristic of expansive soils. Expansive soils are worldwide problematic soil which is associated with large volume change behavior when it undergoes a change in the water content. When expansive soils are exposed to high water content, the exhibit high selling characteristics. And when the presence of low water content, the shows low shear strength. These soils pose several problems to the structures due to their volume changes. Among those, black cotton soil are one type of expansive soils and they shows high swell shrinkage behavior owing to fluctuating water content. In India, black cotton soil covers as high as 20% of the total land area and majorly in central and south India. They are predominant in the states of Gujarat, Maharashtra, Madhya Pradesh, Andhra Pradesh, Karnataka and Tamil Nadu. These soils have high swelling and shrinkage characteristics and extremely low CBR value and shear strength. If it should be used as foundation material, Improvement of soil need to be done by adopting various techniques like soil stabilization, reinforcement etc. One method of controlling volume changes is to stabilize the soils with admixtures that prevent volume changes are adequately modify the volume change characteristics of soft clayey soil (Kehew 1995).

MATERIALS

Sisal Fibre:

Sisal fibre is the natural fibre obtained from the sisal plant. The production of sisal fibre was increasing in south India. The average diameter of sisal fiber will be 0.2mm. The average length of the sisal fibre is used in this study is about 10 – 15 mm. Sisal fiber used in this study was collected from Sri Lakshmi Groups, Fiber production Unit, Cherakupalli, Guntur, Andhra Pradesh.

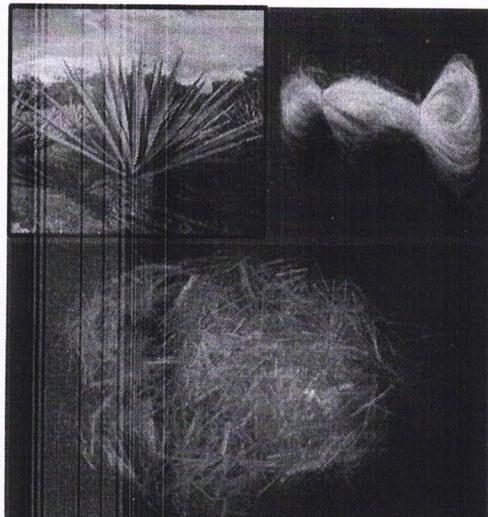


Fig-1 Sisal fibre

PREDICTION OF FUEL CONSUMPTION AND UTILIZATION IN HEAVY VEHICLES USING MACHINE LEARNING ALGORITHMS

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ABSTRACT

This is essentially an information rundown strategy focusing on distance rather than time span for developing customised AI models for fuel utilisation. An exceptionally foresighted neural organisation model for typical fuel utilisation in big trucks is developed using this methodology along with seven indicators obtained from vehicle speed and street level. We forecast typical fuel usage in large cars using machine learning algorithms like ANN (Artificial Neural Networks). Seven notable datasets have been selected. To create the ANN model, each characteristic obtained from heavy vehicles—such as the frequency of stops, the duration of stops in absolute terms, and so forth—is employed as an informative index.

Keywords: Artificial neural networks (ANN), customised AI algorithm, run down approach, flow meter.

1. INTRODUCTION

1.1 Motivation

Depending on the requirements of the intended application in question, there are trade-offs between the aforementioned methodologies principally in terms of cost and accuracy. This study proposes a model that is easily created for individual heavy vehicles and can be used to a large fleet of heavy vehicles. A fleet manager may optimise route planning for all of the vehicles in the fleet using accurate models of each individual vehicle's expected fuel consumption. By doing this, they can ensure that the route assignments are in line with lowering the fleet's overall fuel consumption and emissions.

These types of fleets can be found in a variety of industries, including product transportation by road, public transportation, construction trucks, and refuse trucks, among others. Without having a detailed understanding of the vehicle's specific physical characteristics and measurements, the methodology must be applied to and adapted to a variety of vehicle technologies (including future ones) and configurations across a fleet of vehicles to be effective. Machine learning is the technique of choice when considering the specified accuracy versus the value of the event, as well as the adaptation of an individualized model for each vehicle within the fleet, as a result of these requirements.

II. LITERATURE SURVEY

2.1 Related Work

To demonstrate normal fuel utilization, physical science-based, artificial intelligence-based, and measurable models have been used. The Environmental Protection Agency and the European Commission developed full vehicle reproduction models based on physical science for rock solid vehicles. When compared to real-world estimates obtained from a flow meter, these models are capable of predicting normal fuel consumption with an accuracy of 3 percent. This level of precision comes at the expense of a significant amount of effort in terms of advancement. As mentioned above, physics-based, machine learning, and statistical models have all been used to model average fuel consumption. The EPA and the European Commission developed physics-based, full vehicle simulation models for heavy duty vehicles. These models are capable of predicting average fuel consumption with an accuracy of $\pm 3\%$ compared to real measurements obtained from a flow meter. This level of accuracy comes at the cost of a substantial development effort. At the other end of the modelling spectrum are statistical procedures which are applied under strict testing conditions to ensure that

AN EFFECTIVE ALGORITHM IMPLEMENTATION FOR IMPROVING BINARY COUNTER USING ITERATIVE SORTING METHODS

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ABSTRACT

Many number juggling circuits use parallel counters as inputs, especially rapid multipliers. In various digital signal processing devices, the critical route includes the parallel summing of multiple operands. High compression ratio counters and compressors are required to accelerate the summing. In this article, we offer a unique sorting network-based technique for fast saturated binary counters and exact/approximate (4:2) compressors. In order to create reordered sequences that can only be represented by one-hot code sequences, the counter's inputs are asymmetrically split into two groups and fed into sorting networks. Three unique Boolean equations are constructed between the reordered sequence and the one-hot code sequence, which can greatly simplify the output Boolean expressions of the counter. Further, this project is enhanced by using parallel sorting algorithms for finding/ sorting M largest values from N inputs and then design scalable architectures based on proposed algorithms. For finding the largest values the iterative sorting techniques also proposed. Bitonic Sorting Is one type of efficient such algorithm for implementing with optimised parameters.

Keywords: Approximate (4:2) compressors, Sorting, asymmetric, Digital signal processing, Arithmetic Logic Unit.

INTRODUCTION

Most electronic systems need to use as little energy as possible, especially portable ones like smart phones, tablets, and other devices. Achieving this minimization with the least amount of performance (speed) penalty is highly sought [1]. The most desired digital signal processing (DSP) building blocks for portable components are those that enable various multimedia applications. The ALU, which is at the centre of these blocks' computations, primarily performs adds and multiplications [6]. The primary operation in the processing elements is multiplication, which might result in significant energy and power consumption. Many DSP cores employ image and video processing algorithms, the results of which are either human-readable images or videos. It makes it easier to use estimates to increase speed and energy in the arithmetic circuits. This originates from the limited perceptual abilities in observing an image or a video for human beings. In addition to the image and video processing applications, there are other areas where the exactness of the arithmetic operations is not critical to the functionality of the system (see [2],[3]). Approximate computing provides an accuracy, speed and power/energy consumption. The advantage of approximate multiplier reduces the error rate and gain high speed. For correcting the division error compare operation and a memory look up is required for the each operand is required which increases the time delay for entire multiplication process [4]. At various level of abstraction including circuit, logic and architecture levels the approximation is processed [5]. In the category for approximation methods in function, a number of approximating arithmetic building blocks, such as adders and multipliers, at different design levels have been suggested in various structures [6],[7]. Broken array multiplier was designed for efficient VLSI implementation [8].

LITERATURE SURVEY

SINGLE DC-SOURCE-BASED SEVEN-LEVEL BOOST-INVERTERFOR ELECTRIC VEHICLE APPLICATIONS

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ABSTRACT

This research presents a circuit layout for a multilevel inverter that can enhance the number of output voltage levels while using fewer devices. This study proposes a single dc- source-based seven-level inverter (LI) with boosting capacity. To provide seven-level boosted output, the suggested inverter uses eight switches, two diodes, two capacitors, one inductor, and a single dc source. The suggested inverter is suited for electric vehicles because it uses a single dc supply and has boosting capabilities, requiring less series-connected battery cells. The proposed 7LI uses phase-shifted pulse-width modulation (PWM), a multi-carrier-based PWM technology, to generate switching pulses. A device count-based comparison of the proposed inverter to recent topologies is carried out. Simulation is used to assess the viability and impact of the proposed inverter, which is then validated with a laboratory prototype.

INTRODUCTION

The electric motor is driven by an inverter, which is built to the exact specifications of the EV traction drive. In the case of bigger EVs like buses and trucks, where modular inverter design is more practical, a high-power inverter is required. The traditional two- level voltage-source inverter (VSI) for drive has two major drawbacks: (i) in electric vehicles, the development of high- frequency ripple current at the dc bus, which increases as the ambient temperature rises. As a result, a larger capacitor is required, lowering the EV's power density and efficiency. (ii) In order to commutate large motor currents, VSI is run at a higher switching frequency, which results in substantial switching losses. Multilevel inverters (MLIs) have less filter requirements, lower electromagnetic interference, lower switching losses, and less stress on switches than two-level inverters (LIs). To overcome the limits of the 2LI and to take into account the needs of electric vehicles, the MLI is a better power converter.

In order to increase the number of output levels while reducing the number of devices, the number of voltage sources must also rise. Several MLI topologies using a single dc source are presented in to address this issue. proposes a 7LI with seven switches, two diodes, and three capacitors that operates with a single dc supply. proposes a 5LI based on packed U-cells. Six switches, one capacitor, and a dc source make up this circuit. For a seven-level operation, MLI in requires a series-parallel connection of three capacitors and one dc voltage source. Sun et al. present 7LI, a single dc-source based on switching capacitors. proposes a switched-capacitor-based 9LI for high- frequency applications. Because the availability of dc sources in the form of batteries is restricted, these topologies are appealing for EV applications. However, because these battery sources have low voltage ratings, an additional boosting stage following the battery stage will increase EV performance.

MLIs with voltage boosting capability have recently been presented. The boosting stage will minimize the number of batteries required even more. As a result, for an EV application, a single dc-source-operated MLI with boosting capacity is an appropriate solution. Lee et al. present a series of boost switched capacitors for floating capacitors based on 7LIs with self-voltage balancing. presents a switched-capacitor-based 9LI with a maximum boosting capability of twice the input dc source. For photovoltaic applications, Vahedi et al. suggest a modified packed U-cell 7LI. proposes a step-up MLI with fewer switches, however the number of diodes used is large. All of the boost MLIs shown in need a large number of components. The number of devices must be lowered even more.

SAFE TRANSFERRING OF PATIENTS FROM ONE PLACE TO OTHER PLACE USING MULTIPURPOSE WHEELCHAIR

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ABSTRACT

The goal of this study is to develop affordable, multi-use wheel chairs that encourage mobility and improve quality of life for those who have trouble walking. In order to reduce pressure injuries, this invention forces users to directly remove patients out of beds. In addition to lowering the price of the product, we also want to reduce pressure injuries and falls. The ability to utilize a wheelchair for both indoor and outdoor use is another feature of this type. After the project is finished, we will have accomplished our goal of bringing wheelchairs. We created a wheelchair that is more versatile, safe, affordable, and of excellent quality. It allows for the safe movement of patients from one place to another place. The procedure that is used for transferring patients is very simple and unique

Keywords—Patient, Multipurpose, Wheel chair, versatile

INTRODUCTION

Those who struggle to walk due to disease or handicap use wheelchairs as a mode of transportation. It may be moved by rotating the wheels or the handles. Wheelchairs come in a wide variety of styles and designs today, including manual, powered, and transport wheelchairs. It is true that recent advances in science and technology have fundamentally altered how the average person lives today, but we also have to acknowledge that some groups of people have not benefited from these advancements. Others old people nevertheless have unpleasant lives, while some handicapped persons have restricted mobility. The engineers have taken many steps to help those people like designing a wheelchair. Recently, the elderly person and physically handicapped person who use a wheelchair are increasing. However, only two types of wheelchairs were come into wide use. They are normal hand operating wheelchair and electronic wheelchair operated by joystick. The former type needs muscular strength for the operation and the latter type needs the skill. Not only that, the handicapped without hand needs help of another people to move the wheelchair. Not only that, we also found that lifting and shifting of a disabled or a bedridden person has always been difficult, risky and problematic. This lifting and shifting is also dangerous and painful for that particular disabled person if an untrained person does it. Moreover, patients are also afraid of this procedure, as there is possibility in danger of slipping, falling and getting injured. Wheel chair consists of mechanical components basically such as the hand rims, arm rests, footrests, castors, seat and backup holster. However, the existing wheel chair has weakness such as not ergonomics enough to meet the users needed. Ergonomics can be defined as the application of knowledge of human factor to the design of systems (Taylor & Francis, 2008). The first wheelchair was made for Phillip II of Spain. Later on in 1655 a disabled watchmaker called Stephen Farfel built himself a three-wheeled chair to help himself get a bout on. In 1881 the 'push rim' was invented which meant no more dirty hands for wheelchair users; they could use the push rim to move the wheels and not get covered in mud. From here wheelchairs have developed more and more over the years including easy use, more options, light weight options, and adjustable seats and so on.

LITERATURE SURVEY

In a research paper "Design of multipurpose wheelchair for physically challenged and elder people", Mr. Mohan Kumar at al. Shows a new design of wheelchair which can be used for multipurpose. They made some observations on the physically disabled persons, ill peoples, hospitalized peoples, and all those peoples



DETECTION AND IDENTIFICATION OF CROP YIELD RECOMMENDER SYSTEM USING CLUSTERING ALGORITHMS

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ABSTRACT

Without a doubt, the most significant source of income in rural India is provided by agriculture and its affiliated industries. In addition, the agriculture industry makes a significant contribution to the nation's Gross Domestic Product (GDP). However, when compared to worldwide norms, the agricultural output per acre is unsatisfactory. This is one of the many potential reasons why marginal farmers in India commit suicide at higher rates. For farmers, this study suggests a practical and approachable yield prediction system. The suggested system offers farmers connectivity. GPS aids in locating the user. The user enters the inputs for the world and soil type. The most profitable crop list can be selected using machine learning algorithms, and they can also forecast the crop yield for a crop that the user has chosen. To predict the crop yield, selected Machine Learning algorithm the Random Forest which showed the most effective results with 95% accuracy. Additionally, the system also suggests the suitable time to use the fertilizers to boost up the yield.

I. INTRODUCTION

1.1 PROBLEMDEFINITION

The problem that the Indian Agriculture sector is facing is the integration of technology to bring the desired outputs. With the advent of new technologies and overuse of non-renewable energy resources patterns of rainfall and temperature are disturbed. The inconsistent trends developed from the side effects of global warming make it cumbersome for the farmers to clearly predict their crop yield .

1.2 PURPOSEOFTHEPROJECT:

The purpose of the project is to help farmers to generate profits. A lot of work has to be done on the dataset for its analysis and prediction. This whole work is done so as to check the current position of crops and find out the future expected crop so that the framers can predict which crop yield is more.

1.3 SCOPE

This Paper can be used by any farmer of who wants to grow or do farming. It can also be used by students and researchers for their work.

II.EXISTING SYSTEM

The biggest challenge in agriculture is to increase farm production and offer it to the end-user with the best possible price and quality. It is also observed that at least 50% of the farm produce gets wasted, and it never reaches the end-user. One of the recent works, It has been shown that KNN clustering proved much better than SVM or regression. The existing system which recommends crop yield is either hardware-based being costly to maintain, or not easily accessible.

III. PROPOSED SYSTEM

In this project, we have proposed a model that addresses the existing issues. The novelty of the proposed system is to guide the farmers to maximize the crop yield as well as suggest the most

ASSESSMENT OF POLLUTION CHARACTERISTICS ON 2-STROKE AND 4-STROKE ENGINES WHEN METHANOL AND GASOLINE ARE MIXED

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ABSTRACT

Everyone in the current situation is dealing with issues brought on by the rise in emissions from the IC engines utilized in all automobiles. These pollutants prove to be extremely dangerous to human life because they cause the body to produce dangerous carcinogens, which cause cancer, a disease that can be fatal. The current project, "Assessment Of Pollution Characteristics On 2-Stroke And 4-Stroke Engines When Methanol And Gasoline Are Mixed," has been taken on with the goal of lessening the harmful emissions from the engines. Since CH₃OH is a common by-product of many processing businesses, including sugar factories, paper mills, etc., it has been chosen for this work since it is a renewable supply. CH₃OH burns similarly characteristics as that of gasoline.

1. INTRODUCTION

It is predicted that crude oil and petroleum products would become extremely expensive to find and produce in this century. Even if engine fuel efficiency has significantly improved over the years and will likely continue to do so, the growing number of cars alone indicates that there will be a high need for gasoline in the near future. Fuels like gasoline and diesel will get more expensive and scarcer. In the upcoming decades, alternative fuel technology, accessibility, and utilization must and will increase. Concern over the emissions issues with gasoline engines is what's driving the development of alternative fuels for IC engines. Combined with other air-polluting systems, the large number of automobiles is a major contributor to the air quality problem of the world. Quite a lot of improvements have been made in reducing emissions given off by an automobile engine.

1.1. Emissions with Alternate Fuels:

The emissions are due to

1. Oxides of nitrogen (NO_x),
2. Oxides of carbon (CO_x),
3. Unburnt hydrocarbons (HC) and
4. Solid carbon particulates.

1.2 Techniques to meet Emission Norms:

To meet extremely stringent emission standards in an automotive engine, extensive researches have been carried out to explore various ways to reduce NO_x and particulate emissions from petrol engines. The methods and techniques to reduce emission of pollutants from internal combustion engines usually decrease its performance. Considering the impossibility of a short term modification in the current standards of energy consumption, the most effective way for reducing environmental impacts relies on increasing the efficiency of the thermal engines. In other words, research should be carried out on development of more efficient engines or to apply means, for the current level of technology, to minimize entropy generation. Specifically, for internal combustion engines, a reasonable solution is the reduction on pollutant formation by controlling some combustion parameters in such way that engine performance is kept unaltered. An effective way for reducing nitrous oxide (NO_x) emissions may be accomplished by changing the engine combustion process through the recycling of exhausted gases. This

ANALYSIS ON PUBLIC OPINION FOR YOUTUBE COMMENTS BY OPINION MINING USING CLASSIFICATION MODELS

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ABSTRACT

Opinion mining is the computational analysis of text-based expressions of people's opinions, sentiments, attitudes, and emotions. Because views are fundamental to practically all human activities and are significant determinants of our behavior, it has a wide range of applications. We seek out other people's perspectives whenever we need to make a decision. Our project can quickly process any quantity of YouTube comments and provide real-time results. The goal of this research is to develop an efficient classification model for YouTube comments that is both accurate and automatic. The current study uses Random Forest and Naive Bayes for its analysis. Here, we go through the opinion mining procedure, and the results are classified as either favorable, negative, or neutral.

Keywords: opinion mining, positive, negative, neutral, YouTube API

I. INTRODUCTION

Some of the most well-known social media websites in the world, like YouTube, give all users a voice and the ability to express their thoughts and feelings. Opinion mining can be used to extract and quantify these users' opinions and feelings. This study looks at opinion mining on YouTube comments and how effectively it can forecast how a YouTube video will perform by counting how many comments are positive, neutral, or negative. We examined four alternative prediction models that employ neutral remarks in various ways. Pre-training on YouTube comments, tweets, and a combination of tweets and comments was done on five different classifiers. The expected and actual liking proportions showed some positive association. A logistic regression classifier was the configuration with the best performance.

Opinion Mining allows you to get inside your customers' heads and find out what they like and dislike, and why, so you can create products and services that meet their needs. When you have the right tools, you can perform opinion mining automatically, on almost any form

of unstructured text, with very little human input needed. It can process thousands of pages, comments, emails, or surveys in just minutes for real-time results. The most common use of opinion mining works to categorize comments and statements on a scale of opinion polarity. This can be simply positive, negative, or neutral.

II. PROPOSED SYSTEM

In our current model we mine the YouTube comments which is useful for the content makers and YouTubers to make a review about their video. and it will be time saving process for them instead of reading all the thousands of text mentioned in the comments . We fetched the real time data base from google API key.

DYNAMIC MODELLING OF ISOLATED HYBRID WIND/PV/FUEL CELL POWER GENERATION SYSTEM

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ABSTRACT

The findings of dynamic modelling and simulation of a renewable energy-based hybrid power system are presented in this paper. The paper focuses on power generation using a mix of a solar cell (SC), wind turbine (WT), fuel cell (FC), and ultra-capacitor (UC) devices. Because the output power of a wind turbine changes with wind speed and the output power of solar cells fluctuates with ambient temperature and radiation, an FC system with a UC bank can be combined to ensure that the system functions under all conditions. When available, excess wind and solar energy is converted to hydrogen in an electrolyzer for subsequent use in the fuel cell. This isolated system's numerous components are dynamically modelled. The system's transient responses to step changes in the environment

1. INTRODUCTION

In comparison to nuclear and thermal energy, renewable energy is endless and pollution-free. Solar energy, wind energy, hydraulic energy, and tide energy are all natural resources that can be used to generate electricity. To lessen the pollution we have caused on the planet, wide spread and widespread use of renewable energy is highly popular. Because it is a natural, unlimited resource of sunshine to generate power, wind and solar energy are welcome substitutes for many other energy resources [1]. The biggest downside of wind turbines is that they produce voltage and power fluctuation issues at the load side due to naturally fluctuating wind speed. The use of proper power converters and control mechanisms can solve this problem.

Another major issue is storing the energy generated by wind turbines for future use when there is no wind but there is a demand [1].

The solar cell is affected by weather conditions, particularly irradiation and cell temperature. As a result, in this paper, weather variables such as irradiance and temperature are used to estimate the maximum power. Proton exchange membrane fuel cell technology has finally reached the test and demonstration phase after several technological advancements. The recent commercial availability of small PEMFC units has opened up a slew of new possibilities for developing hybrid energy systems for distant applications that use hydrogen as a type of energy storage [2].

Hydrogen conversion, which uses an electrolyzer, enables for the storage and transmission of enormous amounts of energy at much greater energy densities [2]. Furthermore, employing natural energy to combine a wind turbine, a solar cell, fuel cells, and electrolyzers is effective in reducing pollution.

A thorough dynamic model and simulation of a solar cell/wind turbine/fuel cell hybrid power system is constructed in this article, utilising a new topology to complement each other and mitigate the effects of environmental changes. To validate the efficiency of the proposed system, modelling and simulations are carried out using the MATLAB/Simulink [3] software packages.

The results reveal that the suggested hybrid power system can withstand rapid changes in natural conditions while keeping the voltage variations within an acceptable range.

2. SOLAR CELL (PHOTOVOLTAIC CELL)

ANALYSIS ON FRAUD IDENTIFICATION AND DETECTION OF CREDIT CARD USING MACHINE LEARNING ALGORITHMS

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ABSTRACT

In order to create an appropriate framework to detect credit card fraud, which is primarily observed in financial services, we apply the Random forest and majority voting methods under the platform[1] of Python in this study. After a payment has been authorised, the process of fraud detection involves locating the fraudulent transactions. Use of the Random Forest Algorithm A machine learning method called Random Forest, sometimes known as Random Foresting [2], is used in conjunction with many other learning algorithms to enhance their effectiveness. This algorithm produces a prediction for each test sample and then uses a weighted sum to combine the results to produce the combined output of the booster classifier.

Application of Majority voting Method: Majority Voting is most repetitively used in data classification, which involves a combined with at least two algorithms. Each algorithm makes its own prediction for every test sample and the final output is for the one that receives the majority of the votes.

1. INTRODUCTION

One of the emerging technologies to change how credit card fraud is created and spread is the Random Forest Algorithm and majority voting techniques, which run on the Python programming language. In a similar vein, these python-based algorithm technologies recognise the manipulation and authentication of source's credit card information. These algorithms' traceability, transparency, and decentralisation make it possible to successfully address the issue of credit card fraud. Online readers can have a trustworthy means of confirming the scam with information about its source thanks to these algorithms and a Python-enabled platform. Our system's capacity to identify the source or origin of fraud will assist stop the spread of credit card fraud. In the proposed framework, Random forest algorithm stores each and every minute detail of source's credit card detail shared or uploaded on the proposed platform in the form of a transaction performed by registered users. Because of the transparent and traceable nature of these algorithms, it is possible to verify the source of any information that is shared on such a platform. Tracing the fraud by using these algorithms can be achieved with the help of time stamping and the chain connection between these methods.

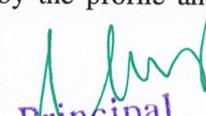
2. LITERATURE REVIEW

[3] The Use of Predictive Analytics Technology to Detect Credit Card Fraud in Canada. "Kosemani Temitayo Hafiz, Dr. Shaun Aghili, Dr. Pavlov Zavarsky."

This paper mainly deals with the implementation of score card from the appropriate evaluation criteria, features and the capabilities of predictive analytics vendor solutions mostly being used to identify the credit card fraud. So in this published paper the implemented scorecard provides a side by side comparision of five credit card predictive analytics vendor solutions adopted in Canada.

[4] BLAST-SSAHA Hybridization for Credit Card Fraud Detection. "Amlan Kundu, Suvasini Panigrahi, Shamik Sural, Senior Member, IEEE, and Arun K. Majumdar".

In this research paper, it uses the two-stage sequence procedure in which the profile Analyser (PA) mainly detects the similarity of an incoming sequence of transactions on the given credit card with the genuine card holder's past spending sequences. In this case the unusual transactions made by the profile analyser are



AN EFFECTIVE PRIVACY PRESERVATIVE PROVABLE DATA PROCESSING IN CLOUD USING ENCRYPTION TECHNIQUES

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ABSTRACT

A new paradigm called "cloud computing" makes it possible for users (data owners) to store their data on servers in the cloud and for users (data consumers) to access that data. This paradigm lowers the data owner's storage and maintenance costs. Additionally, the owner of the data no longer has physical access to it, which increases the security threats. Therefore, a data integrity auditing solution is crucial for the cloud. The necessity to verify data ownership while preserving privacy has made this problem challenging. This paper suggests a secured and effective method of proving data ownership in order to overcome these challenges (SEPD). Additionally, we broaden SEPD to incorporate batch verification, data dynamics, and numerous owners. The most attractive feature of this scheme is that the auditor can verify the possession of data with low computational overhead.

Keywords: Cloud storage, SEPD, Security

1. INTRODUCTION

Storage-as-a-service has emerged as a commercial alternative for local data storage due to its characteristics include less initial infrastructure setup, relief from maintenance overhead and universal access to the data irrespective of location and device. Though it provides several benefits like cost saving, accessibility, usability, syncing and sharing, it raises several security threats as data is under the control of the cloud service provider (CSP). CSP can discard the rarely accessed data to save space and earn more profit, or it can lie about the data loss and data corruption, as a result of software/hardware failure to protect its reputation. Therefore, it is necessary to check the possession of data in the cloud storage [1], [2]. Traditional cryptographic solutions for integrity checking of data, either need a local copy of the data (which the data users (DUs) do not have) or allow the DUs to download the entire data. Neither of these solutions seems practical as earlier one requires extra storage and later alternative increases the file transfer cost. To address this issue, several schemes including [3], [4], [5], [6] are proposed which employ block less friction to verify the integrity without downloading the entire data. One of the attractive features of these works is to allow the public easier to verify. With public audit ability, DUs can recourse the auditing task to a third party auditor (TPA). It has expertise and capabilities to convince both the CSP and the DU [4], [7]. These schemes use provable data possession (PDP) technique, which gives probabilistic data possession guarantee by randomly verifying few blocks for ensuring possession of data in the entrusted cloud storage. Recently, several schemes [2], [3], [4], [5], [6], [8], [9], [10], [11], [11], [12], [13], [14], [15] have been proposed to allow TPA to check integrity of the data stored on the entrusted cloud. These schemes have their own pros and cons. Privacy preserving is essential to prevent TPA to infer the data using the cloud server's response while auditing. However, the schemes proposed in [2], [3] do not achieve privacy preserving requirement. Though data dynamics is an important feature to facilitate the data owners to insert, modify, and delete on a particular block of data, without changing the meta-data of other blocks, the techniques proposed in [3], [4] do not achieve data dynamics requirement.

Meanwhile, the schemes like [3], [10], [16] could not achieve batch auditing requirement which ensures that

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MITIGATION OF MAGNETIC INRUSH CURRENT IN A SINGLE PHASE TRANSFORMER USING VOLTAGE SOURCE CONVERTER

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ABSTRACT

In a power system, transformers are critical components for electrical energy transfer. The transformer is a static device that uses mutual induction between the windings to transfer electrical energy from one circuit to another without using any direct electrical connections. It transfers power from one circuit to another at varying voltage levels without affecting the frequency. The transformer will draw a large amount of current when it is switched on which is known as transient inrush current. A transient current up to 10 to 50 times greater than the rated transformer current can flow for several cycles when a transformer is first energized. Any rapid changes in the magnetizing voltage cause a magnetizing inrush current in the transformer. The magnitude of this current is determined by several factors, including the supply voltage switching instant, residual flux, the transformer core's hysteresis characteristics, the primary circuit impedance, and so on. The system is disrupted by the magnetizing inrush current, which destroys the transformer windings. Inrush current must be lowered to improve this scenario. This project will look at inrush current limiters, which are used to reduce inrush current when a transformer is switched on. Inrush current limiters such as voltage source PWM converter are employed in this application. The simulation is run in MATLAB, and the results are tabulated.

Keywords: Transformer inrush current, Core saturation, Residual flux, PWM converter.

1. INTRODUCTION

A power transformer is a type of electrical power system component that is extremely expensive and essential. If a power transformer develops a malfunction, it must be removed from operation as soon as feasible to limit the damage. Transients are one of the most common anomalies in transformer circuits. A transient is a brief surge in voltage or current lasting less than 10 microseconds. The transformer runs inefficiently as a result of transients, and the temperature of the transformer windings rises above the tolerable limit, causing damage to the transformer [1,2]. Transients must be suppressed in order to solve the problems they cause.

The usage of power electronic converters to reduce transformer inrush current is explored in this work.

2. ANALYSIS OF MAGNETIZING INRUSH CURRENT

There are two sorts of transients in power transformers. Transients that occur both internally and externally in a transformer. Switching procedures cause external transients [3]

There are three forms of internal transients.

Magnetizing inrush current

Internal fault

Over excitation

Magnetizing inrush current

Any abrupt shift in the magnetizing voltage causes a magnetizing inrush current in the transformer. The inrush current waveform is rich in harmonics and has a substantial and long-lasting DC component [5]. It can reach huge peak levels (up to 30 times the rated value) at first, then slowly decays for a few tenths of a second before fully decaying after several seconds. Figure 1 depicts a typical inrush current waveform. It

DETECTION AND PREVENTION OF BREAST CANCER USING ML AND SVM ALGORITHMS

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ABSTRACT

According to the current research piece, cancer is a global concern that affects people of all ages and socioeconomic backgrounds. The most common malignancy in women is specifically breast cancer. Therefore, every advancement in cancer detection and prognosis poses a risk to leading a healthy life. The early detection and forecasting of cancer could benefit greatly from the use of machine learning techniques. The Wisconsin Cancer dataset is classified using two of the most popular machine learning algorithms in this work, and the categorization presentation of this technique was compared using exactness, precision, recall, and ROC Area scores. The Support Vector Machine method delivered the best results with the highest level of precision. SVM is the most accurate method for prophetic analysis with a 99.1% accuracy rate. We tend to conclude by this study is that SVM is the complementary algorithm for forecasting, and on the entire DT conferred well next to SVM.

Keywords: Breast cancer Detection, benign, malignant, NB, KNN, SVM, RF, DT

1. INTRODUCTION

In 2018, cancer was the second-leading cause of mortality worldwide, accounting for almost 9.6 million fatalities. One out of every six fatalities in the world are brought on by cancer. In low- and middle-income nations, cancer-related deaths account for over 70% of all fatalities [1]. The three malignancies that affect women the most frequently are colon, lung, and breast cancers, which together account for 50% of all cancer cases. Furthermore, cancer accounts for 30% of all new cancer diagnoses in women [2]. ML techniques ensure that data is evaluated and that information and important correlations are extracted from a dataset. Additionally, it creates a computational illustration for the most effective data interpretation. Particularly, according to examiners about cancer disease, it tells ML methods handles on premature exposure and forecasting of cancer [3]. Asri et al. evaluated many machine learning techniques for breast cancer risk forecasting and diagnosis. Wisconsin Breast Cancer (Original) dataset was used to apply SVM, kNN, NB, and DT (C4.5). When the experimental data were compared, the SVM classification approach had the best exactness (97.13 percent) and the lowest error rate. The dataset for this study was Breast Cancer, and the Machine Learning tool was Weka. In conditions of exactness, recall, precision, and ROC area, the key presentation parameters of machine learning categories are evaluated. They claim that BN have the greatest remind and exact values, and that the RF approach is the best ROC area [5]. Ahmad t al. has implement ML techniques for calculating the velocity of 2 years repetition of breast cancer disease. The data was taken from the ICBC programmed and spans the years 1997 to 2008. The dataset includes population characteristics and 22 input factors, as well as cases from 1189 women are diagnosed by breast cancer. ANN, SVM, and DT are utilized by SVM presenting the top consequences in conditions of exactness and error rate.

2. LITERATURE REVIEW

RECOGNITION AND IDENTIFICATION OF EMOTIONS FOR MOVIE AND MUSIC RECOMMENDATION SYSTEM USING HAAR CASCADE CLASSIFIERS

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ABSTRACT

The daily lives of people are greatly influenced by music. Everyone wants to listen to music that suits their personal tastes and mood. Users are constantly required to manually browse the music and construct a play list based on their mood. The suggested project, which creates a music playlist depending on users' current moods, is quite effective. The most effective approach to convey a person's current mood is through their facial expressions. This project aims to use facial expressions to propose songs and movies to users based on their mood. Webcams are used to capture facial expressions, which are then fed into a learning system to predict the most likely emotion. The system offers a play-list for that feeling once it has been identified, thus saves a lot of time for a user.

Once the emotion is detected by CNN then the emotion is used by Spotify API and then the Spotify API generates a play list according the emotion of the user.

Keywords: Face detection, Emotion recognition, Web cam, CNN classification, Spotify API, Music Playlist.

1. INTRODUCTION

The project's primary strategy is to propose music or movies to the user based on real-time emotional data. We presented a method to categories various types of music into different moods, such as happy, sad, furious, etc. Existing techniques were employing collaborative techniques that would use past user data to select music and this technique needs a lot of manual work. Emotion-Based-music-player It is a music player that uses Chrome as its front-end and a machine learning algorithm written in Python to recognize emotions on the user's face. Song and movie lists will be provided or recommended to the user based on the mood that was detected for that user.

2. PROPOSED SYSTEM

Humans have a tendency to show their emotions unknowingly mainly they reflect the face. The proposed system helps us to provide an interaction between the user and the music system. This project mainly focuses on the user's preferred music that is recommended due to the emotional awareness. In the initial stage of the proposed system, we have given 3 options and each contains its functionality. To this, we have given a list of songs, movie and emotions based on spatial recognition.

The main aim in this system is making a sophisticated music player that could make the user mood better and music is one of the best aids to change the mood. In this images captured by the system are compared with the data sets, and mainly 4 emotions are taken because human have many emotions and it is hard to predict because they differ from person to person and it will be hard to predict so, four common and easily identifiable moods of the person. And here there is another alternative methods can be used with the main

POWER SYSTEM CONTROL AND ECONOMIC OPERATION OF POWER SYSTEM

Dr. M. RAMESH
VARAPARLA HARI BABU

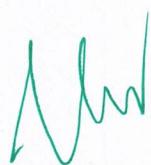
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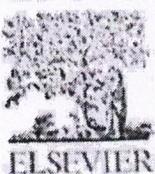
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A review of performance optimization and current research in PMEDM

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ABSTRACT

The EDM method is non-conventional in machining for machining of geometrically unpredictable or hard materials and electrically conductive materials that cannot be machined with ordinary forms of machining. With latest strategies, research has emphasized EDM's increased machining efficiency. PMEDM is an ongoing method where a Mixed conductive powder with the dielectric liquid to improve EDM machining capabilities in this direction. This paper introduces the review work done to improve the performance characteristics of machining like MRR, SR and TWR for different Machining parameters like I_p , Duty factor, T_{on} , T_{off} . Work piece material, powder type, concentrated powder with different dielectric liquids and powder materials. Also in the paper reports and summaries Current trends in the research, PMEDM using various powders such as Nano powders mixed in dielectric fluids and examined the current challenges, future scope of research and impediments of the PMEDM process.

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1. Introduction

EDM is a non-conventional technique of electro-thermal machining, sometimes called spark eroding, sparks machining method. It is used primarily for machining hard materials and high quality safe materials such as titanium, super combinations of solidified steels that are generally used in aircraft and other mechanical applications [1]. It is manufacturing processes where electrical energy is acquired by favoured shape to produce electrical sparks, and the material removal is due to spark thermal energy [2]. In EDM work piece is generally associated with positive terminal and tool with negative terminal. And possible differentiation is connected between work piece and tool. Many input parameters mainly affect EDM efficiency such as circuit voltage (v_c), operating voltage (v_w), peak current (I_p), t_{on} , t_{off} , work piece gap and tool gap, polarity, dielectric medium and internal flushing through the gap of the spark. EDM is an electro thermal technique involving the Plasma channel arrangement between the tools and piece of work, primarily used to machine such hard-to-machine alloys as well as high quality and temperature safe alloys (HSTR). These materials are widely in the die and mould manufacturing industries [3].

1.1. Working principle of PMEDM

PMEDM was developed in the previous few centuries One of the most significant and creative processes to overcome the inconvenience of the EDM method and to upgrade the EDM limit [4]. The concept of powdered blended EDM appears in Fig. 1. PMEDM is used to enhance the MRR and to decrease the contrast between SR and standard EDM by increase the Work piece gap and electrode gap. When the voltage was applied to the Powder particles, it becomes strong and continues with a crisscross pattern [5]. These loaded Particles are being accelerated and behave as conductors promoting the gap breakdown due to the electrical field. This improves the gap between the piece of work and the tool. These particles come close to one another under the sparking region and organize in the shape of the chain like constructions. In the present flow direction, the Powder particles interlocking happen. The formation of chain enables to bridge the distance between the discharge electrodes. Due to the impact of bridging, the insulation intensity of dielectric fluid decreases, resulting in a simple short circuit. This results in early explosion in and below the gap area the series discharge begins. The quicker sparking in a spill creates quicker erosion from the job piece's surface and thus improves the MRR. PMEDM was used to enhance rough machining effectiveness. PMEDM has enabled machining efficiency to be improved by

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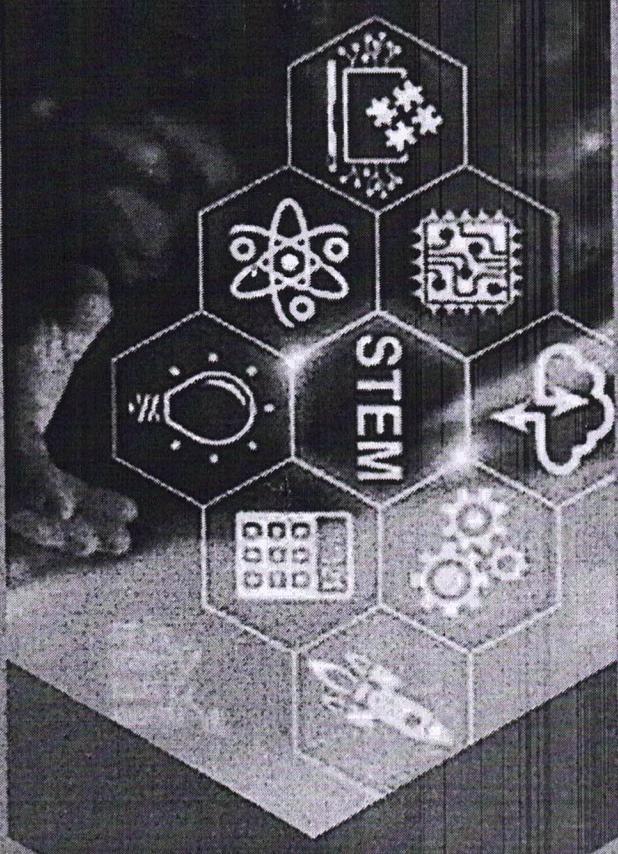
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A Review on Optimization of Machining Performances and Current Research Work in Die Sinking EDM

Newspaper

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Abstract— Electrical discharge machining is a non-traditional machining process, used for machining of geometrically complex or very hard and electrically conductive materials which cannot be machined by conventional machining processes. The present work reviews extensive research in non-traditional mixed Electrical

3. **Work piece holder, Tool holder and Table** – Used to hold tool and work piece firmly so that the vibrations are reduced.
4. **Servo control Mechanism** – Used to provide a constant gap between tool and work piece.

3. Work piece holder. Tool holder and table – Used to hold tool and work piece firmly so that the vibrations are reduced.

4. Servo control Mechanism – Used to provide a constant gap between tool and work piece.

Discharge machining (PMDM). In PMEDM process powders can be mixed in separate tank in order to improve EDM machining performance. The emphasis is given in the field of PMEDM mechanism, influences of powder characteristics and machining input parameters on various machining responses. In this article, comprehensive review of the research going on in the PMEDM of optimization of machining parameters were presented and discussed the summary of work performed by the earlier researchers on performance of EDM process parameters through in depth literature survey. This paper also reports and summarized on the current trends in PMEDM by using water and nano powders mixed into dielectric fluids and discussed the current challenges, future research scope and limitations of PMEDM process.

Dried, Nane powders

1. INTRODUCTION

Electrical Discharge Machining (EDM) is a nonconventional process. EDM originally observed by English Scientist Joseph Priestly in 1770 the development of EDM was very inaccurate and with failure. Further two Russian scientists, Dr. B.R. Lazarenko and Dr. N.I. Lazarenko in 1943, developed EDM process. Also they invented the relaxation circuit and a simple servo controller too, that helped maintain the gap width between the tool and the work-piece. Further more investigation is done in the improvement of EDM process for the development of machining characteristics in the direction of material removal rate and surface finish.

WORKING PRINCIPLE OF RDM

- EDM Consists of the following components, Power supply – Unit – Used to provide the Direct Current to produce spark between the tool and work piece.
- Dielectric fluid reservoir, pumps, filters and control valve – Used to supply dielectric to the tool and work piece. The tool and work piece are immersed in dielectric fluid.

Fig. 3. Die sinking electrical discharge machining

1.2 PROCESS PARAMETERS OF EDM

Unconventional Machining Process depends upon the number

These parameters will affect the output performance of EDM processes by varying the input characteristics. These controlling parameters are mainly divided into Electrical and Non-electrical parameters. Electrical Parameters Electrical parameters such as the Ton, Toff, Voltage and Peak Current are playing an important role in output performance measures. Here we discuss about the effects of electrical parameters on the various performance measures.

Discharge Voltage It is a voltage which is produced in between the Work piece and Tool when DC power supply is given to the circuit.

Peak Current is the most influencing factor in EDM. It is

ESTIMATING AND COSTING IN CIVIL ENGINEERING

FIRST EDITION

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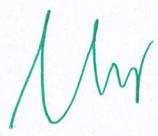
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ENGLISH AND COMMUNICATION SKILLS

FIRST EDITION

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SYLLABUS

Module-I	GENERAL INTRODUCTION AND LISTENING SKILL
Introduction to communication skills; Communication process; Elements of communication; Soft skills vs. hard skills; Importance of soft skills for engineers; Listening skills; Significance; Stages of listening; Barriers and effectiveness of listening; Listening comprehension.	
Module-II	SPEAKING SKILL
Significance; Essentials; Barriers and effectiveness of speaking; Verbal and non-verbal communication; Generating talks based on visual prompts; Public speaking; Addressing a small group or a large formal gathering; Oral presentation; Power point presentation.	
Module-III	VOCABULARY AND GRAMMAR
The concept of Word Formation; Root words from foreign languages and their use in English; Acquaintance with prefixes and suffixes from foreign languages in English to form derivatives; Synonyms; Antonyms; Standard abbreviations; Idioms and phrases; One word substitutes Sentence structure; Uses of phrases and clauses; Punctuation; Subject verb agreement; Modifiers; Articles; Prepositions.	
Module-IV	READING SKILL
Significance, Techniques of reading, Skimming-Reading for the gist of a text, Scanning - Reading for specific information, Intensive, Extensive reading, Reading comprehension, Reading for information transfer, Text to diagram, Diagram to text.	
Module-V	WRITING SKILL
Significance; Effectiveness of writing; Organizing principles of Paragraphs in documents; Writing Introduction and conclusion; Techniques for writing precisely, Letter writing; Formal and Informal letter writing, E-mail writing , Report Writing.	
Text Books:	
1. Handbook of English (Prepared by the faculty of English, IARE).	
Reference Books:	
1. Norman Whitby, -Business Benchmark: Pre-Intermediate to Intermediate – BEC Preliminary, Cambridge University Press, 2 nd Edition,2008. 2. Devaki Reddy, Shreesh Chaudhary, -Technical English", Macmillan, 1 st Edition,2009. 3. Rutherford, Andrea J, "Basic Communication Skills for Technology", Pearson Education,2 nd Edition, 2010. 4. Raymond Murphy, -Essential English Grammar with Answers, Cambridge University Press, 2 nd Edition,2010. 5. Dr.NVSudershan,-PresidentKalam's CalltotheNation, BalaBharathi Publications, Secunderabad, 1 st Edition,2003.	

HEAT POWER ENGINEERING

FIRST EDITION

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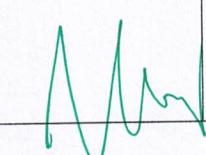
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100

HEAT POWER ENGINEERING

DETAILED SYLLABUS

Unit	Name of the Topic	Page No
I	<p>BASICS OF THERMODYNAMICS AND THERMODYNAMIC PROCESSES OF PERFECT GASES</p> <p>Introduction:- Definitions and units of mass, weight, volume, density, specific weight, specific gravity and specific volume – pressure – units of pressure – temperature - absolute temperature – S.T.P and N.T.P conditions – heat - specific heat capacity at constant volume and at constant pressure – work – power – energy – types - law of conservation of energy – thermodynamic system – types – thermodynamic equilibrium - properties of systems – intensive and extensive properties – State of System - process – cycle – point and path functions - zeroth, first and second laws of thermodynamics.</p> <p>Perfect gases: - laws of perfect gases – Boyle's, Charle's, Joule's, Regnault's and Avogadro's laws – General Gas Equation - Characteristic gas equation – relation between specific heats and gas constant – Universal gas constant –Change in Internal Energy- enthalpy – change in enthalpy – entropy</p> <p>Thermodynamic processes:- Constant volume, Constant pressure, Constant temp.(isothermal) ,Isentropic (reversible adiabatic) and, Polytropic Processes – p-V and T-s diagrams, work done , change in internal energy , heat transfer , change in enthalpy, change in entropy for above processes – Simple problems – hyperbolic ,Free expansion and throttling processes(Description only) .</p> <p>Steady flow system: – control volume – steady flow energy equation – assumptions – Engineering applications</p>	1 - 55
II	<p>THERMODYNAMIC AIR CYCLES AND FUELS & COMBUSTION</p> <p>Air cycles: – air standard efficiency – reversible and irreversible processes – assumptions in deriving air standard efficiency – Carnot cycle – Otto cycle – Diesel cycle - Comparison of ideal and actual p-v diagrams of Otto and Diesel cycles – Simple problems</p> <p>Fuels & Combustion: Classifications of fuels - merits and demerits – requirements of a good fuel – Octane number – detonation - Pre-ignition – Cetane number – Diesel knock – comparison of detonation and diesel knock - fuel additives – Stages of Combustion – Delay period – Variables affecting delay period – Methods of generating air swirl in diesel engine combustion chambers – Types of combustion chambers – combustion equations – stoichiometric air required for complete combustion of fuels – excess air – products of combustion – analysis of exhaust gases - calorific value of fuels.</p>	56 - 98



III	<p>AIR COMPRESSORS AND GAS TURBINES</p> <p>Air Compressors:- Uses of compressed air – classifications of Air compressor – reciprocating compressor - single stage reciprocating compressor – compression processes – clearance volume and its effects – volumetric efficiency – multi stage compression – merits and demerits – Two stage compressor with imperfect cooling- with perfect inter cooling – rotary compressors – Roots blower - vane blowers – centrifugal and axial flow air compressors – simple problems.</p> <p>Gas turbines – uses - classifications – merits and demerits constant pressure combustion gas turbine – gas turbine with intercooler, reheater, regenerator - effects – closed cycle gas turbines - merits and demerits – jet propulsion - turbojet engines – turbo propeller engines – ramjet – Working principle - merits and demerits –Rocket engines – applications of rockets</p>	99 - 135
IV	<p>FORMATION & PROPERTIES OF STEAM AND STEAM CALORIMETERS</p> <p>Steam - Properties – formation of steam – saturation temperature – enthalpy of water – enthalpy of evaporation – conditions of steam – dryness fraction – enthalpy of wet, dry and superheated steam - advantages of superheated steam – p-v diagram - T-H diagram – T-S diagram - H-S diagram – P-H diagram – critical conditions of water – specific volume of water and steam – density of steam – external work done during evaporation – internal latent heat – internal energy of steam – entropy of water and steam – steam tables - Mollier chart.</p> <p>Expansion process of Steam: Constant Volume process – Constant Pressure Process – Constant Temperature process – Hyperbolic Process – Isentropic process – Polytropic process – Throttling process. – Simple problems.</p> <p>Steam Calorimeter: Determination of dryness fraction of steam – bucket calorimeter - combined separating and throttling calorimeters</p>	136 -178
V	<p>STEAM BOILERS AND PERFORMANCE OF BOILERS</p> <p>Steam Boilers: Introduction - Classification of boilers – comparison of fire tube and water tube boilers – high pressure boilers – advantages of high pressure boilers - Lamont and BHEL high pressure boilers – boiler mountings and accessories - function - construction and working – comparison of mountings and accessories – feed water treatment – internal and external treatments - starting boiler from cold condition – safety precautions in boiler operation – causes of Indian boiler act.</p> <p>Performance of boilers: Evaporation rate - actual, equivalent and factor of evaporation – boiler efficiency – factors influencing boiler efficiency - boiler power – Simple problems – boiler plant - efficiency of economizer and super heater – Simple problems - boiler trial – heat losses in a boiler- heat balance sheet – Simple problems</p>	179-227

HIGH VOLTAGE ENGINEERING

FIRST EDITION

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HIGH VOLTAGE ENGINEERING

INTRODUCTION

Generation and transmission of electric energy -Voltage stresses -Testing voltages -Testing with power frequency voltages -

Testing with lightning impulse voltages -Testing with switching impulses -D.C. voltages -Testing with very low frequency voltage

BREAKDOWN OF GASEOUS INSULATION

Ionisation of Gases -Ionisation processes in gas discharges- Relevant gas ionisation processes- Breakdown Characteristic in gases- Electron Avalanche Mechanism (Townsend Breakdown Process) - Paschen's Law - Streamer Mechanism -Factors affecting the breakdown voltage a Vacuum gap -Time lags of Spark breakdown -Corona Discharges

INSULATION CO-ORDINATION

Insulation Co-ordination-Terminology -Conventional method of insulation co-ordination - Statistical Method of Insulation Co-ordination - Length of Overhead Shielding Wire- Surge Protection

HIGH VOLTAGE TRANSIENT ANALYSIS

Surges on Transmission Lines - Surge Impedance and Velocity of Propagation- Energy stored in surge- Reflection of Travelling waves at a Junction- Open circuited line fed from a infinite source - Short Circuit Line fed from an infinite source- Bewley Lattice Diagram -Analysis of an open-circuit linefed from ideal source -Reflections at 3 substation system

-Reflection and Transmission at a T-junction-Bergeron's Method of Graphical Solution-Representation of Lumped Elements in travelling wave techniques- Branch Time Table for digital computer implementation - Transform Methods of solving Transients

MEASUREMENT OF HIGH VOLTAGES

Peak voltage measurements by spark gaps-Sphere gaps, Reference measuring systems, Uniform field gaps ,Rod gaps -Electrostatic voltmeters-Ammeter in series with high ohmic resistors and high ohmic resistor voltage dividers - Generating voltmeters and field sensors -The measurement of peak voltages -The

Chubb-Fortescue method, Voltage dividers and passive rectifier circuits , Active peak-reading circuits, High-voltage capacitors for measuring circuits, Voltage dividing systems and impulse voltage measurements ,Generalized voltage generation and measuring circuit, Demands upon transfer characteristics of the measuring system, Fundamentals for the computation of the measuring system Voltage dividers Interaction between voltage divider and its lead ,The divider's low-voltage arm- Fast digital transient recorders for impulse measurements, Principles and historical development of transient digital recorders Errors inherent in digital recorders-Specification of ideal A/D recorder and parameters required for h.v-impulse testing -Future trends



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MULTIMEDIA SYSTEMS DESIGN

FIRST EDITION

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PYTHON PROGRAMMING

FIRST EDITION

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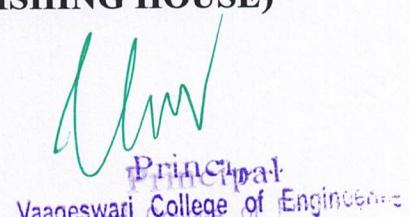
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PREFACE

This book is designed for use in courses on Python Programming at the undergraduate/postgraduate level, particularly designed for the structured curriculum of Bachelor of Technology and Bachelor of Engineering – Computer science & Engineering

Although the contents of the book follows the essential content of complete concepts of python programming is sufficiently broad in scope and rigorous in coverage to satisfy any undergraduate and postgraduate requirements in the field of IT/CSE.

The book is organized into five sections:

Section 1, describes about the basics of python programming which covers the variables, identifiers, arithmetic operator, values & type, python statement, operator, operator precedence, expressions & statements, functions etc.,

Section 2, covers the data types in python, list, characteristics, string, python dictionary, modules, scope of variables, packages, libraries etc.,

Section 3, delivers the file handling & exception handling, data files in python, file operation, file methods & python exception handling etc.,

Section 4, covers about the python modules, listing of modules, variables in a modules, modules loading & execution, frameworks in python etc.,

Section 5, includes the object oriented programming in python, oop concept, class, inheritance, polymorphism, encapsulation, overriding methods, constructor and abstraction in python etc.,

The analyses and discussion, covering these five sections in the various chapters of this book, are based on the readings recommended for this course. However, wherever required, we have supplemented from other sources reference. A select bibliography is given at the end of the book for reference to the authors cited in the text

I hope this thoroughly book on Python Programming will prove handy and useful to students and teachers on the same.



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SYLLABUS

PYTHON PROGRAMMING

COURSE OBJECTIVES

- To develop Python programs with conditionals, loops and functions.
- To use Python data structures – lists, tuples, dictionaries.
- To do input/output with files in Python
- To use modules, packages and frameworks in python
- To define a class with attributes and methods in python

CHAPTER 1 **BASICS OF PYTHON**

Introduction to Python Programming – Python Interpreter and Interactive Mode – Variables and Identifiers – Arithmetic Operators – Values and Types – Statements. Operators – Boolean Values – Operator Precedence – Expression – Conditionals: If-Else Constructs – Loop Structures/Iterative Statements – While Loop – For Loop – Break Statement-Continue statement – Function Call and Returning Values – Parameter Passing – Local and Global Scope – Recursive Functions

CHAPTER 2 **DATA TYPES IN PYTHON**

Lists, Tuples, Sets, Strings, Dictionary, Modules: Module Loading and Execution – Packages – Making Your Own Module – The Python Standard Libraries.

CHAPTER 3 **FILE HANDLING AND EXCEPTION HANDLING**

Files: Introduction – File Path – Opening and Closing Files – Reading and Writing Files – File Position – Exception: Errors and Exceptions, Exception Handling, Multiple Exceptions

CHAPTER 4 **MODULES, PACKAGES AND FRAMEWORKS**

Modules: Introduction – Module Loading and Execution – Packages – Making Your Own Module – The Python Libraries for data processing, data mining and visualization- NUMPY, Pandas, Matplotlib, Plotly-Frameworks- -Django, Flask, Web2Py

CHAPTER 5 **OBJECT ORIENTED PROGRAMMING IN PYTHON**

Creating a Class, Class methods, Class Inheritance, Encapsulation, Polymorphism, class method

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MACHINE LEARNING

FIRST EDITION

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PREFACE

Machine learning is transforming industries such as healthcare, education, transportation, food, entertainment, and diverse assembly lines, to name a few. It will have an impact on almost every aspect of people's lives, including their houses, transportation, shopping, food ordering, and so on. Because of developments in computer technology, machine learning today is not the same as machine learning in the past. It evolved from pattern recognition and the assumption that computers may learn without being instructed to do specific tasks; artificial intelligence researchers wanted to see if computers could learn from data.

Because models may change autonomously when they are exposed to new data, the iterative feature of machine learning is critical. They use earlier computations to deliver reliable, repeatable assessments and outputs. The same forces that have propelled data mining and Bayesian analysis to unprecedented heights are fueling renewed interest in machine learning. Things like increased data quantity and diversity, less expensive and more powerful computing processing, and low-cost data storage are examples.

This book not only covers the whole scope of the subject, but it also explores its philosophy. This increases knowledge and makes the subject more interesting. Both learners and researchers will find this book incredibly useful.

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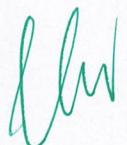
UNIT 1 : It focuses on basic of machine learning systems followed by its perceptrons ,neural network ,feed forward neural network , supervised, unsupervised, and semi-supervised machine learning techniques, learning systems, perspectives and issues, and other topics.

UNIT 2: Discuss the decision tree method and identity, as well as how to avoid the overfitting problem, Neural Network Representation, Problems, Perceptron, Multilayer Networks, KNN and Curse of Dimensionality

UNIT 3: Discuss and apply the generative learning algorithm to issues such as the Bayes Theorem, Nave Bayes Classifier, and Logistic regression

UNIT 4: Improve the various types of clustering, K-Nearest Neighbour Learning, EM algorithm, latent semantic indexing

UNIT 5: Analyze and recommend relevant machine learning techniques for a variety of issues, including the Markov decision process, Bellman Equation, and various models.



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SYLLABUS

UNIT 1: INTRODUCTION TO MACHINE LEARNING

Learning Systems – Goals and Applications –Aspects of Developing a Learning Systems- Training Data –Linear Perceptron's as Neurons-Neural Nets – Working
–Layers –Activation Function –Feed Forward Neural Network –Limitations – DBN'S –Deep Learning for Big Data – Local Minima-Rearranging Neurons – Spurious Local Minima –Comparison of AI – Machine Learning and Deep Learning

UNIT II – TYPES OF LEARNING

Supervised Learning –Goals and Applications – Unsupervised Learning –Case Study –Classification –MLP is Practice –Overfitting –Linear and Non Linear Discriminative –Decision Tree –Probabilistic –K –Nearest Neighbour Learning Algorithm –Curse of Dimensionality

UNIT III – LEARNING ALGORITHMS

Logistic Regression –Perceptron's - Generative Learning Algorithm – Gaussian Discrimination Analysis –Naïve Bayes-SVM Kernels – Model Selection – Bagging Boosting –Evaluating And Debugging –Classification

UNIT IV – UNSUPERVISED AND LEARNING ALGORITHMS

Clustering – K-means Clustering –EM Algorithm – Mixture of Gaussian – Factor Analysis – Principal and Independent Component Analysis –Latent Semantic Indexing – Spectral or Sub Space Clustering

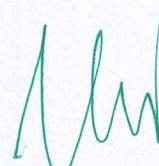
UNIT V – REINFORCEMENT LEARNING . IOT AND MACHINE LEARNING

Markov Decision Processes –Bellman Equation –Value Iteration And Policy Iteration –Linear Quadratic Regulation –Q Learning –Policy Versus Value Learning –Pomdps –IoT –Recent Trends –Various Models .Case Study :. Spam Filtering Based On Text Classification



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