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NTENTS

A Lite… ture Sur… Stocks Predictions using Hybrid Machine Le… and Deep Learning Models

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…lectronics Engineering Gand… Engineering College)

…stract— Predi… of …cks re… e… …ence …this pa… …ld. For … knowledge on market share values and trends. This knowledge can be obtained by … than it requires a lot of time and energy to gain experience to predict trends in stock prices. With advancement in technolog… learning algorithms keep the capability of predicting trends in stocks because of the huge computational …acit… which is … …adays. In this paper, hybrid machine learning and deep learning models have been discussed. A brief literature survey has … out on both machine learning and deep learning algorithms which have been used in p… …pecially for st… …redictions and…

…words— Stock …edict…n, Dee… …chine Learning, Hybrid Models, Neural Networks.

I. INTRODU…ION

…ck Predicti… …lays … vital … …and economics. Today many investors and organizations invest their money sto… …at they de… …ture results. Hence, many people invest billions of currencies on the stocks ex… …the profit … …sed. Depending on the behavior of market there are ups and downs in the profit. So… …es there is … …metimes there is a los… So, to overcome this issue we are introducing a concept wh… …s Hybrid M…ls … Machin… …nd Deep Learning Models for Stock Prediction. There are many charges for … …he st… …erage for the brokers who help the investors to invest in the stock market. Our … …pleme… …hould be no brokerage or other charges included for an individual to invest in st… …arket. This c… …ould hel… …ors and organizations to invest their money in a right place as well as they can … …glance … …scope of theirinvestments.

II. LITERATURE REVIEW

… Neural Netw… …ecast… … Prices, Ramon Lawrence, this paper is a survey on the application of neural ne… … force… …tock mark… …h their ability to discover patterns in nonlinear and chaotic systems, neural … …er th… …predi… …ctions more accurately than current techniques. Common market analysis tec… …such a… …ni… analys… …l analysis, and regression are discussed and compared with neural network pe…mance. Also … Efficient Mar… …is (EMH) is presented and contrasted with chaos theory and neural networks. Fi… …dire… …pl…n… …rks to the financial markets are discussed [1].

…Pred… …Hyb… Vivek Rajput, Sarika Bobde, and The objective of this paper is to construct a … …fict … …opinion mining and clustering method to predict National Stock Exchange (NS… …d… …dict the stocks from each domain and taken some stock with maximum … Top… …holders are automatically extracted from the writings in a message board by … …ropo… …alon… …clusters of comparable sort of stocks from others using clustering algorithms. Pr… …odo… …two… one from sentiment analysis and another from clustering based prediction with r… …exchange. By examining both the results an efficient prediction is produced. In this … …cks … …within all the important sectors are taken into consideration for empirical …].

III. … ARIMA-BP… Model for … …ction of the Chinese Stock Market, Li Xiong, Yue Lu.

Stock pric… … …k owing to the complexity patterns behind time series. Autoregressive integrated moving a… …ARIMA… …propagation neural network (BPNN) model are popular linear and nonlinear models for time se… …fore…ting … …integration of two models can effectively capture the linear and nonlinear patterns hidden in … time series and … …ast accuracy. In this paper, a new hybrid ARIMA-BPNN model containing

VL SI Imple... ...n of Low Power 8 Bit DSP Processor

...l Kumar Yadav[1], Sangramm Sahu[2]
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(E... ...mmunication Engineering, Gandhi Engineering College

Abstract- ...ital ...ignal pr... ...become increasingly popular in multimedia systems, largely thanks to the advent of ...ner... digital ...ssor (DSP) chips. For portable and home entertainment audio systems, however t... ...eneral DSP ...lution might consume too much power. Then a low-cost and low power solution fo... ...is purpose s... ...t. There exist two possible approaches that can reduce the chip areaand power con...mption One ... ...ication of the multiplier structure, and the other techniques include low power AL... ...ultiplier, ... supply voltage, etc In This project we present a low-power digital signal processor t... exploits the ... ...ltiplier design. Power dissipation of integrated circuits is a major concern for VLSI c...uit ...signers ...ptimization is a major goal of this work we used Wallace tree multiplier str...ture t... reduces powe... ...over traditional array multiplier. Wallace tree multiplier is an improved ve...sion of ... ...ased multi... ...e. In this project we replace the multiplier module of the DSP processor wi...l Wall... tree multiplie... ...he Wallace tree structure has been modified to include 4:2 compressors th...t are us... ...d the par... ...nerated from the multiplier unit. As 4:2 Compressors reduces number of ad...ers nee... ...in the add... ...reduces number of full adders needed. Hence this further reduces the power con...mpt.... The ... ...is implemented using Spartan3 FPGA from Xilinx, and it could also im...lement ...si... Applic... ...tegrated Circuits (ASIC) when further reduction in power consumption is ...equired ...e...sult sho... ...posed architecture is faster than the conventional CMOS architecture. al...g with ...duced powerco...

I. INT...DUCTION

Digita... ...gnal process... ...ecialized ...

Fi...1.1. A ... ...d digital sig...

Di...ital sig... ...rocessing ... ...ically require a large number of mathematical operations to be ...rform... ...ick... and ... ...set of data. Signals (perhaps from audio or video sensors) are co...stantly ...verted from a... ...l, manipulated digitally, and then converted backto

an...og for... Many DSP a... ...ve constraints on latency; that is, for the system to work, the DS... operat...on must be co... ...fixed time, and deferred (or batch) processing is not viable. M...st gener... ...urpose micr... ...d operating systems can execute DSP algorithms successfully, ...ut are not ...itable for use ... ...ces such as mobile phones and PDAs because of power supply an... space ...nstraint... A sp... ...l signal processor, however, will tend to provide a lower-cost solution, ...better perfo... ...r latency, and no requirements for specialized cooling or lar...ebatter...

Th... architecture ... ...gnal processor is optimized specifically for digital signal ...rocessing ... ...t al...o supp... ...features as an applications processor or microcontroller, since signal proc...ssing is rarely ... ...a system. Some useful features for optimizing DSP algorithms are outline... below

Computer ... Networking and Communication

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[2]Elect... ...nication Engineering, Gandhi Engineering College)

Abstract: This paper ... wireless networking with emphasis on the most popular standards: Bluetooth, Wi-Fi, WiMAX, and ... orks. A review of what is needed to build a generic wireless network is provided. The literature attempt... most popular wireless technologies and their protocols. An overview of ... advantages that wireless net... wired technology is then given. The paper also advances some of the major security risks that wirele... . Various strategies that can be employed to mitigate these risks and safeguard the privacy ... work are given. A review of how wireless networks can be used in ... ucation and training ... monstrated that the education field has benefited from the growth of wireless technology ... this technology.

I. INTRODUCTION

The invention of the c... subsequent creation of communication networks can be hailed at the most significant accomplishmen... ury. This invention has transformed the way in which communication ... information processing tak... work functionality of computer systems has been exploited by the ... ernment, business ... ense benefits being reaped by all. The two major types of networks in existence are the fi... s use of cables) and wireless networks (which use waves to transmit data). The backbone of the ... n network is made up of fixed connections which mostly utilize fiber optics as well as Ethernet. Even ... works have gained increased popularity in the course of the past decade. ...ation (2004) reveals that as of ... wireless networks were limited in existence due to the prohibitive cost of wireless devices such as integrat... ccess points and laptops. The hardware cost has significantly decreased making wireless ne... ndividuals and organization. In addition to this, technological advances ... ve increased the capacity and ... reless networks which have made them favorably compare with wired networks. This paper will set ... wireless networking with particular focus on the types of wireless technologies commonly employ... ty measures used to protect wireless technology. A discussion of how wireless technology can be used ... aining settings will also be embarked on.

Computer Networks: An Over...

Computer networks are ... terconnected computing devices which communicate with each other ... these networks are categoriz... . The smallest is the Personal Area Networks (PANs) which extend to a few meters and con... ther. Wireless PANs make use of technologies such as Bluetooth to replace cabling as ... device. Local Area Networks (LANS) extend from a few hundred meters to a few kilometers and ... ed to cover buildings which are close together or large facilities. Wireless LANs are implement... such as campuses and busy business locations. Metropolitan Area Networks (MANs) connect diffe... and facilities within a city. These networks mostly make use of wired connections with fiber ... ding the fastest speeds. The biggest networks are Wide Area Networks (WANs) which connect cities an... ther and they typically make use of fiber-optic cables which operate at speeds of up to 40Gbps.

What is Wireless Networking?

Wireless networking ... zation of cross-vendor industry standards, such as IEEE 802.11, where ... s communicate w... " (Mamoukaris & Economides 2003, p.1). The infrastructure of wireless ... makes use ... re oriented according to the demands of the network. This makes the ... y as well as th... ireless networks vary based on the devices. Wireless networks are typically expected to deal with ... de from various manufactures. The networks are therefore supposed to be able to support different ha... ies, architectures, and transport protocols and also control the flow of traffic within the net...

Congestion C... in VANET at MAC Layer: A Review

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...Engineering, Gandhi Engineering College)

Abstract—... *ad-hoc* ... has become an encouraging area in the research environment. Intelligent transport ... (ITS) allo... VANET, to ... ency and management & driver safety. For better commu- nication VANET falls ... categ... ies such as ... V) & Vehicle-to-Infrastructure, under the wireless network environment. Every ... moving ... also e... tion to the immediate vehicle, therefore, the system is loss packet sometimes and ... density of vehicle ... cause ... estion Medium Access Control (MAC) plays a vital role to boost the real-time ... cation within vehicles ... nts with limited transmis- sion collision. Due to the VANET properties, managing ... nication at the MAC la... e in the collision control scheme. Therefore, it results in packet loss and end-to- ... delay during communica... Telecommuni- cation Standard Institute (ETSI) designed the Decentralized ... Control (DCC) ... m, to handle these ki... s. This paper represents the several character- istics of VANET along with their ... ges associated with ... Besides, the obtainable solutions are repre- sented in detail along with their ... This paper focuses on ... el load measured by the DCC mechanism using various transmitted parameters ... rate, data rate sensitiv... power transmission.

Keywords— VANET, ITS, conge... C, DCC

I. INTRO...

Now a day, intelligent trans... (ITS) has grown rapidly as the purpose of improving traffic efficiency and management. ITS provide V... twork (VANET), in order to define routes, transport, reliable trans- mission efficient channel ac... VANET, vehicles are communicated through On-Board Unit (OBUs) and ... Communicating Unit (A... s two types of communication that are vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I). In ... ost ef- fective; therefore V2V communication is more efficient than V2I. VANET has two type of applica... fety, and non-safety application. Safety application is very crucial as it ... the life. For VANET, D... Communi- cation (DSRC) has been developed in the 1990s.

To permit the commun... IEEE 802.11p is released that combines physical (PHY) and MAC layer ... specification. IEEE 802.11p PHY ... fied class of the 802.11a specification. It adopts orthogonal fre- quency- division multiplexing (OFDM) ... annel and uses data rates varying from 3Mbps- 27Mbps. MAC lay- er uses the enhanced distributed ch... (EDCA) which is based on the carrier sense multiple access with colli- sion avoidance (CSMA/CA) protocol ... n. For reliable communication, the protocol stack with the IEEE 1609 WAVE family is defined. ... environment, the MAC layer is correctly modified. These EDCA functions help to handle the ... dissemination to the vehicular environment. WAVE support the IPv6 proto- col stack as well as handle ... ode short message protocol (WSMP), carry the high-priority message for ... sensitive safety. VANET ... applications on the road. These applications can be divided into two categories that are safe... n-safety application. Safety applications are lane change warning, post- crash warning, navigation, ... tc. Non-safety applications are weather information, internet access, toll ... parking availability ... n can help to reduce the number of accidents. 60% of accidents should be avoided if the driver recei... e, at least one-half second before the accident. Safety messages include ... types of communi... ge and event- driven message. Beacon message used for status of a vehicle for example location ... event-driven message used for warning messages, for example; crash warning, chil-... en warning etc.

Congestion is the main iss... yer. Conges- tion occurs when a vehicle sends data against the ... capacity such as slow ... idth and data arriv- ing from multiple lines at the same time. The ... not balanced such ... oblem at one router will probably just move the bottleneck to other router. ... com- ing mes... ues such as long queue delay will cause a packet to be resent; the ... long queue will cause ... d. However, in VANET, congestion occurs when the packets are ... over ... capacity ... it results in packets loss, quality of services degradation, etc. ... the MAC layer play... olling congestion.

Therefore, congestion ... analyzed based on reliability, scalability and throughput of the ... ed network. IEEE 802.1... tion control ap- proaches aim to overcome the channel load and ... fair communication ... eneral, to prevent the congestion occurrence we categorized the ... control mechanism ... ng the transmission of param- eters is called proactive, reactive ... hybrid congestion con- trol.

The remainder of the ... follows. Section II summarizes the characteristics, applications, ... issues and protocol ... mmunica- tion. Section III provides an overview of congestion control. Section IV analyzes con... chanism. Finally, section V concludes the paper.

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II. BACK...

In this section, firstly we disc... cteristics and then proceed to the various applications and the challeng-

S·curity, Privacy And Accountability In Wireless Network: A Review

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[2](Electrical & Electronics Engineering, Gandhi Engineering College)

Abstract:

...significantadvan...informationand communicationtechnology,lowpowercircuit design efficient to carry the sensitive information through wirelesscommunication, wirelessnetworkhaveattractedattentionalotin recentyears.Wirelessnetworksisbeingusedin many applications like Businessorganization, healthmonitoring,militaryoperations,andhome automation. While in the past wireless communication was largely limited but now ...iswidelyused.todays...wirelessnetworks are starting to offer purely wireless communication , often mobile, and even connected operations. The purpose of this paper is to examine security, accountability and privacy issues in wireless networks. The presence of global connectivity provided by wireless communications and mobile computing has changed the way humans beings interact with eachother.

Keywords: *WirelessNetwork.Privacy,Security, Accountability.*

I. INTRODUCTION:

Nowaday'sWirelesstechnologieshavebecome more and more popular in our everyday live. Personaldigitalassistantsallowsusindividualsto accessWorldWideWebmorefrequentlye-mail, social ...working, web browsing etc. Some technologies even support global positioning system (GPS) capabilities that can locate the location of the device anywhere in the world. Wireless communication technologies promise to offerevenmorefeaturesandfunctionsinthe next few decades. An increasing number of agenciesindifferentareaspublicsectors,private sectors, and home users are using wireless technologies in their environments. Wireless communications offer many benefits such as portability and flexibility, lower installation costs, and increased productivity.

Wireless technologiescoverabroadrangeofcapabilities like it allows users to move their laptopsfrom place to place within their work area without theneed for wires and without losing network connectivity. Less wiring provide greater flexibility, reliability, increasedefficiency, and reduced wiring costs in communication. Communicationnetworks,suchasthoseenabled by Bluetooth, allow datacommunication &synchronization with network systems and application sharing between differentdevices. Bluetoothfunctionalityalsoeliminatescablesfor printer, scanner, plotters and other peripheral device connections. Handheld devices such asPDAandmobilephonesallowremoteusersto synchronize personal data and provide accessto network services such as Internet access.

Moreover, these technologies canoffer more dramatic cost savings and newcapabilities to diverse applicationsranging in different areas of organization.However, risks are inherentin in wirelesscommunicationnetwork.Someof theseriskaresimilartothoseofwirednetworks and some are new. Perhaps the most significantsource of attack in wireless communicationnetworksisthatthetechnologies underlying communications medium, theairwave, is open to attackers, hackers. The loss of confidentiality and integrity and the threat of denial of service (DoS) attacks are riskstypically associated with wireless communications. Unauthorized users may gain accesstocommunicationnetwork.corruptthe organizations data, consume network bandwidth, degrade communication networkPerformance, launches attacks that prevent authorized users from accessing the network, or use organizations Resources to launch attacks on other communication network. Inthispapersection1describetheintroduction of the paper, section 2 provide overview of wireless network, section 3 provide accountability,privacyandsecurityinwireless networkandsection4provideconclusionofthe paper.

Wirelessnetwork:

Study on Machining Response in Wire EDM OF Inconel 625

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[2](Mechanical Engineering, Gandhi Engineering College)

Abstract

Inc[illegible] is [illegible] mely a super alloy w[illegible]h is mixture of nickel and chromium .Inconel is a conductive material. Super-alloys are suit[illegible] WEDM. Wire EDM is a non-convectional machining process .WEDM is mainly used for machining very hard and toug[illegible] material like super alloys. Inconel 625 is a corrosion oxidation resistant nickel alloy that is used both for its high strength and [illegible] ing aqueous corrosion resistance. The inconel625 alloys are often employed in aerospace industry components due to their [illegible] ding mechanical properties. The properties of inconel, alloy 625 that make it an excellent choice for sea-water appl[illegible] are freedom from lo[illegible] attack, high corrosion-fatigue strength, and resistance to chloride-ion stress-corrosion crac[illegible] DM is used making industries automobiles, aerospace, nuclear, computer and electronicsindustries.

In th[illegible] ment, the brass wire is used for cutting the material .the brass wire diameter is 0.25micron.For seeing the brass wire like [illegible] ir experiment is done on inconel 625 alloy for checking the dimension deviation, surface roughness and material rem[illegible] This paper deals with [illegible] ing optimal control parameters viz.. Input parameter are pulse on time, pulse off time, input curr[illegible] vity, wire feed, wire [illegible] ion and water pressure but here considering parameter are pulse on time, pulse off time inpu[illegible] and water pressure in the rectangular sheet of inconel 625 material removal in square shape .In the present research Ta[illegible] 18 orthogonal arr[illegible] has been used to design for experimental run. Taguchi L-18 orthogonal array along with ANO[illegible] used for optimize the different parameters like sensitivity, Ton, Toff and water pressure. These parameters are used to mini[illegible] ension deviation, surface roughness and maximum material removal rate isobtained.

Key[illegible]: Wire EDM, Taguchi DOE, ANOVA,S/N ratio, Grey Relational Analysis.

I. INTRODUCTION

Wir[illegible] Discharge Machining is a non-traditional machining process which is based on thermos electrical energy between the [illegible] ce and an electrode with deionized water as the dielectric medium and erodes the work piece to produce complex two and [illegible] mensional shapes according to a numerically controlled (NC) path. The wire cut EDM is a discharge machine that uses CN[illegible] ement to produce the desired contour or shape ,It does not require a specialshapedelectrodeasinthecaseofEDM,Whereasit uses [illegible] nuous traveling vertical wire under tension as electrode. The electrode in wire EDM has a very small diameter whose path [illegible] ontrolled by the machine computer to produce the required shape to produce required shape. During this process the wire trav[illegible] ertically downwards and table movement is horizontal which is controlled by the CNC controller work piece is held on tabl[illegible] the help of fixtures which does not cause any obstruction in the wire path. In here work piece as anode

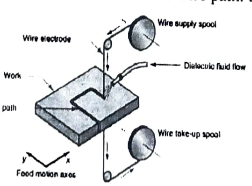

Figure 1. Wire EDM process

and [illegible] is cathode: and material is removed from the anode by spark erosion mechanism. In WEDM the brass wire was used as cu[illegible] material. The wire diameter was 0.25mm.

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In thi[illegible] ,the machining variable investigated were sensivity , pulse on time ,pulse off time, and waterpressure .Anal[illegible] variance (ANOVA)technique was used to find out the dimension deviation, surface roughness and material remov[illegible] The application of Inconel 625 is one such alloy which is widely used in aerospace industry ,jet engine

Influence of Multi-Pass Welding on the Microstructure Evolution and Corrosion Resistance of a Super Duplex Stainless Steel

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Abstract: Different thermal simulations of multi-pass welding were performed on the 2507 duplex stainless steel. The influence of thermal cycles on microstructure and phase ratio was studied. The toughness and pitting resistance of different [illegible] were investigated through impact energy test and critical pitting temperature test, respectively. The results revealed that the microstructure and performance of 2507 were deteriorated significantly after single-pass welding. While [illegible] pass increased, the restoration effect was observed.

Keywords: Duplex stainless steel; Multi-pass welding; Heat-affected zone; corrosion

I. INTRODUCTION

Duplex stainless steels (DSS), characterized by the two-phase microstructure of austenite (γ) and ferrite (α), are [illegible] used in corrosive environments because of the combination of excellent mechanical strength and corrosion resistance. Their great performance largely depends on the balanced phase ratio, which consists of approximately equivalent amount of α and γ without detrimental precipitates [1-3]. However, the welding process, which is indispensable during practical use, will result in microstructure evolution in DSSs and then degrade their mechanical properties and corrosion resistance [3-10]. Besides, the precipitation of deleterious secondary phase such as carbides, nitrides, secondary [illegible] sigma (σ) and chi (χ) will also impair the DSSs' performance [11-14]. During the practical welding, the weld [illegible] (WMZ) undergoes a fusion process whereas the heat-affected zone (HAZ) experiences a heat-cooling process. B[illegible] the higher-alloyed materials are used as [illegible] gas protection, the mechanical properties and corrosion resistance of WMZ tends to be better than those of HAZ [8, 9]. Therefore large numbers of investigations has focused on the HAZ of DSSs [5, 15-20].

In practical use, multi-pass welding is adopted to replace single-pass welding for it can restore the unbalanced [illegible]ture. Our previous work has demonstrated this phenomenon on DSS2304 [21]. The influence of cooling rate and [illegible] value on microstructure and corrosion resistance has also been investigated [22, 23]. In this paper, we focus on [illegible]er DSS which is higher alloyed than 2304, for the effect of multi-pass welding on mechanical and corrosive properties of 2507 is still scarce.

The thermal simulations from first pass to third pass were performed through Gleebe thermal- mechanical simulator. Subsequently, the microstructure was observed by optical microscope and the pitting resistance was characterized by CPT (Critical Pitting Temperature) method. In addition, the similarities and differences between 2304 and 25[illegible] also discussed.

II. EXPERIMENTAL

M[illegible]

The material studied in this work was super duplex stainless steel (SDSS) 2507 that was manufactured by B[illegible]. The chemical composition was listed in Table 1 and the composition of 2304 used for comparison was also provided.

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Table 1. Chemical composition of DSS 2507(wt.%)

Optimum Insulation Thickness Of The External Walls And Roof For Different Degree-Days Region

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Abstract

In this paper, the optimum insulation thickness of thermal insulation used to reduce the heat loss through external walls and Roof is investigated. In general loss of heat in building occurs through external walls, window, ceiling(Roof) and air infiltration. But in this analysis, heat loss through external walls and Roof has been considered. The annual heating and cooling load requirement can be obtained by Degree-Days (DD) method. Fuel consumption costs are reduced by increasing the thickness of external walls and Roof, despite an increase in the investment costs. The Optimum insulation thickness, Energy saving and Payback period are calculated by using Life cycle cost analysis(LCCA) over 10 years of the building life for four different climatic regions. In this analysis, two different insulation (Glass wool and Expended Polystyrene) and LPG as heating source are selected. A systematic approach for optimization of insulation material thickness for External walls and Roof is developed for different DD regions of India, Imphal(DD:2372),Gwailor(DD:3902),Dehradun(DD:2[illegible]) and Thiruvanthapuram (DD: 4507).

As a result the Optimum insulation thickness varies between 14.46 cm and 20.77 cm, the annual energy saving varies between 509.03 Rs/m² and 1014.27 Rs/m² and Payback periods varies between 0.87 and 1.2374 years for External walls depending on climatic condition, Fuel cost and type of insulation.

Keywords : Degree-Days Region; Energy Saving; Life Cycle Cost Analysis; Optimum Insulation Thickness; Payback Period.

I. INTRODUCTION

The present paper aim is to investigate the Energy saving through External walls and Roof for four different Degree-Days regions by the application of insulation. As we know that the rate of energy consumption increased due to population growth and urbanization. But there is a limited energy sources. Mainly , the energy consumption is distributed among Industrial sector, Building sector, Transportation and Agricultural areas. The Building sector is major energy consumption area. The energy saving is maintained by reducing the energy consumption in building. Heat loss in building takes place through Building envelope. There is some method to reduce heat loss. Thermal insulation is one of the best methods to reduce the heat of Building insulation will reduce the heating cost in the terms of initial investment. The life cycle cost analysis (LCCA) is used to calculate the optimum insulation thickness. Heating loads were calculated by Degree- Days method. The number of degree-Days is the difference between the base temperature and mean ambient temperature. This paper demonstrated an analysis for determining Optimal insulation thickness for External walls and Roof of the buildings in India. Increase insulation thickness will not only increase energy saving but also decrease pollution . Energy saving will gradually increase upto optimal thickness and beyond that energy saving will decrease. It mean insulation thickness is more beyond that Optimum insulation thickness.

II. LITERARTURE WORK

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Applications Of Carbon Nano Tubes (Cnt) In Automobiles- A Review

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[2](Mechanical Engineering, Gandhi Engineering College)

ABSTRACT:
Today Nano materials are used in automotive industries in a wide range. These Nano materials are playing a major role in all the sectors. Particularly in automobile sector these Nano components are used as reinforcement materials in vehicle Production. They possess remarkable electrical mechanical, optical, thermal and chemical properties, which make them a perfect –fit for many engineering applications. In this paper various methods of production of carbon nano tubes are discussed outlining their capabilities. The objective of this work is giving a review research of implementation of carbon nano tubes in automobiles products and describing its properties, applications and synthesis. The carbon Nano tubes are used in cars and all automotive vehicles particularly in the field of fuel component system to increase the fuel efficiency of the vehicle

Key Words: MWCNT. Mechanical Properties Automotive industry

I. INTRODUCTION

Carbon nano tubes (CNTs) are allotropes of carbon. A carbon nano tube is a one-atom thick sheet of graphite (called graphene) rolled up into a seamless cylinder with diameter of the order of a nanometer. This results in a nanostructure where the length-to-diameter ratio exceeds 10,000. Such cylindrical carbon molecules have novel properties that make them potentially useful in a wide variety of applications in mechanical, structural, thermal, electrical & electronics, optical, biomedical and other fields of science, engineering & medicine. They exhibit extraordinary strength and unique electrical properties, and are efficient conductors of heat. Their name is de-rived from their size, since the diameter of a nano tube is on the order of a few nano meters (approximately 50,000 times smaller than the width of a human hair), while they can be up to several millimetres in length. Single and multi-wall carbon nano tubes have created tremendous expectations as strengthening additives for metallic, ceramic and polymer composites due to their high strength and stiffness. Metal matrix/CNT composites (MM/CNT) have great potential in load bearing applications and electronic packaging due to their high specific strength, high thermal conductivity and low coefficient of thermal expansion. These properties are advantageous in advanced applications like aerospace and automotive structural members where a lower weight leads to savings in energy. Apart from the well-known graphite, carbon can build closed and open cages with honeycomb atomicarrangement.

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II. LITERATURE WORK

Cl[illegible]-Based Secure Authentication (CSA) Protocol Suite for Defense against DoS Attacks

Archana Senapati[1], Binayak Panda[2]
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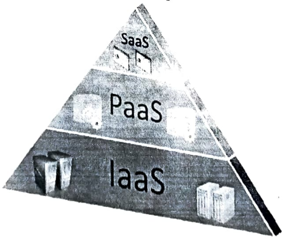
[illegible]Computer Science & Engineering, Gandhi Engineering College)

Abstract [illegible]d-based services have become part of our day-to-day software solutions. The identity authentication process is considere[illegible] the main gatewa[illegible] these services. As such, these gates have become increasingly susceptible to aggressive attackers[illegible] may use Denial of Service (DoS) attacks to close these gates permanently. There are a number of authentication protocols [illegible] strong enough to verify identities and protect traditional networked applications. However, these authentication protocols [illegible] themselves introduc[illegible] DoS risks when used in cloud-based applications. This risk introduction is due to the utilization [illegible] heavy verification process that may consume the cloud's resources and disable the application service. In this work, we [illegible] a novel cloud-based authentication protocol suite that not only is aware of the internal DoS threats but is also capable [illegible]ing against extern[illegible] DoS attackers. The proposed solution uses a multilevel adaptive technique to dictate the efforts of [illegible]col participants. This technique is capable of identifying a legitimate user's requests and placing them at the front of [illegible]tication process queue. The authentication process was designed in such a way that the cloud-based servers become [illegible]free and completely aware of the risks of any DoS attack.

Keyword[illegible] computing; DoS; Detection; Security; Authentication; Protocol

I. INTR[illegible]TION

Cloud co[illegible] is the utilization of hardware and software to provide services to end users over a network, such as the Internet. Cloud co[illegible] includes a set of virtual machines that simulate physical computers and provide services, such as operating systems [illegible]cations. Howeve[illegible] configuring the virtualization within a cloud computing environment is critical when deploying [illegible] computing system. A cloud computing structure relies on three service layers: Infrastructure as a Service (IaaS), Platform [illegible]vice (PaaS), and Software as a Service (SaaS) (Figure 1). IaaS provides users with access to physical resources, networks [illegible]dth, and storage. PaaS builds on IaaS and provides end users access to the operating systems and platforms necessary [illegible] and develop applications, such as databases. SaaS provides end users with access to software applications.



Fig[illegible] [illegible]oud computing ar[illegible]itecture

DoS atta[illegible]ent major securit[illegible] risks in a cloud computing environment, where the resources are shared by many users. A DoS atta[illegible] the resources or services in an attempt to render them unavailable by flooding the system resources with heavy amounts [illegible]cial traffic. Deali[illegible] with DoS attacks at all layers of cloud systems is a major challenge due to the difficulty of distingui[illegible] attackers' reque[illegible] from legitimate user requests, particularly when the data are transferred between the layers of the clo[illegible]puting systems. Therefore, detecting a DoS attack in its early stage, in the upper layer (SaaS), is a significant ap[illegible] avoid the destru[illegible]ion caused by DoS attacks on the other layers. However, all service requests for SaaS must be [illegible]icated to be approved.

Many au[illegible]on protocols can be used in the SaaS layer. The OAuth protocol [1] is currently a widely used authentication protocol [illegible]trols the access of third-party applications to a HTTP service. In OAuth, the resource owner can allow a third-party cli[illegible]ess the resourc[illegible] through the owner. For example, a user as a photo owner (resource owner) can grant

A Data Mining: Overview to Distributed Systems

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Abstract- Di[illegible] [illegible]tion of data and computation allows for solving larger problems and execute applications that are distributed in nature. Dat[illegible] [illegible]g technology has [illegible]merged as a means for identifying patterns and trends from large quantities of data. The Data Mining tec[illegible] [illegible] normally adopts data integration method to generate Data warehouse, on which to gather all data into a central site, and then ru[illegible] [illegible]lgorithm against that data to extract the useful Module Prediction and knowledge evaluation. Applications from various do[illegible] [illegible]have adopted this technique to perform data analysis efficiently. Several issues need to be addressed when such techniques [illegible] data these are b[illegible] at size and geographically distributed at various sites. The system contains modules for secure distributed [illegible]nication, database connectivity, organized data management and efficient data analysis for generating a global mining mod[illegible] [illegible]formance evaluati[illegible] of the system is also carried out and presented. New technologies are emerging to make big data analytics po[illegible] [illegible]nd cost-effective. This paper describe system architecture and distributed data mining, also known as multi agent based distri[illegible] [illegible] data mining, in terms of significance, system overview, existing systems, and researchtrends.

Index Term [illegible] mining; distributed systems; reliability; performance.

I. INTRODUCTION

The wides[illegible] [illegible] of computers and the advance in databasetechnology have provided huge amounts of data. Theexplosive growth of data in datab[illegible] [illegible]as generated an urgentneed for efficient data mining techniques to discover useful information [illegible] knowledge.

Distribut[illegible] [illegible]a mining (DDM) i[illegible] a fast growing area which deals with the problem of finding data patterns in an environment with distributed [illegible] [illegible]nd computation. In current era most of the data analysis systems require centralized storage of data, the increasing merger of c[illegible] [illegible]ation with communication is more demand data mining environments that can utilize the full advantage of distributed computatio[illegible] [illegible]bility of distributed no longer can be assured by static design because distributed systems are increasingly large, heterogeneo[illegible] [illegible] dynamic. On the one side, large-scale computing grids, clouds andclusters provide computing and data resources with hundr[illegible] [illegible]ven up to thousands of nodes.

Distrib[illegible] [illegible]tems today grow dynamically in terms of new applications, hardware and network components, users and workload changes. C[illegible] [illegible] interactions between the different layers of a distributed system make systems and effects of faults hard to understand [illegible] [illegible]hat faulty behavior and poor performance cannot always be distinguished. Our approach to reliable operation of distributed s[illegible] [illegible] is based on building a dynamic model for the distributed systems from monitored system data.

A funda[illegible] [illegible]al challenge for DDM is to develop mining techniques without having to communicate data unnecessarily. Such functionalit[illegible] [illegible]quired for reasons of efficiency, accuracy and privacy. In addition, appropriate protocols, languages, and network services are [illegible] [illegible] for mining distributed data to handle the required metadata and mapping.

II. LIT[illegible]TURE WORK

Distributed [illegible] Mining Architecture

Our pro[illegible] [illegible] mining architecture is a client/server-based system developed for performing knowledge discovery from large distribute[illegible] [illegible] of data. Due to the diversity of mining algorithms and the diversity of data sources, it is difficult to generate a mining mo[illegible] [illegible] combining mining rules on different sites. Our proposed system works independently to combine result from different s[illegible] [illegible]is section describes the abstract architecture model of the Distributed Data Mining and the interaction between its various sub[illegible] [illegible]. The architecture has the following subsystems: communication, mining, analyzing, and database.

We wa[illegible] [illegible]aluate collected data of the system with the help of data mining techniques in order to build a model of the system. This model [illegible] used for online prediction of the system's behavior and thus gives the opportunity to react even before faults or errors occu[illegible]

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System Arc[illegible]re

In the [illegible] [illegible] initial architecture is presented that enables data miners to build a system model for execution time prediction and perform[illegible] [illegible]ault detection for distributed data mining algorithms. Fig. 4 depicts the architecture, which is currently being implement[illegible]

Performance Evaluation of E-commerce Web Sites inIndia

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A - The E-Commerce web sites are facing lots of problems today. Customers prefer traditional way to purchase the products and not from E-Commerce web sites. If we see the history of E-Commerce, then we get that E-Commerce is the purpose of Internet and the web to conduct business. The study addresses the quality and performance issues of E- Commerce that become hur business activities and suggest Total Quality Management (TQM) implementation as the best solution to sort out th

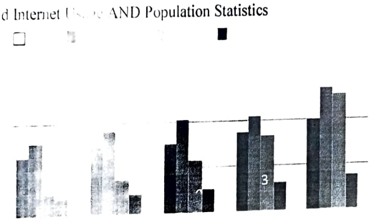
Keywords: E-Commerce; Performance Issues; Web sites; Total Quality Management (TQM); Statistics.

I INTRODUCTION

E-Commerce is the purpose of Internet and the web to conduct business. E-Commerce is having so many benefits. But it is hav many quality iss also[2] We suggest Total Quality Management (TQM) as the solution. TQM is defined as bot lo ophy and a set of guiding principles that represent the foundation of a continuously improving organization[1]. T t inspection, but actually the prevention of defects. It involves everyone in the organization.

Figure I

s. World Internet Users AND Population Statistics



a r Population and Internet Users is in Crore)

Fig ows that Asia has d future for E-Commerce.

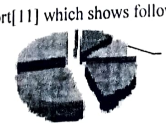
Figure II

India Vs World E-Commerce Sales Statistics on 31-12-2011[4]

S tage of the In internet users to the Asian internet users is 11.90% and if we compare this with the total W rnet users then it is t 5.33%[4].

INDIA SCENARIO

I -Commerce surv is done by IAMAI Report[11] which shows following results



[illegible]O based [illegible]ultidimensional Data Clustering: A Survey

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A[illegible]ct

D[illegible]ering is considered [illegible] one of the most promising data analysis methods in data mining and on the other side K-Means is the w[illegible] partitional clust[illegible]ng technique. Nevertheless, K-Means and other partitional clustering techniques struggle with some c[illegible]re dimension[illegible] core concern. The different challenges associated with clustering techniques are preknowledge of n[illegible]ters of clusters, pr[illegible]m of stagnation, multiple cluster membership problem, dead unit problem, and slow or premature c[illegible]ce to local search [illegible]ace. So as to resolve these clustering limitations, an eminent choice is to adapt the Swarm Intelligence (S[illegible] optimization al[illegible]thms. This paper presents an overview of the research on an applicability of different Particle Swarm O[illegible]on (PSO) variants [illegible] clustering multidimensional data along with the basic concepts of PSO as well as data clustering. It [illegible] ard an idea of [illegible] and advance PSO variant in order to deal with multidimensional dataclustering.

Ke[illegible]ords
[illegible] Data Clustering, Pa[illegible] Swarm Optimization (PSO), Subtractive Clustering (SC), Swarm Intelligence (SI).

INTRODUCTION

D[illegible]ng has been proved [illegible] one of the favorite areas of researchers with its absolutely outstanding applications in variety of fields, [illegible] new approaches to visualize, examine, and uncover any hidden patterns in data automatically. Data mining system can be d[illegible] an integration of techniques from multiple disciplines namely statistics, database & data warehouse, information retrieval, m[illegible] learning, pattern recognition, neural networks, image & signal processing, and artificial intelligence etc. [24], whereas, A[illegible] intelligence (AI) is a technology and a branch of computer science that studies and develops intelligent machines and s[illegible]. Several research textbooks have defined Artificial Intelligence as the concept of studying and designing the intelligent agents. [illegible] agents are [illegible] but a system that perceives its environment and tries to achieve maximum chances of success. AI re[illegible] involves different [illegible] issues and several approaches are struggling to solve them. Some subfields are aimed to find so[illegible] specific problems whereas others focus on one of several possible approaches. By using AI systems, computer can make d[illegible] without any human interference. It actually imparts a sixth sense to the different technologies for exploring new data. AI is ap[illegible] data mining system so as to find a new way to explore the meaningful information that can be useful for several future de[illegible] making processes.

I[illegible] research work, these two renowned domains are chosen in order to utilize the benefits of both fields and apply it to some real [illegible] applications. The well admired data analysis method in data mining system is nothing but data clustering itself. It finds its ap[illegible] in biological sequences, scheduling, collective behavior, image segmentation, biomedical, graphics etc. It is the method of gr[illegible] data objects [illegible] maximum inter-cluster distance and minimum intra-cluster distance. Compact clustering is essential f[illegible] similar items together to provide accurate information so that meaningful information can be retrieved from it and can be us[illegible] making purpose. There is variety of approaches for to derive good results of clustering, even though they suffer from s[illegible] challenging drawback. Hence the researchers found data clustering as crucial area of research to enhance the results.

A[illegible] of AI to solve these clustering challenges is gaining importance these days. Swarm Intelligence (SI) is derived as a [illegible] new subfield of [illegible] which studies the emergent collective intelligence of groups of simple agents. It adapts the social be[illegible] that can be observed [illegible] nature elements, such as, ant colonies, birds flock, bee hives, and fish schools etc. In these cases, in[illegible] individuals with limited capabilities produces an intelligent solution for complex problems. The different swarm in[illegible] inspired optimization algorithms are Ant Colony Optimization (ACO), Bee Colony Optimization (BCO), Fish School O[illegible] (FSO), Particle Swarm Optimization (PSO), etc. Amongst these optimization techniques, PSO and ACO are mostly used [2

P[illegible] of the [illegible] paradigm that have received widespread attention in research these days. It is a novel population based stochastic s[illegible] for that that provides a solution to complex non-linear optimization problem. It is an evolutionary computation technique [illegible] imitates the movement and flocking of birds that performs a global search in the solution space. PSO produces better results in c[illegible] and multi-peak problems with few parameters to adjust giving fast as well as accurate computation results which makes it a[illegible] optimization technique in swarm intelligence field [26]. Hence, PSO will be a great choice for finding solution to the most c[illegible] issues in clustering. For a brief idea about the concerned area of work, see Figure 1.

T[illegible] of the paper is organized as follows. In Section II, a brief literature survey on PSO and its different variants is described. Se[illegible] III provides an analysis of clustering techniques and related challenges. The basic concept of PSO algorithm, along with the [illegible] research that motivates the future work is described in Section IV. Section V analyses the characteristics of different data sets h[illegible] dimensions and proposal of new variant of PSO for handling issues while clustering multidimensional data, followed by [illegible] which concludes this paper providing future direction.

[illegible]formance A[illegible]alysis On Spark And Map Reduce Using Streaming Data

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ABST[illegible]

Dyna[illegible] stream [illegible]lling utilizing constant programming model for processing large data sets with a parallel, distri[illegible]gorithm on a clust[illegible] is at present a high worry as the measure of information being created is expanding step by step w[illegible] development of the Internet of Things, Big Data and Cloud. Big data are portrayed by immense volume that can land [illegible] high speed and [illegible] various organizations from numerous sources. Accordingly, continuous programming model strat[illegible] to be fit for pr[illegible]paring the information to separate an incentive out of it by tending to the issues identified with these [illegible] that are relate[illegible] information streams. In this work, we asses and break down the ability to exist Map-Reduce andSp[illegible] streamsandweintroducewhetherthecurrentsystemsareimportantin the curre[illegible]nstance.

Key[illegible] *Big data, Spa[illegible]-reduce, Data streams.*

1. IN[illegible]UCTION

Big d[illegible] market term for [illegible]on-traditional strategies and technologies needed to gather, organize, process, and gather insights from [illegible] datasets. While the [illegible]blem of working with data that exceeds the computing power or storage of a single computer is not [illegible] the pe[illegible]ss, scale, and value of this type of computing have greatly expan[illegible] recentyears.The[illegible] necessitiesofworking with huge information are the same as the prerequisites for working with datase[illegible] size. Nonetheles[illegible] the monstrousscale,thespeedofingestingandhandling,andthe qualities of the information that must be ma[illegible] at each phase of the procedure introduce huge new difficulties when outlining arrangements. The objective of most huge [illegible] frameworks [illegible] to surface bits of knowledge and associations from huge volumes of heterogeneous information that w[illegible] be conceivable [illegible]zing traditionaltechniques.

In 20[illegible] 's Doug La[illegible] first presented what became known as the "three Vs of big data" to describe some of the charac[illegible] that make big da[illegible] different from other data processing:

- [illegible]lume: The shee[illegible] of the data handled characterizes enormous information frameworks. These datasets can be [illegible] of extent bigger than customary datasets, which requests more idea at each phase of the preparing and capacity cycle.

- [illegible]ocity: Another ma[illegible] by which enormous information contrasts fundamentally from other information frameworks [illegible] speed that data [illegible] through the framework. Information isevery now and again streaming into the framework [illegible] various sources a[illegible] is frequently anticipated that would be handled progressively to pick up experiences and refresh [illegible] present compreh[illegible] of the framework. This emphasis on close moment input has pushed numerous enormous [illegible] on special[illegible] abunchsituatedapproachandmore like a constant gushing framework. Information is always [illegible] included, rubbe[illegible] handled, and investigated so as to stay aware of the flood of new data and to surface significant [illegible] when it is generallypertinent
- [illegible]ety: Data can be [illegible]ted from internal systems like application and server logs, from social media feeds and other [illegible] APIs, from physical device sensors, and from other providers. Big data seeks to handle potentially useful data [illegible]less of where it's coming from by consolidating all information into a single system. The arrangements and sorts of [illegible]canddifferfundam[illegible]tallytoo.Richmedialike pictures,videodocuments,andsoundchroniclesare ingested close by [illegible] records, organized logs, and soon.

Becau[illegible] qualities of big [illegible] individual computers are often inadequate for handling the data at most stages. To better addr[illegible] storage and computational needs of bigdata,computerclustersareabetterfit.Bigdataclustering software combines the resou[illegible] smaller mac[illegible] seeking to provide several benefits:

- [illegible] Pooling: Co[illegible]ining the available storage space to hold data is a clear benefit, but CPU and memory pooling are [illegible] important. Processing large datasets requires large amounts of all three of theseresources.

[illegible]

Real-Time Scheduler Design For Embedded System Domain

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Ab[illegible]: The main obje[illegible] of this paper is to develop a new scheduling algorithm for scheduling of task in Real-Time ope[illegible] systems. The p[illegible] architecture is a modified version of Round-Robin architecture which is used for scheduling of [illegible] Real-Time op[illegible] systems. It is observed that the proposed architecture solves the drawbacks of simple Round-Ro[illegible]cture in Real Time operating system by decreasing the number of context switches waiting time and response time th[illegible] improving the sys[illegible] performance. This paper also explains the development of a new CLI simulation framework: to sim[illegible] evaluate the performance of various uniporcessor real-time scheduling algorithm for Real-Time system. Task ID, De[illegible] Priority, period[illegible] computation time, and Phase are the input task attributes to the scheduler simulator and th[illegible] imitating the [illegible] time execution of the input task set and computational statistics of the schedule are the output. Th[illegible] framework for the scheduler simulator is mainly developed to be used as a teaching tool. The CLI deployment of the s[illegible] enables the [illegible] platform, machine and software-independent utilization of the technicalresource.

Ke[illegible]: **RTOS, Round Robin, EDF, FCFS, CLI, RMS, Preemption, MUF.**

I. [illegible]RODUCTION

Th[illegible] of a task sche[illegible] is to organize the set of tasks ready for execution by the processor more precisely, to organize th[illegible] performance [illegible] is met. Thus it is essential an optimization problem. The order of arrangement of tasks are c[illegible] schedule. A schedu[illegible] be a feasible or optimal: A valid schedule is called a feasible schedule, if all the tasks meet th[illegible] time con[illegible] in the schedule. A real-time task scheduler is called optimal, if it can feasibly schedule any task set [illegible] feasibly scheduled by other scheduler. Scheduling real-time tasks is an extremely important activity in real- time sys[illegible] this is the ulti[illegible] factor that governs the final temporal properties of tasks. The problem is of allocating the tasks to co[illegible] resources wh[illegible] may be the CPU, memory, communication channels or I/O devices. The model most often used in re[illegible] the scheduling problem reflects an allocation of processes to processors and objective of scheduling algorithm. T[illegible] function may [illegible] with application. For real-time systems it usual takes of the form that task must finish within st[illegible] deadline.For[illegible] definethesetof processes and processors as follows. A set of processes V_p = [illegible] pn), are re[illegible] to each other through a set of logical links E_p to form a graph $G_p= (V_p,E_p)$. A set of pr[illegible] = $(V_q, E_q$[illegible] ating processes to processors is function F: $Vp\text{-}> V_q$. (1) Task scheduling in real-time sys[illegible] can be static or dynamic. A static approach calculates schedules for tasks off-line and it requires a complete prior kn[illegible] task's characteristics. A dynamic approach determines schedules for tasks on the fly and allows the tasks to be [illegible] invoked. (2) Real-Time tasks can be of two types: periodic and aperiodic. Periodic tasks are those which re[illegible] regular time interval e.g. a transducer like thermocouple to measure temperature of a process at regular int[illegible] periodic tasks are associated with asynchronous events like occurrence of an alarm event due to some pa[illegible] of the controlled physical system going above thethreshold.

II. [illegible]ERATURE REVIEW

[illegible] Scheduling [illegible]gies like First come First Served (FCFS) or Round Robin cannot be used in real-time sys[illegible] because they do not take into account the importance of task characteristics like deadline. Some important sc[illegible] strategies used in real-time systems are discussed below.

H[illegible] Scheduling this [illegible] is often called "static priority scheduling". It proceeds from the assumptions that each task ha[illegible] a fixed [illegible] priority. This defines its importance for scheduling application. Tasks are connected in order o[illegible] the ready list [illegible] the highest priority job will be on the top. This is preemptive policy, thus at a reschedule time th[illegible] task will be preempted if a higher priority task is ready. Task importance is evaluated heuristically by ap[illegible] designer. This [illegible] is simple and easy to use and generally effective and is used in commercial real-time op[illegible] system like RM[illegible] RTX, VxWORKS and Venix.

R[illegible] Scheduling (RMS) the policy introduced by Liu and Leyland [1] considers a single task criterion. RMS is a[illegible] driven scheduling algorithm. This is a static priority algorithm and is extensively used in practical applications. T[illegible] occurrence [illegible] a task, the lower priority is assigned to it. A task having highest occurrence ra[illegible] period)is accord[illegible] highestpriority.RMShas been proved to be optimal static priority scheduling algorithm. N[illegible] conditions: A [illegible] of periodic real-time task would not be RMS schedulable unless they satisfy the following ne[illegible] condition

$$[illegible] = \sum [illegible] \qquad (1)$$

Wh[illegible] the worst case execution time and p_i is the period of task T_i, n is the number of tasks to be scheduled and u_i is the C[illegible]PU utilization due to the task T_i. This test is simply expresses the fact that the total CPU utilization due to the [illegible] T_i. This [illegible] simply expresses the fact that total CPU utilization due to all tasks in the task set should be less tha[illegible]

An Optimized Task Scheduling Algorithm and Maintaining a Load in Cloud Computing

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[illegible]stract-Cloud provides convenient and on demand network access for computing resources available over internet. Individuals [illegible] organizations can access the software and hardware such as network, storage, server and applications which are located [illegible]otely easily with the help of Cloud Service. The tasks/jobs submitted to this cloud environment needs to be executed on time [illegible] the resources available so as to achieve proper resource utilization, efficiency and lesser makespan which in turn requires [illegible]cient task scheduling algorithm for proper task allocation. In this paper, we have introduced an Optimized Task Scheduling [illegible]rithm which adapts the advantages of various other existing algorithms according to the situation while considering the [illegible]ribution and scalability characteristics of cloudresources.

[illegible]words- Cloud Computing, Makespan, Minimum/ Maximum Execution Time, Minimum/Maximum Completion Time, [illegible]Balancing.

[illegible]NTRODUCTION

[illegible] days a wide variety of computer ideas has been introduced i.e., Cloud supplies the user with sufficient and on-[illegible]anding contact or set-up for N no of computing resources available on the Internet. Cloud environment which has a [illegible] scattered computing media that holds a huge content of virtualized computing sources that are near to the discrete or [illegible]ture. The actual [illegible]tivation behind the implementation of CC is to supply a most promising worth able packages [illegible] is little bit stin[illegible]ing. Scheduling of engagement in activity application and maintaining surfeit is just what was [illegible] main an[illegible] of in dwarf environment. This gave a pink slip be achieved by adopting proficient task [illegible]duling algorithm. [illegible]ver parameters a well- known as throughput, resource employment, charge, computational has a [illegible]d start pride of [illegible] attitude, baud rate, resource availability and many preferably, time management algorithms [illegible]mplemented.

[illegible]ver parameters a well-known as throughput, resource employment, charge, computational has a head start, pride of [illegible] attitude, baud rate, [illegible]source availability and many preferably, Scheduling algorithms are implemented. In decision to [illegible]ide has a jump on Quality of Service (QoS), we prefer to bring about an capable hardship scheduling algorithm which [illegible]tains a valuable balance during resource hard pull to train efficiency, lesser derive span, concurrent task scheduling, [illegible]ng to do with resource hardpull and management.

[illegible] complimentary i[illegible] the point of departure of latest course for scheduling task completely the at hand staple mutually [illegible]logy from the prompt one. Our intensify is to hast a portion of the tasks around the resources in an know ins and outs [illegible] to move up in the world lesser derive span as compare with other urgentalgorithms.

[illegible] paper is regarding the introduction of latest technique for scheduling task over the available resources with [illegible]ris[illegible] from the existing one. My focus is to distribute the tasks over the resources in an appropriate manner to [illegible]e lesser make span as compare with other existingalgorithms.

[illegible]duling of tasks and allocation of resources are the important features of the cloud environment which directly affect [illegible]rformance of a system. In order to achieve high throughput, various task scheduling algorithms have been [illegible]duced by the re[illegible]rs for scheduling and scaling of resources. The adaption of the appropriate algorithm decides [illegible]performance of the system..

BACKGROUND

[illegible] scheduling is done by adapting the existingscheduling algorithms. These algorithms when schedule tasks follow the same principal in each situation sometimes leading to increase in makespan of theprocesses.

[illegible]ne over all available resource is calculated for all processes; it tells about the total time taken by individual resource to execute all tasks.

[illegible] task which needs to be migrated from one Resource to another so that makespan can be reduced.

[illegible]sting Algorithm

STUDY OF IMPACT OF ETHANOL BLENDS ON SI ENGINE PERFORMANCE AND EMISSION

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Abstract

[illegible] products within [illegible] consumption rate will be depleting in upcoming decades. Ethanol usage in the [illegible] sector can [illegible] requirement and contribute to mitigatethegreenhousegasemissionsofthevehicles.Hence it [illegible] to develop [illegible] which can work on pure ethanol or add ethanol in the petrol and use the blends of that [illegible] to study the effect of ethanol and blends on Spark Ignition (SI) engine behavior. The experiments [illegible] carried out on the [illegible] spark ignition engine with pure petrol, pure ethanol and 10%, 20%, 40%, 60%, 80% [illegible] gasoline blend. The experiments were carriedoutataconstantspeedof3000 rpm forvariousloads of 25%, 50%, [illegible] load and [illegible] emissions were analyzed. This study concludes that ethanol blending is lowering exhaust [illegible] with considerable improvement in the performance of the SI engine under part load and full [illegible] usingasafuturefuelwhichcan successfullyreplacepetrolanditsdepletionproblem.

Keywords: SI Engine, Emission, Ethanol

I. INTRODUCTION

[illegible] most [illegible] will have a significant contribution of exhaust gas and evaporative emissions from the [illegible] vehicles. Legislated emissions such as unburnt hydrocarbons (HC), oxides of nitrogen (NOx) and carbon [illegible] oxide(CO)andnon[illegible]greenhousegasandothertoxic emissions, which include carbon dioxide (CO_2), CH_4, N_2O, fine [illegible] matter, aldehydes (formaldehyde and acetaldehyde), benzene, 1,3-butadiene, polycyclic organic matter (P[illegible])andothers

[illegible] (ethyl alcohol) addition to gasoline results in changes to the properties of the fuel and hence affects the vehicle [illegible] ance in many ways. This includes exhaust and evaporative emissions, fuel economy, full load

[illegible] power and drivability. The changes in fuel composition affects these vehicle performance qualities are [illegible] dependent on the individual vehicle.Itwilldependon engine design, fuel and control system, and also emissions [illegible] equipment.

[illegible] is a clear, colourless liquid with a faint odour. Ithas a high latent heat of vaporisation and contains oxygen, [illegible] istics that are relevant to its environmental performanceincombustionasamotorfuel,andin itsstorage and [illegible].

[illegible] can be produced in two forms: hydrated and anhydrous. Hydrated ethanol, usually produced by [illegible] ambient [illegible] fermentation,contains95%ethanol with the balance being water. It is suitable for use as a [illegible] ignition fuel in warm climates or for blending asa15%emulsionindiesel.Dehydration(afurtherprocess) [illegible] to produce anhydrous ethanol(100%ethanol)for blending withpetrol.

[illegible] of ethanol increases the available oxygen for combustion. Older vehicles with open-loop fuel systems [illegible] ment of the [illegible] busted mixture. The net effect on legislated emissions would be a reduction in carbon-[illegible] (CO) emission. The effect on unburnt hydrocarbon(HC)andoxidesofnitrogen(NOx)emissionsis [illegible] and dependentontheenginecalibration.

12[illegible]

[illegible] summarises the [illegible] of the major properties of gasoline,ethanol,andmixturesof10%and20%(byvolume) [illegible] with gasoline.

OPTIMIZATION OF FACILITY DESIGN BY USING MATLAB PROGRAMME

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[illegible]

Production industry continuously needs betterment of the layout/facility design. So as to get better results with minimum uses of resources. Thus giving rise to [illegible] Toassignagivenfacilityoneneedadefinedpieceofland with proper material handling [illegible] in mind these given feature, facility distribution works by preparing its structural plan [illegible] plan & the subject arrangement plan. Thereby producing a organized facility plan many [illegible] had underwent in the past so as to get a optimized facility representation. Every research [illegible] in the earlier could not meet the required scheme as something is always lacking. So the main purpose [illegible] to get optimization of facility plan including every part of it. This paper is primarily focusing on detailed analysis of methodology of optimization of facility planning by applying different formulas on the representation and its aspects. The results are shown using mathematical equation in a computerised [illegible]

Keywords: Facility Planning; Plant Layout; Optimization Methods

I. INTRODUCTION

[illegible] concept of facility planning is vast and at the same time this concept is complicated as well. It is a broad [illegible] and it covers several fields of engineering that is, it covers several disciplines. It includes various [illegible] fields [illegible] civil engineering, electrical engineering, mechanical engineering, industrial engineering, architect [illegible] engineering and therefore architects, consulting managers and urban area planners .So [illegible] at the involvementofvariedaspectsofengineering,itisobvious,thattheconceptoffacilityplanning is not only broad or extremely large but also of complex nature[3]. The concept of facility planning is about the location [illegible] facilities and the design of the facilities. The concept of facilities planning is related to achieving the [illegible] best possible result through activity's tangible fixed assets. That is – what is the objective of the facility [illegible] how the objective is achieved? Therearetwocomponentsoffacilitiesplanning[4].Thefirstcomponentofthefacilities [illegible] is the location of the facilities and the second component of the facilities planning is the design of the [illegible]. To define the first component of the facilities planning, that is, the facilities location, it can be said [illegible] facilities location means the placement or the placing of the facility on a particular plot of land, or it can [illegible] that the placement of the facility on a specific piece, or plot of land, with respect to other facilities and [illegible] respect to the customers and suppliers[6]. So in facilities planning, the location of facilities relates to the [illegible] accordingtothesuppliersandotherfacilities.Thesecondcomponent [illegible] planning is [illegible] design. Nowthissecondcomponentoffacilitiesplanningthat is the facilities design is [illegible] in [illegible] three parts. The first part of the facilities design is the [illegible] system of the facility[8]. Thesecondpartofthefacilitiesdesignisthedesignofthe layout. The last part of the [illegible] design is the [illegible] of the handling system. So in all, the second component of the facilities planning [illegible] the facilities design consists of the facility system design, the layout design and the systems [illegible] design[9].

FACILITY DESIGN

[illegible] Facility [illegible] is also known as Plant Layout in manufacturing units or industries. Plant Layout is [illegible] of the entire facilities planning, because more than halfof [illegible] fullayoutoftheplant.Plantl ayoutismostimportant in a manufacturing unit [illegible] financial aspect of the manufacturing unit[10].

[illegible] the base of any production or manufacturing unit. Maximum profit by minimum cost [illegible] is the basic mantra and this is what today's industrial system has truly adopted. [illegible] material handling costs and the cost of transportation [illegible] financiallayoutofmanufacturingunits.Fluctuation [illegible] profitandthehurdlesthe achievementofthefacility'sobjectives. So the Plant Layout, as [illegible] does affect the overall production system and its [illegible] actualobjectives. Theproblemsordifficultiesthatarise in facilities layout or the [illegible] effectiveness of the production system. Many countries such as United States [illegible] Gross National Product annually upon employing new facilities so that the cost [illegible] effectively specially the cost oftransportations[11].

…ALYSIS OF TWO STAGE SOLAR VAPOUR ADSORPTION R…RIGERATION SYSTEM

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…RACT
… are of great significance to meet the needs forcooling … They are environmental friendly, non- corrosive, noiseless, and do … compared to the VCRS. Various solar powered cooling systems have … these systems are not yet ready to compete with the commercially … For these reasons, research activities in this sector are still … economic and environmental problems. The objective of this project is … vapour adsorption refrigeration system using activated carbon- … system performance for different evaporator loads. Based on the … system is showing an increase in performance as the evaporative … difference at the evaporator is decreasing as the loadincreases.

…y words: … Adsorption Refrigeration System (VARS), Activated carbon-…

…TRODUCTION

… receiving much attention as a result of the projected world energy … attractive as a solar energy application because of the near coincidence of … [1][3]. It can also be effective in reducing the emission of … ozone layer depletion [1].

… to improve the quality of life of people who live in areas with shortage … storage of agricultural products, food and medicines (e.g. vaccines) in remote … is one of the promising solar thermal refrigeration methods, and it is … low cost and low maintenance requirements. As the adsorption system … effective waste heat recovery systems to make use of the heat …

… existing … refrigeration systems are not competitive with electricity- … their high capital costs [1]. Improvements such as reduced collector area, … reduced collector cost will lower the cost of solar components. Several solar … proposed and are under development, such as sorption systems including … adsorption and photovoltaic-vapour/compression systems. Most of the … economicallyjustified.

…SYSTEM …RIPTION

… used in the experiment consists essentially of a solar collector receiver … The refrigeration circuit consist of an evaporator, an expansion device, a … a porous medium, (activated carbon) reacting by adsorption with … similar to that of a VCRS except for the thermal compressor, which doesn't … The Solar collector receiver circuit consist of a parabolic trough solar … bolic trough heats up the water in the tank which is circulated through the … parabolic trough using thermosyphon system. Valves are provided along the … refrigerant (methanol) in the refrigeration circuit and hot water along the solar …

ANALYSIS OF TWO STAGE SOLAR VAPOUR ADSORPTION REFRIGERATION SYSTEM

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ABSTRACT

Solar adsorption refrigeration devices are of great significance to meet the needs forcooling requirements of the modern world. They are environmental friendly, non- corrosive, noiseless, and do not require any electricity when compared to the VCRS. Various solar powered cooling systems have been tested [illegible] however these systems are not yet ready to compete with the commercially [illegible] vapour compression system. For these reasons, research activities in this sector are still increasing to solve the technical, economic and environmental problems. The objective of this project is to fabricate and [illegible] a two stage vapour adsorption refrigeration system using activated carbon-methanol pair and to compare the system performance for different evaporator loads. Based on the experiment, the [illegible] refrigeration system is showing an increase in performance as the evaporative load increases, and the temperature difference in the evaporator is decreasing as the loadincreases.

Key words: Adsorption, Vapour Adsorption Refrigeration System (VARS), Activated carbon-methanol pair, COP

I. INTRODUCTION

[illegible] solar energy [illegible] purposes is receiving much attention as a result of the projected world energy [illegible]. Refrigeration is particularly attractive as a solar energy application because of the near coincidence of cooling loads with the available solar power [1][3]. It can also be effective in reducing the emission of [illegible] which [illegible] a major source of ozone layer depletion [1].

Solar refrigeration has the potential to improve the quality of life of people who live in areas with shortage of electricity. It is usually used for storage of agricultural products, food and medicines (e.g. vaccines) in remote [illegible] [2]. The adsorption system is one of the promising solar thermal refrigeration methods, and it is environmentally friendly [illegible] low cost and low maintenance requirements. As the adsorption system [illegible] heat energy, it can be employed in effective waste heat recovery systems to make use of the heat [illegible] the [illegible] wasted.

In spite of [illegible] the existing solar refrigeration systems are not competitive with electricity-driven refrigeration systems because of their high capital costs [1]. Improvements such as reduced collector area, improved system performance and reduced collector cost will lower the cost of solar components. Several solar refrigeration systems have been proposed and are under development, such as sorption systems including [illegible] vapour, solid-vapour absorption, adsorption and photovoltaic-vapour/compression systems. Most of the above mentioned systems have not been economicallyjustified.

II. SYSTEM DESCRIPTION

The adsorption refrigeration machine used in this experiment consists essentially of a solar collector receiver circuit and a refrigeration circuit [4]. The refrigeration circuit consist of an evaporator, an expansion device, a condenser and an adsorber containing a porous medium, (activated carbon) reacting by adsorption with [illegible]. The mechanism of working is similar to that of a VCRS except for the thermal compressor, which doesn't [illegible] electric power to work. The Solar collector receiver circuit consist of a parabolic trough solar collector and a storage tank. The parabolic trough heats up the water in the tank which is circulated through the pipe passing through the focus of parabolic trough using thermosyphon system. Valves are provided along the circuit to ensure proper flow of refrigerant (methanol) in the refrigeration circuit and hot water along the solar collector receiver circuit [4].

DESIGN AND FINITE ELEMENT ANALYSIS OF AIR BORNE RADOME

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ABSTRACT

Radome is a structural enclosure for Radar/antenna which protects from external environmental loads. There are several considerations in the design and fabrication of Radomes. In the present work, Radome with Mounting Bracket is mounted on the wing of the aircraft which is is moving with 0.8 Mach [illegible] Flow simulation [illegible] is carried out in SolidWorks software to extract the pressure acting on the surface of the Radome. The pressure data obtained from the SolidWorks is applied in the FE model generated in [illegible]. The Radome thickness plays a important role in the performance of antenna. The Radome thickness is optimised by carrying out static and modal analysis.

Key words: Radome, SolidWorks,

I. INTRODUCTION

[illegible] is a structural [illegible] that protects antenna from environmental loads (wind pressure in case of the [illegible] problem) and [illegible] is [illegible] electromagnetic window to the antenna. Radome is one of the important [illegible] Radar [illegible] construction. The Radome protects the radar against environmental disturbances. [illegible] attenuation or signal losses introduced by the radome and this level of attenuation [illegible]d be kept to the [illegible]um. The strength of the radome is one of its important design considerations, but in [illegible] of achieving better strength, the weight should not be increased just like that, as that has other serious [illegible]equences on the Radome structure [1]. One more important consideration for a Radome design and selection [illegible]. The cost incurred in the [illegible] and fabrication of a Radome should be much less, when compared to that [illegible] Radar that it is intended to protect. Other design considerations of Radome include the topology, material, [illegible] properties and effect of radome on the transmittedor

[illegible] signal. Topology or geometric shape plays a vital role in the design of a Radome [2].

Reinforcements such as fiber[illegible], quartz, graphite, and Kevlar along with materials such as polyester, [illegible] and cyanate ester are used to make advanced composites and special products. Core materials such as [illegible] graphite) and foams (Polyisocyanate and thermoform able cores) are also [illegible]. Depending on the application these parts are oven-cured at temperature up to 400°F or in autoclaves, [illegible] high pressure [illegible] at high temperatures. Other materials are also available for special [illegible]. Regardless of the application, we can select the right combination of reinforcement and matrix to [illegible] requirements[3].

SolidWorks is a solid modelling computer-aided design (CAD) and computer-aided engineering (CAE) [illegible] program that runs on Microsoft Windows. SolidWorks is published by DassaultSystèmes.

[illegible] founded in December 1993 by Massachusetts Institute of Technology graduate [illegible] he had made while a member of the MIT Blackjack Team to set up the [illegible]m, Massachusetts, United States, Hirschtick recruited a team of engineers [illegible] goal of [illegible] software that was easy-to-use, affordable, and available on the Windows [illegible] operating [illegible] from Concord, Massachusetts, SolidWorks released its first product SolidWorks 95, in [illegible] 199[illegible]. In 1997 Dassault, best known for its CATIA CAD software, acquired SolidWorks for $310 [illegible] [5], and Hirschtick stayed on board for the next 14 years in various roles. Under his leadership, [illegible] grew to [illegible] million revenue company[6].

[illegible] FINITE ELEMENT ANALYSIS (FEA)

[illegible] FEA is a software [illegible] finite element analysis and computer-aided engineering, originally released [illegible] software are based on the abacus calculation tool. The Abaqus product suite [illegible] [7 & 8].

[illegible] Airborne Radome which is mounted on the wing of an aircraft along with a [illegible] constructed using a composite material such as E-glass epoxy, as composites [illegible] to electromagnetic [illegible]. The Mounting Bracket is made up ofaluminium.

[illegible] is designed in SolidWorks Software and assembled with the mounting bracket. CFD analysis is performed on the radome using wind pressure in Z- Direction as the [illegible] condition 0.8 Mach [illegible] as the wind pressure as it is the average speed with which an aircraft

[illegible] Greener, Safer [illegible] sustainable Energy Efficient Shipping Using So[illegible]r Power Optimizer by MPPT

M[illegible]s Ranjan Pati[1], Prasant Kumar Acharya[2]
[illegible] Science & Humanities,Gandhi Engineering College)
[illegible] Science & Humanities,Gandhi Engineering College)

Abstract

[illegible]n this project [illegible] able energy solar power free of cost is maximum tracked by SPO & M[illegible]T and g[illegible] out voltage to meet the energy demand. The shipping industry is facing [illegible] greater [illegible] ally regarding energy saving and the environment protection. Today the [illegible] has become the most important aspect of shipping industry to achieve [illegible] energy efficiency plays a most important role in reduction of energy [illegible] It aims to cut carbon dioxide emissions by using renewable energy [illegible] present in the earth in free of cost. The leakage inductance energy of the [illegible] led to increase efficiency and the voltage spike on the active switch is [illegible] switch isolates the PV panel's energy during non-operating conditions, [illegible] by [illegible] tial electric hazard to humans or facilities. Various step-up DC–DC converter [illegible] conventional boost and fly back converters, switched inductor converter, [illegible] switched [illegible] ter, as well as a transformer less switched capacitor types, voltage-lift [illegible] capac[illegible] multipliers and boost types that are integrated with coupledinductors.

Key words: [illegible] ssion, DC and capacitor converter

I. INTRODUCTION

[illegible] shipping and [illegible] ivity bring these totals to 1050 million tones of CO_2, or 3.3% of global [illegible] genic CO_2 [illegible] eral alternatives are proposed to reduce or to replace fossil fuels onboard a [illegible] kites, receive electricity in ports. use of biodiesel, wind turbines, photo-voltaic modules and hydrogen [illegible] They can be used [illegible] ir own or in conjunction with what are called hybrid systems for power [illegible] green energy generation systems that use renewable or clean energies. Main [illegible] based systems onboard merchant marine vessels is to reduce consumption [illegible] obtaining this desiderate are sails, kites, receiving electricity in ports, use of [illegible] instead of [illegible] l oil, wind turbines, photovoltaic panels and hydrogen fuel cells .Thermal [illegible] obtained [illegible] mal system can be use onboard ship in the following directions:, as an [illegible] source [illegible] saturated and superheated steam; (a) as an auxiliary source in desalination [illegible] (b) as an auxiliary [illegible] for ship propulsion; (c) as an main source for generating hot water very [illegible] aspect [illegible] s the available surface. On a vessel the available surface for solar collectors [illegible] the dimensions and type of thevessel.

BACKGRO[illegible]D

[illegible]

Evaluation of [illegible]ptimum Process Parameters In Drilling Process Of Hybrid Composites Using Taguchi Method

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ABSTRACT

Drilling is [illegible] [illegible]quently employed operation of secondary machining for fiber-reinforced [illegible]terials [illegible] for joining structures. Drilling of composite materials is significantly [illegible]ted by [illegible] these materials under action of thrust force. In drilling operation, the [illegible]ality of [illegible] requirement for many applications. Thus, the choice of optimized process parame[illegible] [illegible]ent[illegible] for controlling the required hole quality. The objective of the [illegible] process parameters namely, spindle speed and feed in drilling of hybrid composites. [illegible] [illegible]ents were carried out as per the Taguchi experimental design and an L9 orthogonal [illegible] to study the influence of various combinations of process parameters on [illegible] quality. [illegible] [illegible]nce (ANOVA) test was conducted to determine the significance of each process parameter [illegible] The results indicate that feed rate is the most significant factor [illegible]ncing [illegible] [illegible]wed by speed. Speed is the most significant factor affecting the surface roughness [illegible] by feed. This work is useful in selecting optimum values of various process param[illegible] [illegible] not only minimize the thrust force but also reduce the delamination and improve [illegible] [illegible] hole. Better quality in hole geometry is achieved by setting the [illegible] the analysis.

Keywords: [illegible] Taguchi Method, ANOVA, hole quality

I. INTRODUCTION

Co[illegible] [illegible] role in the field of engineering applications as well as advanced manufacturing [illegible] requirements in aircrafts, aerospace and automotive industries [1, 2]. [illegible] materials [illegible]ity that makes their properties particularly superior in strength and [illegible] materials such as metals. As a result of intensive studies into the fundamental [illegible] better understanding of their structure property relationship, it has become possible to develop [illegible] materials with improved physical and mechanical properties [3]. These new materials include [illegible] composites such as hybrid composites. Machining of composites becomes still [illegible] of more than one type of fiber accompanied by the generation of airborne [illegible] pollutes the [illegible] [illegible]. Poor hole quality accounts for major percentage of part rejections. Since holes [illegible] drill[illegible] part rejections due to poor quality hole prove very costly [5]. Surface [illegible] parameters in drillingoperations.

[illegible] of the literature [illegible] [illegible]ted on drilling of FRP material by conventional tools has shown that the quality of the [illegible] dependent on the cutting parameters, tool geometry, tool material, work piece material [illegible] etc. An improper selection of these parameters can lead to unacceptable mat[illegible] degradation [illegible] pullout, matrix cratering, thermal damage and widespread delamination. [illegible] The complexities of machining of the two-phase composite materials and [illegible] [illegible] of tooling but also different realms of cutting conditions are needed. [illegible] that chip formation in composite removal is a process of serial material [illegible] that with the application of the technique of Taguchi and a multi-objective [illegible] achieve cutting parameters that allow the absence of damage in drilling of [illegible] Enemuoh et al. [12] [illegible] Tagliaferri [13] compared the interaction mechanisms between drilling tool [illegible] are useful in describing the history and helping design drill geometries [illegible] machining.

[illegible] Taguchi [illegible] engineering optimization of a process should be carried out in three step [illegible] parameter design and the tolerance design [14]. The Taguchi method uses [illegible] experiments theory to study a large number of variables with a small number of [illegible] reduce the number of experimental configurations to be studied. [illegible] from small scale experiments are valid over the entire experimental region [illegible] their settings [15]. The experimental results are then transformed into a [illegible] S/N ratio as a measure of quality characteristics deviating from or nearing [illegible]

[illegible] problem associated with drilling fiber reinforced composite materials and in [illegible] [illegible]ity of the material, it also leads to poor assembly tolerances and has the [illegible]

...nalysis Of St... Corrosion Cracking Of X65 Oil Pipeline

Bi... k Mishra[1], Chinmaya Kumar Sahoo[2]
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ABSTRACT

...ations that have been carried out by the University of Khartoum to identify the ... pipeline failure and to avoid the reoccurrence of the failure. The ... transmission pipeline ... Greater Nile Petroleum Operating Company (GNPOC) and has been ... investigations showed that the pipeline corrosion started after the ... Heat Shrinkable Sleeve (HSS) ... indicatedthatthematerialpropertiescomplywith the requirements of ... (API) standards. It was observed that the external surface of the ... hydrogen embrittlement, which contributed to crack growth beside ... and the location of the concrete anchor. The failure was classified as ... cracking (C-SCC) of neutral-pH form and transgranular ...

Keywords: Pipeline ... Stress Corrosion Cracking; Hydrogen Embrittlement.

I. INTRODUCTION

Oil and gas transmission pipelines have a good safety record due to the combination of good design, materials and operating practices. However, like any engineering structure, pipelines do occasionally fail. The most common causes of damage ... in onshore and offshore, oil and gas transmission pipelines are external interference and corrosion [1] ... usually appears as either general corrosion or localised (pitting) corrosion. ... occur on the internal or external surfaces of the pipe, in the base material, the ... associated heat affected zone(HAZ).

... in service for five or more years experience numerous corrosion and ... The sources of these cracks can be due to randomly distributed defects ... the degradation of carbon steel components of pipelines. The combined ... and natural soil environment containing varying amounts of moisture ... initiation of the crack(s) and accelerates their propagation through the pipe ... up to many times. In general the heat affected zone (HAZ) of a weld ... the fusion line) is hardened after welding. The hardened microstructures are ... embrittlement (HE) and stress corrosion cracking [2].

... mechanical-control processed (TMCP) steels such as the API X65 steel ... metal and HAZ properties than other structural steel welds because of the ... thermal cycle experienced in the welding process. This leads to further ... tempered region. Therefore the difference in material properties between ... plasticity develops at flaws and hence the relationship between the ... [3].

... defined as the interaction of a tensile stress and an aqueous environment ... to initiate and propagate cracks. Since the first discovery of Stress ... surface of a buried high- pressure natural gas transmission pipeline in ... significant contribution to the number of leaks and ruptures experienced by ... (Argentina, Australia, Iran, Iraq, Italy, USA, Canada, the former Soviet ... Netherland) [4-6].

... surface of buried pipelines have been identified: high-pH or "classical ... Both types of SCC have only been observed under disbonding coatings ... reported form of SCC and is characterized by the presence of numerous fine ... associated with relatively concentrated carbonate (CO_3^-) -bicarbonate ... range 9 to 12.5. Low-pH SCC (or near neutral pH) on the outer surface of ... soil conditions at free corrosion potential, where cathodic protection is ... presence of dilute ground waters containing free carbon dioxide (CO_2) ... having a pH of around 6-8 ... The steels becomes susceptible to near-neutral pH stress corrosion cracking ... damaged. This usually happens after 5–10yearsofoperation.During162 ... havebeenmechanically conditioned by stress variations in the pipe that ... after the coating is damaged [9]. Marr et al. [10] wrote "*the failure of a ... initiation and propagation ofSCC.*"

...nalysis Of ...orrosion Cracking Of X65 Oil Pipeline

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AB...TRA...

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Key words: Pipeline ... Corrosion Cracking; Hydrogen Embrittlement.

I. IN...

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OPTIMIZATION OF MACHINING PARAMETERS IN FRICTION DRILLING PROCESS

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ABSTRACT

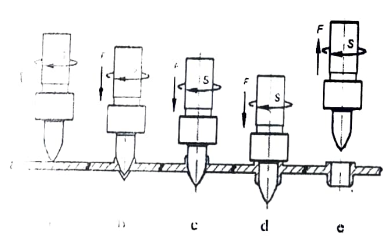
...is a ...hole making process by friction principle. In this process a ... into the work piece without generating any chip. Here the hole is ... material by the heat energy generated by the frictional force due to ... the tool and work piece interface. In this paper we investigate stress, ... This high temperatures and deformations are very high and ... explicit dynamic analysis of friction drilling is done using Ansys ... parameters like cone angle of tool, speed, Work piece materials. The ... tool and work piece developed in pro-E. The results obtained from the ... considered for the fabrication of friction drilling tool and it can be tested ... for the results Taguchi method is used.

Keywords: ... Explicit Dynamic Analysis, Cone Angle of Tool, Taguchi.

I. INTRODUCTION

... holes in a solid material or enlarging existing holes with the use of multi- ... drill bits. Various cutting tools are available for drilling, but the most common ... drilling is going to experiment in aluminium alloy and copper alloy by HSS ... drilling, also known as thermal drilling, flow drilling, form drilling, or friction ... making method. The heat generated from friction between a rotating conical ... soften the work material and penetrate a hole. Figure.1 shows a schematic ... drilling. The tip of the conical tool approaches and contacts the work piece. ... drill indents into the work piece and supports the drill in both the radial ... contact surface, created from axial force and relative angular velocity ... produces heat and softens the work piece material.

... piece initially pushes the softened work material sideward and upward. The work ... by the friction of tool and work piece is able to pierce through the work ... work piece, the tool moves further forward to push aside more work piece ... cylindrical part of the tool. As the process is completed the shoulder of ... collar the back extruded burr on the bushing. Finally, the tool retracts and ... work piece. Friction drilling is a technique to create a bushing on sheet metal, ... for joining devices in a simple, efficient way. The bushing created ... as thick as the original work piece. This added thickness can be threaded, ... for attachment than attempting to thread the original sheet. All work material ... the bushing. In addition, no cutting fluid or lubricant is necessary, which makes ... friendly process.



... Schematic illustration of the five steps in friction drilling.
... penetration into the material, C. Material flow, collar forming, E. tool withdrawal

II. ...

... friction to produce bushings in metal tubing and flat stock. The combined ... special friction Drilling tool bit creates frictional heat. Temperatures can ... the work piece. The material is transformed into a "super-plastic" state, ... form a bushing. The height of the bushing is roughly 3 to 4 times the

EFFECT OF DRILLING PARAMETERS ON THRUST FORCE AND TORQUE DURING DRILLING OF ALUMINIUM ALLOY - BASED ON TAGUCHI DESIGN OF EXPERIMENTS

D... ...pal Kumar Hota[1], Dr. A.K.S.Ansari[2]
...Engineering, Gandhi Engineering College)
...Engineering, Gandhi Engineering College)

Abstr... ...ll bit called as drilling, which is very important because large portion of ... production industry needs assemble of parts to make a final shape with ... that the drill point geometry has a significant effect on thrust force exerted by a ... rentally ... stigate the influence of drilling parameters such as point ... te and drill diameter on the thrust force and torque in drilling. Drilling ... a range of machining conditions such as cutting speed varied in the ... rps, ... d rate varied from 0.3 to 0.6mm /min in three steps using two flutes ... different diameters (8, 10 and 12mm) with 118^0 point and 45^0 helix ... tool&cutter grinder and obtained 110^0, 100^0 point angles also clearance ... performed on Aluminium 6061 alloy material of rectangular cross section ... per taguchi technique. A kistler (type 9272), four components drill tool ... ce (Th) and torque (M) exerted by the drill bit during hole making on a ... ssed to a computer by a multichannel signal amplifier (Kistler 5070 type) ... torque. Finally, ANOVA test have been carried out to confirm the signi... ... drilling and compare the predicted values with the experimental values on ...

Key... ... Torque, Taguchi-Design of Experiment

I. INTRODUCTION

... measured includes thrust force, torque and surface quality. Each of these ... and variables such as the tool and work piece materials properties, the tool geom... ... cutting conditio... fluid and machine tool. Also this chapter separately reviews what has been ... meters to optimize surface roughness, thrust force andtorque.

II. ... R...

... opment of ... M for oblique cutting by taking forces and moments acting on d... ... effects on drill bit geometry for oblique sections. An analytical model for obli... ... single section in the cutting lip region of the drill bit. S. Madhavan et al[2] cond... ... material using taguchi design of experiments, but they concentrated on the effec... ... cutting speed feed rate, thrust force and torque during drilling operation.

... ed a fuzzy logic based model for forecasting thrust force and torque during drilli... ... on geometry of drill. P. V. Gopal Krishna et al[4] concentrated their e... ... nconventional drilling process in which a cone type rotating tool penetrate i... ... generating chips. Aluminum (AA6351) is taken as work material and fricti... ... rotating tool, finally they developed mathematical models for axial thrust forc...

... principles of mechanics to develop mathematical models in drilling to predict cutti... ... This model is able to simulate the cutting forces for various machining cond... ... drilled profiles. Therefore, in addition to predict the forces, the new model allo... ... hole shapes in 3D.

... erimentally on drilling behaviorof AISI 316 and attempt made to optimize the ... design of experiments method. The process parameters of spindle speed, feed rate ... the ... and torque during drilling operations.

... conclusions after conducting experiments on drilling operation by using con... ... machines on titanium alloy; the conventional drilling machine produces high... ... control machines. The higher spindle speed with lower feed rate generates 178...

lo... ... machine. But in CNC the higher spindle speed with higher feed rate prod... ... ly CNC machine create higher thrust force and torque due to its strength

EFFECT OF DRILLING P... AMETERS ON THRUST FORCE AND TORQUE DURING DRILLING OF ALUMINIUM ... ALLOY - BASED ON TAGUCHI DESIGN OF EXPERIMENTS

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...ngineering, Gandhi Engineering College)

Abstr... with ... bit called as drilling, which is very important because large portion of ... nt in production industry needs assemble of parts to make a final shape with rivets ... n that the drill point geometry has a significant effect on thrust force exerted by a drill ... mentally investigate the influence of drilling parameters such as point angle ... ate and drill diameter on the thrust force and torque in drilling. Drilling ... de a range of machining conditions such as cutting speed varied in the range ... rpm to ... rpm ... eps, feed rate varied from 0.3 to 0.6mm /min in three steps using two flutes ... of ... different diameters (8, 10 and 12mm) with 118° point and 45° helix angle ... red by tool&cutter grinder and obtained 110°, 100° point angles also clearance angle ... es are performed on Aluminium 6061 alloy material of rectangular cross section having ... 10mm ... per taguchi technique. A kistler (type 9272), four components drill tool dyna... thrust force (Th) and torque (M) exerted by the drill bit during hole making on a wo... sed to a computer by a multichannel signal amplifier (Kistler 5070 type) was ... torque. Finally, ANOVA test have been carried out to confirm the sig... in drilling and compare the predicted values with the experimental values on ...

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Practices in FSW Welding and Investigate Effect of Tool Turning Speed on Tensile Properties and Microhardness of Di...ar Aluminium Alloys 2024 & 6061

Dr. A.K.S.Ansari[1], Dr. Atul[2]

[1](...char... Engineering, Gandhi Engineering College)

(...char... Engineering, Gandhi Engineering College)

Abstract

Inthiswor... plates of 6061 and 2024 welded by using vertical milling machine in ...iction Sti... process demand to investigate mechanical micro hardness Properties. Total 9 pairs of weld ... are fabricated by varying rotational speed of 900, 1120,1400 rpm and used three Geometrical ... Square taper conical taper triangle with varying tilt angle of 1^0,1.5^0,2^0 these ... experiments by using Taguchi L9 orthogonal array. Mechanical properties, metallograph... results were carried out on the welded areas of the parts. Hardness profile and tensile tests ... ally assessed. As a metallurgical investigation, Optic Microscopy is used ... base and weld zones. Universal Testing ... used for conducting tensile and bending tests. Heat treatment process has been carried ...

Key words: ... 6061 & 2024 Aluminum alloy; Microstructure; Tensile properties; Fractography.

I. ...TRODUCTION

... 6061-T6&2024-T6 ... are widely employing in numerous promising fields of aero- ... construction of frames, pipelines and storage tanks. ...dissimilar Aluminum ... welding ... deemed as a difficult compared to similar Aluminum ... dissimilar in chemical composition, physical, mechanical and ... properties of the pa... [1]. In fusion welding, joining of dissimilar Aluminum ... is tedious. Recently ... stir welding (FSW) process is extensively utilizing for welding of dissimilar ... aluminum alloys ... the formation of secondary phase due to the heat generation during the FSW process is well ... temperature of parent metals. Previous authors were indicated that the ... main process ... welding of dissimilar Aluminum alloys is a rotation speed of 600 rpm to ... mm/min and D/d ratio of 3:1[4]. The tool pin geometries such as thread, square and ... triangular ... transport the stirred material from top to beneath of the weld ... mentioned tool rotational speed plays a vital role in ... [ ]. Many of researchers were mainly focused on the microstructure and mechanical ... geometry and its influences on base material. ... process parameters of FSW. The shape of the tool ... al and affect weld properties[7-8]. The aim of this ... speed on tensile properties and microhardness of dissimilar Aluminum alloy ... friction stir welding (FSW).

... MATERIALS

... metal ... 6061 (Al-Mg-Si alloy) and 2024 (Al-Cu alloy) Aluminum alloys were ... joining them together with a rotating tool. Schematic sketch of weld joint and ... selected as tool material due to its high strength at elevated temperature, ... resistance. The diameter of the shoulder and pin used were 24mm, 8mm ... mm. A constant axial force is 5 KN applied and tool onward tilt angle of ... experiments. It is that found to be defect free welds, the surface ... previous work, the trial experiments were conducted with taper with threaded ... three different tool rotation speeds of 900, 1120 ... 40mm/min. The experiments are carried out on a Vertical milling machine ... hp. 3000 rpm). For various testing samples ... ASTM standards, from the FSP nugget zone by using wire- ... The schematic diagram of selection of samples for testing is shown in Fig.2. ... were carried out at the cross section of NZ of weld ments normal to the ... mechanically polished and ... HCl, 20ml HNO3 and 175ml H2O) by employing optical microscope (OM). ... the cross section of NZ of weld ments normal to the FSW direction, ... of 190

Survey on ... OT Based Environment Monitoring System ... or Smart Industries

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...Scien... & Humanities,Gandhi Engineering College)

ABSTRACT: A smart city ... the effective utilization of resources and better quality of services to the citizens. ... services such ... city management, weather monitoring and automation of homes and buildings in a ... the basic para... temperature, humidity and Co and Light intensity, gas leakage. This project ... a customised desi... environment monitoring and controlling system to monitor and control temperature, ...y, gas leakage. In this project two arduino are used as slave and one WeMos D1 ... master. The inform... from the sensors in the environment from two slaves is send to the master WeMos D1 ... ing Xbee module. ... WeMos board has inbuilt Wi-Fi facility (ESP 8266 controller), so it connect with ... The ... peak server wireless... update data sensed by sensors and then plot the data as graphicalstatistics

I. INTRODUCTION

... monitoring is existed in many aspects. The conditions environment is required to be ... growth of crops and to ensure the safe working environment in industries, etc. Due to ... of reading the environmental parameters became easier compared to the past days. ... electronic devices used to measure the physical and environmental parameters. By ... weather conditions, the results will be accurate and the entire system will be faster ...

... the main applications of wireless sensor network. WSN consist of different sensors ... monitor different environment parameters like temperature, humidity, gases, pressure. ... ambient sensors can lead to more energy-efficient buildings. WSN consists of ... devices with limited power. This system is used to measure the important parameters ... humidity, CO and Light Intensity using sensors which are suitable for sensing the ... collected by environment parameter sensing sensor is send to the master using X...

W... Technology

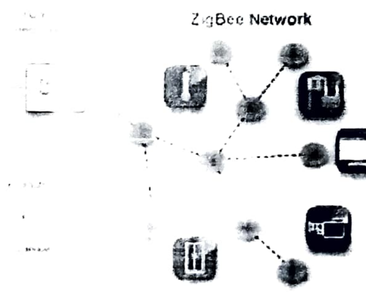

Fig.1. Wireless Technology

Z... Technology
Z... built for control and sensor networks on IEEE 802.15.4 standard for wireless ... and it is the product from Zigbee alliance. This communication standarddefines ... (MAC) layers to handle many devices at low-data rates. These Zigbee's WPANs ... and 2.4 GHz frequencies. The date rate of 250 kbps is best suited for periodic as ... transmission of data between sensors andcontrollers.

... mesh network widely deployed for controlling and monitoring applications where ... range. This communication system is less expensive and simpler than the other ... sensor networks as Bluetooth and Wi-Fi.

... configurations for master to master or master to slave communications. And also, it ... as a result the battery power is conserved. Zigbee networks are extendable with the

FRICTION STIR WELDING (FSW) OF ALUMINIUM FOAM SANDWICH PANELS

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... influence of welding speed and tool tilt angle upon the mechanical properties at ... aluminium sandwich panels. Double side welding was used for producing butt ... applying insertion of extruded aluminium profile. Such insertion provided ... aluminium panels, providing also sufficient volume of the material required for ... tensile strength and flexural strength for three-point bending tests have been determined ... anticipated effects of independent variables.

... aluminium foam, welding speed, sandwich panels, tool tilt angle

INTRODUCTION

... are sheet-shaped structures comprising two layers of aluminium sheets and ... giving the structure a high degree of stiffness. The specific ... high material stiffness, good impact resistance, high en- ergy absorption, ... [1-... The face sheets of AFS bear tensile and compres- sion forces from bending loads; ... compressive loads [4]. A large thick- ness core layer increases the sandwich's ... and support the face sheets against buckling.

... AFS panels largely depends on efficient joining techniques. Extra critical issues ... and/or foam stability, b) different melting points of foam and cover sheet. ... only involves the region close to the cover sheets while the two foam edges

... and skin limits the execution of welds through the thickness. Tungsten inert ... (MIG) welding and laser welding were shown to be suitable techniques for joining ... the welding power density results in severe damage of the foam [5, 6]. Since ... solid-state welding process with low heat input suitable for welding of ... for welding AFS panels. The main problem to utilize FSW for welding AFS ... the foam core [6]. When the tool pin is inserted between two adjacent ... into the pores below the pin and the frictional forces enabling good stirring ... Consequently some kind of support should be inserted between ... base for rotating tool. If the welding will be performed properly the ... adjacent cover sheets in single operation. FSW process parameters include tool ... geometry, tool tilt angle, axial force of the tool and type of welding joint. This ... design, tool movement and ... panels.

... made of 1 mm thick EN AW-6082 T4 aluminium alloy cover sheets and ... of these panels is 12 ± 0,5 mm. In the production phase the foamable ... aluminium sheets by roll bonding without any adhesives. Dimensions, mechanical ... investigated before welding. Using a digi- tal calliper panel thickness and ... thickness ... 1,72 mm. Aver- age panel thickness is 12,5 mm. Using a top ... measured and relative density = 0,194 is calculated. Young's modulus and ... the literature [3]. Young's modulus of the foam is E_p = 4,887 GPa. Shear

... ALUMINIUM FOAM SANDWICH PANELS

... tile testing

... compression testing were sectioned from AFS panels in dimensions according to ... stress has been calculated to be = 5,28 MPa when deformation reaches 0,7 ... according to ASTM C393-00 [8]. Average lon- gitudinal bending stresses ... 26 MPa

...ric... Study ... E...rgy Dissipation of Pooled Stepped Spillways

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... Enginee... Gandhi Engineering College)
... Engineering Gandhi Engineering College)

...act

...nstream creates high levels of kinetic energy. Stepped spillways are ...s in reducing the kinetic energy of the flow moving towards the ...ps in stepped spillways can affect the reduction of kinetic energy of the ... Recentl... pooled configurations have been more prevalent than smooth ... could have more dissipation. Therefore, in this study the effect of ...and discharge on flow pattern especially energy dissipation was ...sed to simulate the flow surface and the k-ε (RNG) turbulence model ...on. Comparing the results obtained from the numerical simulation with ...acceptable level of consistency. Comparing the obtained results showed ...ps of pooled stepped spillways reduced flow velocity and increased the ... of the spillway. Decreasing the number of steps increased the turbulent ...aximum turbulent kinetic energy was obtained near the step's pool. ...e value of turbulent kinetic energy increased along thespillway.

...ation: Stepped Spillway; Energy Dissipation; Flow Patterns; Turbulent.

...RO...

...ways is to transfer water flow to the dam downstream. Transferring water ...of kinetic energy. This energy can damage the spillway downstream if it is ...hich have been used for 3500 years [1] can reduce this energy and the ...[1-4]. The flow passing over stepped spillways create three types of flow ...lows [5]. The formation of these three patterns on the stepped spillways ...s as well as the flow discharge [1, 6-8] Recently, construction of numerous ...this fact that stepped spillway perform desirably in energy dissipation has ...udy the flow characteristics on stepped spillway. The amount of energy ...in most of the researches carried out on stepped spillways [10-12]. ...the flow patterns and energy dissipation and came to the conclusion that ...ssipation. Furthermore, energy dissipation increases as the number of the ...a constant step height. Comparing the relative energy dissipation over a ...t along the spillway by Felder and Chanson [14] indicated that energy ...llways with uniform step height in comparison with stepped spillways with ...5] Felder and Chanson [15], Thorwarth [16] and Kokpinar [17] conducted ...ped spillways. Comparing the results demonstrated that thenumber of the

...y's performance. In such a manner that energy dissipation is less in the ...teps in comparison with flat stepped spillways with the same number of ...0 and 64 steps experienced more energy dissipation in comparison with ...ber of steps. In some of the experimental studies, the effect of the porosity ...mined. Felder and Chanson [18, 19] used porous step pools in a spillway ...ssipation with that of pooled and flat stepped spillways without porosity. ...tion was greater at the end of the spillway when porosity was not used. ...tion and energy dissipation on a stepped spillway with 10 steps and 4 types ...sion that pooled stepped spillways with staggered configuration of flat and ...with in-line configuration of flat and pooled steps had not advantageous ...and flat stepped spillways regarding the matter of energy dissipation. ...on stepped spillways consisting of 10 steps with a 26.6 degree slope. They ...pped spillways (with flat and impermeable steps) and showed that relative ...y was greater than of gabion stepped spillways in transition and skimming

...ncentrated on using numerical methods because of their high accuracy in ...merical researches were conducted on stepped spillways. Tabara et al. ... simulation of stepped spillway with different step configurations and ...d water surface profile. Xiangju et al. [24] simulated a two-phase flow on a

...ion on Blended Concrete by Incorporating GGBS and Fly ash

...an Sahoo[1], Durga Prassad Subudhi[2]
...il Engineering, Gandhi Engineering College)
...il Engineering, Gandhi Engineering College)

Abstra...

... the world. Tons of CO2 is evolved during manufacturing process of ... and to reduce it blended concrete has been used. Now days, use of ... Blended concrete is the concrete in which cement is mixed with different ...BS, silica fume, fly ash etc. In present study, partially replacing of cement with Fly ... Fly ash and GGBS are by-products from coal and iron industries. Here, M40 ... of cement and Blended concrete with 3 different combinations. Both the results ...BS in 15%, 20% 25% proportion and substituted by Fly ash in 15%, 20% & 25% ... tensile strength, compressive strength and bending strength at the age of 7 and ... increases strength but also makes the concreteeco-friendly.

Keywor... ...ngth and bending strength, GGBS and Fly Ash.

I.

C... whi... kilo... seve... cem... whi... poz... sil... ...ine aggregates, coarse aggregates, cement and water. Cement is the binding agent ...th. Cement is the main constituent in concrete. One Thousand ...amount of carbon dioxide [1]. Eventually this will lead to Global warming and ... to an ... climate. around 6% to 8% of the total global Carbon dioxide comes from ...iental hazard. blended concrete is being used. Blended concrete is the concrete in ...laced with different mineral admixtures which are ...edoution ...se of cementitiousmaterialsuchas, metakaolin, GGBS, rice husk ash and ...led ... lowers the heat produces in cement[4].

GG... wit... of C... Ord... [1... GG... Gra... ...fly ash and GGBS in differentmixproportions.Replacementlevelsofcementwith ...th increased at 20% replacement with GGBS [5]. GGBS is a high quality, ...low CO2 emission. it is used in sustainable concrete construction. The production ...y and generates fewer than 10% of the Carbon dioxide discharge compared to ...porating GGBS increases the strength and makes the concrete more durable. The ...rom iron industry will also get reduced by using GGBS as construction material. ...ial for sustainable constructions. IS 12089:1987(R2008) is the specification for

...reflectivity of finished materials and contribute towards the decline of ...e utilized as partial cement substitution in projects like Footings, Structures nearer ...ecast construction of Concrete, Concrete frames etc.. Burning of firmer, mature ...h and contains less than 20% of lime (Calcium Oxide). Fly ash class C is obtained ...sistsofmorethan20%lime.Asper IS 3812:1999, the limit for replacement level is 30...

...ent with Fly ash. Incorporation of Fly ash as a partial replacement increases early, ...at. Low amount of CO_2 emission during manufacturing of Fly ash makes it more ...property of resistance to cold weather. Less water is required for Fly ash concrete ... Fly ash ... being used as Key stuff in various cement-based products. Fly ash ...oncrete with a smooth surface and sharp detail. Slag and Fly ash formed additional C-S... structure is similar type that is accrued by cement hydration. Therefore, GGBS ...n to the characteristics and development of concrete [8]. The main objective of this ...led concrete by incorporating GGBS and Flyash.

...ash with cement. Rao and Rao (2017) worked on mechanical properties of fly ash... Monika ... Kumar J., Kameswara Rao (2019) worked on Enhancing the du... ...orporated with GGBS and glass fiber .

... of Segmental Lining Joints Interactions in ... Tunn... ...rud Water Conveyance Tunnel

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...ental lining joints can assist to guarantee a safe construction during ... this paper has thoroughly investigated the interaction mechanism of precast ... Universal Distinct Element Code (UDEC), a two-dimensional numerical ... ment method (DEM) for discontinuum modelling, was implemented to ... g model consisting of six segment rings. In the analyses, the typical ... of Qomrud water conveyance tunnel, aimed to transfer 100 million cu. m. ... to central Iranian desert, were employed to fulfil the purpose of the ... the worst-case scenario of the loading faced during the boring of Qomrud ... ly associated with the existence of the crushed zone dipping at 75 degree ... he worst scenario based on the condition that concerns the crushed zone ... tion of key segment has been taken into consideration. In this study, the ... ents includes the gravity load from the tunnel overburden and the crushed ... ner with 75 slopes at the location of the key segment, the gravity force of ... The numerical investigation has been used for the different coefficients of ... 2 and also different geological conditions of the saturated crushed zone ...

...ement Code (UDEC); DEM Method; Contact Problem;

... mechanized tunneling is driving a tunnel boring machine ... e ground. In many cases, underground space development ... ore favorable grounds for the excavation of underground ... Tunnel layouts are often not determined according to the ... ilable location and leading TBM through mixed/changing ... 13). Nowadays, due to lack of underground spaces for ... been carried out in unfavorable ground conditions; this ... n lining assemble by TBM after the excavation phase of ... ructed with tunnel boring machine (TBM) have shown an ... and also the already congested underground space has ... r depths with unfavorable conditions leading to higher load ...

... been widely adopted for the construction of underground ... , its complex ground-structure behavior has not been well ... rlooked. The popular choice of segmental lining in recent ... ruction and reduced the costs of tunneling; As a result, the ... ttention recently. The most challenging part concerns the ... ning and causes a failure in segmental tunnel lining because ... ining factors affecting the stress induced in the lining is the ... hich has been often ignored. To comprehend this issue, the ... lly. In fact, primary theory of the problem involves ... cting at the joint that produces a deformation in segments ... ency. Two types of joints exist in the segmental lining: ... oints: without considering the tunnel media, the contact ... needs to be solved prior to assembling the lining in tunnel ... unnel, a new contact is created between a tunnel media and ...

... blem appears when uneven loading at the location of joints ... by some researches show that the most frequent type of ...

Con... of Exhaust ... Using Nanosized Copper Metal Spray In The ... Catalytic Con... For Two Stroke Spark Ignition Engine

... Samantaray[1], Mr.Amit Kumar Pruseth[2]
...ngineering, Gandhi Engineering College)
...Engineering, Gandhi Engineering College)

...ct

...nology have taken place across the world over the last few years. The transition ... can lead to substantial changes in the properties of materials. These properties ... automobile pollution which has become a grave problem today. The major ... automobiles, especially two-wheelers. This research paper comments on ... automobile pollution control. The nano-particle coating on the catalytic ... helpful in the reduction of pollutant concentration and thus reduce the pollution ... an emerging field that covers a wide range of technologies which are presently ... plays a major role in the development of innovative methods to produce new ... component and to reformulate new materials and chemicals with improved ... of energy and materials and reduced harm to the environment as well as ... provides a summary of the work developed in a number of key reports on nano- ... opinions on developments in the nanotechnologyfield.

...ds – Autom... ...verter nano-particles.

...

...obile sources is a problem of general interest. In the last 60 years the world ... million vehicles to over 700 million; this figure is projected to increase to 920 ...mental concern originated by mobile sources is due to the fact that the majority ...rived from crude oil as a source of energy. Burning of hydrocarbon (HC) ideally ...bon dioxide, however, due to non- perfect combustion control and the high ...chamber the exhaust contains significant amounts of pollutants which need to be ... In this paper, the control strategies and achievements in automotive pollution ... Major developments in Nanotechnology have taken place across the world ...he beginning Ireland inc. became a leader in the Microelectronics industry and ...ing a strategic plan to maintain its lead position in the nano field which in most ...ost countries are taking a similar path of development all be it alone or in ...process is expensive and requires market drivers and experts to lead and deliver ... The approach may be driven from a top down or bottom up, i.e. from macro to ...components and machines [3]. What are the development areas and implications ... nano-materials, how are the industries developing and how are we ...graduates in this technology. In the automotive industry, nanotechnology ...om power train, light-weight construction, energy conversion, pollution sensing ...ction driving dynamics, surveillance control, up to recycle potential and much ...in cars" reach from contributions for carbon di-oxide free engines, safe driving, ...cers, up to a mood-depending choice of color and a self-forming car body. All ...ds and customer demands for improved ecology, safety and comfort, often ...anotechnology is a science of controlling individual atoms and molecules which ...e manufacturing technology of 21st century. One of the serious problems facing ...onmental pollution by internal combustion engines. All transport vehicles; both ... are equally responsible for emitting different kind of pollutants [5-6].Two ...has compactness, lightweight, simple construction and low cost and low nitric ...oblems of high specific fuel consumption, high hydrocarbon and high carbon ...usted into the surroundings to pollute the atmosphere and cause global warming, ...er health hazards. The paper provides a summary of the work on nano-particles, ...pinions on developments in the nanotechnology field. Behavior of materials at ...from what we know at macroscale. At the nanoscale, often highly desirable, ...ment, dominance of interfacial phenomena, and quantum effects. These new and ...terials, nanoparticles, and other related nanotechnologies lead to improved ...strength, and many other interesting characteristics[7-8].

...ology develops, the broader environmental impacts of nanotechnology will also ...s might include: the environmental implications of the cost, size and availability ...ls to determine potential benefits of reduction or prevention of pollutants from ...rections in environmental science due to advanced sensors; effects of rapid

An ... erimental Inv ... ation of Piston Coating on Internal Combustion Engine

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... Engineering, Gandhi Engineering College)

Abst... ... ... commercially used engine ranges from 38% to 42%, as nearly 58% to 62% of ener... ... order to ... energy the hot parts are insulated. This will lead to reduction in heat trans... ... increase in efficiency. Change in combustion process due to insulation also affects emiss... ... this study ... attempt ... reduce the intensity of thermal and structural stresses by using a layer of ceramic mate... ... carried out under different loading conditions on single cylinder two stroke spark igniti... ... with its piston co... with Nickel-Chromium & Al2O3 to understand the influence of thermal barrier coati... ... Al_2O_3 is chosen as a candidate material for coating the piston crown because of its ... conductivity, high coefficient of thermal expansion, high thermal resistance, chem... ... corrosion and high strength. Thermal barrier coating (TBC) is done by using Plasm... ... conditions are maintained constant before and after coating. Experimental results revea... ... 75%. Mass of fuel consumption is reduced by 6.02% and brake specific fuel c... ... coated and bare engine.
Key... ... Thermal Barrier Coating Using Plasma Spraying Technique

I.

I... ... been the quest of engineers concerned with internal combustion engines. Even the p... ... heat energy of the fuel, one-third to the coolant, and one third to the exhaust, leavi... ... output. Theoretically if the heat rejected could be reduced, then the thermal effic... ... engines aim to do this, by reducing the heat lost to the coolant. The rapid incre... ... of high grade fuels on the market and environment concerns stimulated rese... ... engine ... able emission characteristics. The state of art thermal barrier coating (TBC) prov... ... higher ... iencies of the engine, improved combustion and reduced emission. In addition cera... ... conventional material. [5]
... than metals. Therefore it is usually not necessary to cool them as fast as meta... ... combustion chamber through thermally insulated components causes an increase in avail... ... work and the amount of energy carried by exhaust gases, which could also be u...

... temperature in the combustion chamber will be maintained. This will reduce the heat ... heat loss will be used to burn the unburnt gases there by reducing the polluted exha... ... of Thermal Expansion (CTE) in between that of the TBC and metal substrate is ty...

II.

The... ... IC engine to insulate combustion chamber surfaces. The coatings can be appl... ... select surfaces like the piston crown or valves. The primary purpose of the TBC ... expansion stroke, thereby decreasing the temperature difference between the wall ... the additional heat energy in the cylinder can be converted into useful work, incr... ... transfer also increases exhaust gas temperatures, providing greater potential for ... possibly a thermoelectric generator. Additional benefits include protection of me... ... stresses and reduced cooling requirements. A simpler cooling system woul... ... improvingreliability.
... ... stabilized zirconias such as Yttria Stabilized Zirconia (YSZ), but other cera... ... thermal conductivities (k) have ranged from less than 0.5 W/mK to 10 W... 0.1 ...

... applied by a variety of methods, although thermal spraying techniques such as plas... ... with a Coefficient of Thermal Expansion (CTE) in between that of the TBC and ... coating adhesion.

... ... environment.

Ex... of Performance of Acetylene Fuel Based Diesel Engine

... Jena[1], Dr. Biranchi Mishra[2]
...ing, Gandhi Engineering College)
...ing, Gandhi Engineering College)

Abstr...

Peo... best alternative fuels to safeguard the environment ever since the transp... Among such alternatives acetylene has proved to be a better fuel for intern... in manufacturing and excellent combustion characteristics. Moreover it has les... a central role in environmental degradation. However the fuel must be safe... able in existing engines without any significant design modifications. Acetyl... taking proper care to avoid back firing. We propose in the present study that a... compression ignition engine. Diesel engine is selected with a subsidiary mixing box t... The experiments are conducted with fixed acetylene flow rates from 0.11 ... every step. The engine is tested at various loads, keeping track of comb... flow rates and also to have reduced emissions. The results show that the perfo... to the pure diesel engine with reduced emissions. It is concluded that acetyle... compromising brake thermal efficiency and safe operation with a moderate increm...

Key... CO, CO_2, NOx

I. ...

... engines, compression ignition (CI) engin... output and consistent performance at all loads. Diesel is the prime fuel for CI engi... many fuels were experimented and successfully replaced, but at the sake... temperature of acetylene which is actually drawn from the energy sources that are ... explicitly suitable for spark ignition engines. But in case of compression igniti... fuels. Nevertheless duel fuel suitability and design modifications are being ... were also designed and used with gaseous fuels in dual fuel mode but were not ... reserves of fossil fuels and alarming environmental pollution necessitated to sear... This ultimately resulted in fuels like CNG, LPG, Acetylene, ethanol, meth... biomass resources. Alternative fuels should be easily available, should also have ... Good quality fuel should fulfill environmental and energy needs without com... has many such qualities to be a good fuel among other alternative fuels becau... NOx emission is a significant challenge for such an engine.

Lean... diesel combustion strategies would give encouraging results. Recent techn... makes use of high levels of intensity to reduce the in-cylinder NOx form... can be opted. Nevertheless, carrying cylinder and arresting the back... automobiles. We have worked out a system with which the acetylene can be used ... with Diesel engine.

II. ...

S... acetylene as an alternative energy source IC engines. They have conducted exp... secondary fuel. Final results showed that alcohol can be inc... of the engine. Nagarajan and Lakshamanan [2] studied about the per... ignition engine suitable for multi fuel operation, by timed manifold injec... Results show that best possible condition as manifold injectionwith10° A... quantityof3L/mofacetyleneissuppliedtotheinletmanifoldin dual fuel mode. Th... primary fuel as diesel under different working loads during experiments were... multi fuel system is noticed to give a lesser thermal efficiency at full load... on acetylene aspirated engine reported optimistic results. It w... at higher loads. The experiment was performed on a single cylinder en... different loads. The air aspirated with acetylene resulted with lower thermal effi... and HC emissions were comparable to the baseline diesel engine. The ace... NOx formations are significantly increase as acetylene was inducted into the cylin... peak pressure rises in the case of the acetylene aspirated engine. It is

...ive Analysi... f Exhaust Gases Obtained In S.I And C.I Of An ...ternal Combustion Engine

...an...hi Mishra[1], Madhulagna Pattnaik[2]
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[2](Me... ...al Engineering, ... Gandhi Engineering College)

...he spark ignition ... ...mpression ignition (C.I) engine is one of the building blocks of ... In light of thi... ...tive engine should be able to contribute immensely to a safe ...ous factors like ... ...onomy, power and torque, reliability, pollution, safety and cost are ...g and comp... ...he effectiveness of the engines. This paper identifies, examines and ... of incombusti... ...articles present in the engines (S.I and C.I) at varying loading and ... exhaust gas dete... Post-hoc analysis was carried out using SPSS. It was discovered that ...e most dangerous ...mbustible particles present in engines and also the incombustible rate ...ed in C.I than S.I ...ne which confirmed that S.I. engine is far better in terms of pollution ... recommendation... ...l...made.

...tion, Exhaust ... Gas detector, SPSS, Post-hoc

...UCTION

...engines are the ... ...sumer of fossil fuel around the globe. Out of the total heat supplied ...he form of fuel, ...mately, 30 to 40% is converted into useful mechanical work. The ...pelled to the env... ...ert through exhaust gases and engine cooling systems, resulting into ...ious environme... ...ollution, so it is required to utilized waste heat into useful work. The ...on of waste hea... ...only conserves fuel, usually fossil fuel but also reduces the amount of ...house gases dam... to environment. It is imperative that serious and concrete effort should ...serving this energ... ...ough exhaust heat recovery techniques [1]. Recent trend about the best ...e deployable sourc... ...l energy into useful work is taken in order to reduce the rate of ...ssil fuel as well a... ...ar...

...is one of the ... ...problems in environment. Engine emits the carbon monoxide (CO), ...ogen oxides (... ...and smoke density etc. [2]. However, exhaust gas emissions from ...ignificant eff... ...n human, animal, plant, and environmental health and welfare [3]. ...erent advance... ...hnology to control the exhaust gas emission from internal combustion ...ods and technique... ...ich are used to decrease exhaust emissions from internal combustion ... have

...engineperformance... ...any researchershaddirectedtheirresearchtoreduceemissionandto ...ncy of the spark i... ...n engine. For spark ignition engines an effective solution for reducing ...some combu... ...parameters such that engine performance is kept unaltered.

...ported that t... ...exhaust emissions are significant sources of air pollution in the world ...n health and ... ...global warming effect. The two research works showed that three-...ver... used in spar... ...ition (SI) engines could reduce most exhaust pollution, such as HC, ...rds ...chieving exha... ...ndards.

...ect of vehicle ... ...ons resulting from incomplete combustion is critical and difficult to ...which should... ...t into consideration while carrying out the exhaust analysis in ICE ...f fuel used, ...losses, ecological requirement, air-fuel ratio, engine load, engine ...on, Air Con... ...tion Smoke Density, Exhaust, Brake Power, Friction power and ...ignition timi... ...fuel injection timing, air intake, operating modes like start up, idle, ...[9][...][11][12][13]...

...nd [15], the incom... ...ble particles like CO, HC, NOx were measured as related to ICE but ...without cata... ...nverter, to obtain exact and accurate results. The test was observed on

Wirel... Sensor Network (WSN): Architectu... Design Issues and Challenges

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Abstract- ... network (WSN) is a... structure less, low cost, dynamic topology, appplication oriented, multihoping network ... low power, se... wireless distributed nods. WSN designing become more complex due to characteristic ... nodes, security, au... ication and its operation scenario. This paper presents an analytical view on WSN ... s, its objectives ... implementationchallenges.

Keywords ... *sensor network, Architect... power unit, WSN design challenges.*

I. ...

Wirel... ...y divided into inf... tured and infrastructureless network where infrastructured network consists of wirel... backbone and i... ureless network consist with distributed, independent, dynamic topology, low-pow... ...eless node as sh... in the figure1.In this figure, ***cellular wireless network*** falls under the category of infi... ...reas *ad-hoc* and ...*less sensor network(WSN)* are the part of infrastructureless network In adhoc mode, ... devices integrated and co... nicated to each other by making an on-support dynamic wireless link. WSN consist ... and wireless node d... uted with geographical area; all wireless nodes collect information and supply towards ... her processing. ... ommon part of these network forms ***hybrid wireless network (HWN)*** which adopt ... oth network i.e. ... ecture of HWN is based on cellular wireless network and communication is perfo... ...ctureless networ... WSN the distributed nodes sense the activity/current status of its region and supply ... upper ... which collects different information from different node... ...appliedtothecent... ...to remove the redundant information and further processing. [1, 2, 3, 7,8]

Infrastructureles... ...ork

...f wireless networ...

CHARA... ...SORNODE

Energ... ... scarcest resourc... must be utilized properly because it is impossible to recharge each node so it must ... ...ssible as.

Low-c... ... hundred and th... ...ds sensor nodes, so cost of each node should be node minimum so that overall cost o... minimum.

Distrib... ... numbers of nod... distributed in sensor network so each node can capable of collecting and storin... ...ensing provides ... ...tness to the system.

Wirel... ... be wireless as ... application do not require/ install infrastructure for communication. In that case, ... communic... channel.

Mult... ... sensor are depl... in WSN, so it is not feasible for each node to reach the base- station. It may be ... ...ach the base... ...n. Thus, the solution is multi-hop.

Distr... ... ...de in WSN ... collect and process local data, perform aggregation on same data and then trans... ...1]

Node... ... the

[illegible] Analysis of P[illegible]rocessing Techniques in Web usage Mining

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[illegible] web has becom[illegible] tool to assist human for their information needs from web server. Due to incre[illegible] for web access [illegible] there is a need to analyze behavior of such user, in order to monitor and impr[illegible] throughput of web [illegible] web usage mining is one of the data mining applications which deal with web log files [illegible] mation from we[illegible] re are different phases are for web usage mining: Data preprocessing, discover patter[illegible] Among them d[illegible] processing is the most crucial phase of web usage mining because without good qu[illegible] to identify pat[illegible] users behavior. This paper provides reviews of different data preprocessing meth[illegible] on, data cleaning, [illegible] entification, session identification and path completion which will be useful for the c[illegible] e or combination [illegible] techniques in order to carry out efficient preprocessing in order to obtain reli[illegible] ne.

Keyw[illegible] Web Usage Min[illegible] Logs

I. [illegible]

N[illegible] web is main sourc[illegible] any type of world entity information. The Web continues to grow on high sp[illegible] doorway. As there [illegible] amount of structured, semi-structured, unstructured, distributed, static and d[illegible] web pages of [illegible] difficult task to access relevant information with speed. Web mining has c[illegible] hniques to ove[illegible] above problem [5]. Web mining is the application of data mining techniques to di[illegible] entially useful [illegible] and implicit information from the Web. Web Mining applies data mining, the a[illegible] on to the web d[illegible] extracts the user's using pattern [8]. Based on different mining objects of web s[illegible] gories for know[illegible] discovery: Web content mining, Web structure mining and Web usagemining.

[illegible] ng is process of [illegible] ng knowledge from the scanning and mining text, pictures, graphs, etc of web [illegible] relevantcontents.

[illegible] is the proce[illegible] ering knowledge to identify relationship between web pages in the web using [illegible] s between [illegible] s and organization of World WideWeb.

W[illegible] to extract usef[illegible] interesting patterns from log files which show the usage behavior of the users. [illegible] ion of data mi[illegible] chniques to identify user's usage or behavior pattern from web data which can [illegible] Web or to enhan[illegible] quality of commerce services or to improve the web structure and web server [illegible] ning consi[illegible] major three tasks: Data Preprocessing, Pattern Discovery and PatternAnalysis

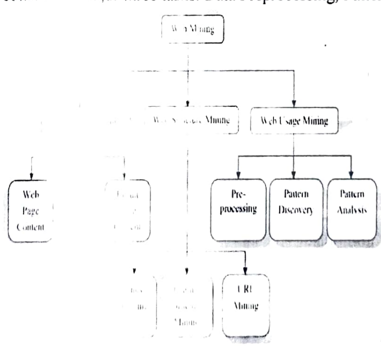

Figure 1: Types of Web Mining

[illegible] data collectio[illegible] are available through log files. [To mine the web data, log files are used.] L[illegible] oded entry of [illegible] occurred by user on website. Basically log files are located from[1] three d[illegible] erver, proxy ser[illegible] browser. Log files contain each record of any user visit or any single click on

...nalysis Usi... ...pache Spark MLlib and Hadoop HDFS ...ith Scala and Java

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Abstrac...

...echnology revolu... ...he term of big data is a phenomenon of the decade moreover, it has a ...a... ...pplied science tre... ...xploring well big data tool is a necessary demand presently. Hadoop is a ...nology. ... ...ecause the Job result among each phase must be stored before the following ... the replication ... ...pache Spark is another tool that developed and established to be the real ... with its innov... ...cessing framework inside the memory and high-level programming libraries ... data treatin... ...n this paper, some comparisons are presented about the time performance ...d Java in apache ... MLlib. Many tests have been done in supervised and unsupervised machine ...ing big datasets ... loading the datasets from Hadoop HDFS as well as to the local disk to ... manner ... ...overing perfect reading or loading dataset situation to reach best execution ... about 10% to 20% is better than Java depending on the algorithm type. ...ith more suitable programming languages and as consequences gaining

Key...ls: ...ata analysis, ... Spark, Hadoop HDFS, Machine learning, Spark MLlib, Resilient ...d

I. ...

... improvem... ...n the information technology field, and the facilitation over the internet for the ... huge database w... ...e diversity of digital devices, the term of "big data" came out as a result. To ... the announcem... ...o the enormous dataset size [1]. In the year2020, the number of linked devices ...ou... ...billion thus, g... ...o supplementary data aggregation. Consequently clarifying and understanding ...a... ...rebei... essential[2... ...well as to the needs of changing from the traditional database (Relational DB) ...th the big data i... ...NoSQL database (Non-Relational DB) which is overcome these limitations and ...ent [3]. Big D... ...mainly has three features which are recognized by 3Vs (Volume, Variety and ... data experts have expanded this 3Vs framework to 5Vs framework by adding ... big ... ...xplanation as shown in the Figure1 and shortly reported as follows[4][5][6]:

... ...ac... ...ities of d... ...diverse palaces, for example, mobile data, computers, servers and etc. The ...e... ...dy... these g... ...of data is earning valuable information on society and enterprises.
2. ...t... ...ne... transf... ...ata. The contents of data are regularly varying through the data gatherings ... wh... ...from several sources. This viewpoint needs new procedures and techniques ...lo... ...st... ...lata.
... ...n... ...data through different devices such as videos, images, etc. Furthermore, ...ed, s... ...tured andstructured.
4. ...lli... ...ingful knowledge from enormous datasets. Value is the greatest significant ...f... ...mi... ...ducing beneficialinformation.
5. ...t... ...ict... ...accuracy (informative andvaluable).

Figure 1: Big data features

... ...g... ...owledge on analyzing big data through up to date tool which is apache spark ...ges... ...y compatible with it. Also, the target is transforming from traditional data ...tor... ...n... ...FS

AP... ...EI... ...P... ...PA

...ERIMENT... INVESTIGATION ON PROPERTIES OF CONCR... BY ADDITION OF FLYASH

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lec... ...Engineering, Gandhi Engineering College)
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...stigation ... ...xture ... ...ncrete with admixture and fly ash by reducing the volume of cement and water ...dmixture ... ...ective ... experiment presents the effect of mixture of fly ash and mono vinyl alcohol ...perties of concrete ... compressive strength, tensile strength, workability and fracture properties with ...(0)... ...). The result of this investigation indicates that by adding of mono vinyl alcohol and ...strength.

...nyl alcohol ...0con... ...ncrete ... addition of poly carboxyl ether, maximum strength, increasing post cracking

...TION

...hile ... has more resistance in tension. Conventional concrete has limited ductility, ... resistance to cracking. A good concrete must possess high strength and low ...site... ...rials are gaining popularity because of ductility and strain hardening. To improve the ... discrete alcohol are added to the plain concrete. Addition of alcohol improves the ... strength, fracture strength, toughness, impact resistance, flexural strength resistance,

...the form ... ...h (also known as "re-bar") has been used as reinforcement for concrete slabs that are ...when ... that loading would be carrying traffic, spanning a void or bearing another ...mesh has been used a crude (and often ineffective) method of crack control. Latest ...e reinforcement in the form of alcohol, notably polymeric alcohol, as well as steel or ...ommonly used for crack control and not structural strengthening. Although the ...cohol is quite old. the recent interest in reinforcing cement-based materials with ...hol ... ...nt interest in reinforcing cement based materials with randomly distributed alcohol ...ing in the ...60's ... then there have been substantial research and development activities throughout

...ction that sets, hardens, and adheres to other materials to bind them together. ...nd sand and gravel together. Cement mixed with fine aggregate produces mortar ...crete. Cement is the most widely used material in existence and is only behind

...ganic ... lime or calcium silicate based, and can be characterized as either ...ility of the cement to set in the presence ofwater.

...physical properties of fine aggregate. Both river sand and crushed stones may be ... increases the water demand of concrete and very fine sand may not be essential ... larger content of fine particles in the form of cement and mineral admixtures such ...pack to give minimum void ratio as the test results show that higher void content

...are ... the construction industry. They have structural uses such as a base layer or ... asphalt and concrete. This lesson explores the various types of coarse

...nd the physical properties of coarse aggregate. For coarse aggregate, crushed 12mm ...pecific gravity and water absorption of coarse aggregate were found to be 2.68 and ...gate conforms to the requirement as per IS: 383 – 1970.The coarse aggregate is the ...rete. Coarse aggregate in cement concrete contributes to the heterogeneity of the

...ysis And ...si... Of Shopping Mall Against Lateral Forces

...n Ranjan Khuntia[1], Mr.Subhransu Muduli[2]
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(CIVIL Engineering, Gandhi Engineering College)

... *The paper ... plan, model, analyze and design of a vertical irregular shopping mall ... (G+10 stor...) ... gate its performance under various lateral loading conditions. The main ... current ... ard design practice and to provide design guidelines using ETABS and to ... ategory ... sure a sufficient level of safety for various levels of loading demands.*

...S: ... storey building, AutoCAD, seismic co-efficient method, ETABS

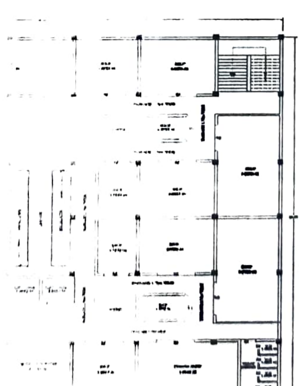
...

... limited areas are available and sold at high cost. This paper will help to ... satisfying each of every need of the people. It is also designed in such a ... the civil engineers have to think of construction of high rise structures, ... would be ... reinforced concrete skeletal structure enclosed by thick walls of bricks or any ... materials ... engineer must be familiar with planning, analysis and design of such ... such as lateral forces, etc. Hence it was proposed to choose a problem, ... multistoried framed structure as the project work. The proposed site is ... Chennai. Good soil having sufficient bearing capacity is available at shallow ... has proper important facilities such as 24 hours transport facilities, proper ... ation facilities, electrical facilities, nearest railway station available at ... facilities etc.

...G

... commercial building consist of area of floor is 1220 m^2 with 3000m^2 plot size. ... it comfortable, economical and to meet all the requirements of the people. ... to obtain maximum comfort with limited available resources.The shopping ... per BIS specifications is plan and drawn using computer-aided drafting ... precise drawings used in construction and manufacturing.

... ance foyer, coffee shop, various shops, escalator, lift, toilet blocks are ... of 25 m^2, coffee shop 120 m^2, and 20 shops of 500m^2.(fig.1)
... s shops, super market, food court, escalator, lift, toilet blocks are provided ... rt of 2.. m^2 and shops of 300 m^2.(fig.2)
... with conference hall and store, escalator, lift, toilet blocks are provided ... conference hall area about 80 m^2.(fig.3)
... Table tennis court, Snooker corner, various Shops, Escalator, Lift, Toilet ... ith ... le tennis court and Snooker corner of 150sq.m, net point of 220 m^2, and



...rban W... ...r: Treatment & Re-use: A Theoretical Perspective

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...Civil Engineering, Gandhi Engineering College)

Abstract— ... water ma... a global concern. All human activities result in generation of waste and with increase in glob... p... economic ... amount of waste water generation has increased. According to water report of United Nations ... programme ... N Habitat (2010) up to 90% untreated waste water is generated in highly populated ... sewage ... the untreated waste water is thrown into the nearby rivers and lakes resulting into pollution ... urbanization has led to increased volume of urban sewage generation leading to increased ... ent ... million litres per day (MLD) sewage is generated in major cities of India, but the sewage tre... ... Similarly, only 60% of industrial waste water, mostly large scale industries, is tr... ... if the untreated waste water is recycled then it would be a help towards addressing water sca... ... avoi... of the receiving water bodies. The treated waste water can complement the water requir... ... aqua... ... One major intervention towards dealing with urban waste water can be to co... ... a noxiou... as a resource. India being a tropical country has the potentiality to utilize the solar ... through stabilization pond method (shallow depth pond where waste is treated mainly ...

The presen... ... between waste water generation and availability of conventional treatment facility in ... ... ibility of converting waste to resource by stabilization pond method, as an alternative, ... East ... West Bengal, India, and also to recommend for such a technology, which apart from be... ... environme... ...of economic importancetoo.

K... ...word... ...al sewage treatment, East Kolkata Wetlands

I. IN...

F... ... combination of domestic effluent which includes black water (toilet waste water) and grey w... kitchen ... om commercial places & institutions and industrial waste water. This situation makes the ... ment ... unplanned & rapid urbanization, people's inclination towards city are making the situatio... increased ... sewage treatment. In urban India, per capita cost of conventional sewage treatment is Rs 47... Rep... Urban Infrastructure & Service, the high powered expert committee for estimating the i... ... service: JNNURAM, Ministry of Urban development, GOI, New Delhi). Cities like Ne... ... ent capacity by conventional method.

T... ... treatment facility is not up to the requirement and consequently lot of untreated w... ... bodies causing damage to the ecosystem. Hence an effective waste water man... ... can be planned with the realization that waste water is a resource and if managed pro... ... of ... agriculture, fishery, industry etc. Wastewater reuse in aquaculture is a reality in se... ... China etc. In India, West Bengal is pioneer in practice of converting waste to re... ...onal method. The most accepted one in India is the stabilization pond method. Th... ... is maintaining the balance and harmony of nature and is lowcost.

T... ... ...ates the present situation of waste water management, the considerable gap be... ... conventional sewage treatment facility and obviously creating a space for substitute. In... ... fis... ... is the substitute. India being a tropical country has enough of sunny days wh... ... useful alternative approach. One remarkable example of this is the resource rec... ... Bengal, India. The service provided by these wetlands is beyond cleaning city se... ... group of people. Unfortunately such invaluable service is not given deserving attenti...

a... ... the potentiality of this service.

II. ... ...ATMENT

Wit... ...d ... water supply, quantity of wastewater is increasing in the same proportion. As per CPI... ... supplied for domestic use gets generated as wastewater. The per capita wastewater gener... ... representing 72% of urban population in India, has been estimated to be around 98

...REATMENT AND MANAGEMENT ...HNIQUES IN MINES

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... on one hand but this also cause pollution to air and water ... mining and industrial activity adversely affects the ecosystem ... fragmentation, to habitat, air and water pollution. ... to this problem. Hence, it is important to find the most ... pollution caused by mining to the maximum extent. This paper ... which can be implemented to treat and manage the waste water

... Filters, Reverse Osmosis, Electro-Dilesis.

... making life more comfortable, the natural resources are part of ... relationship exists between living creatures and natural forces. Any ... changes within the ecosystem which spreads its influence to all ... influence on earth's natural environment. Mining and other ... actions (either directly or indirectly) of both the agricultural and ...ing. land surface is completely disturbed, whereas underground mining ... subsidence. Land use pattern is also disturbed due to cutting of forest and ... accumulates when the water level overflows the depth of an ... the water must be pumped or drained out of the mine to ensure ... accessibility and feature, it may be re-used for development ... filth containment or refined operations, grinding, leaching, and ... pollutants from the mining industry are emitted into water, the ... is receiving significant attention. It is critical to avoid a ... and subsequently back to the food-chain. For the reason ... more stringent, while nonconformity is being penalized more ... water curing is thus becoming a most important focus of mine ... water management andtreatment.

... affect economies directly and indirectly. Mining brings service, ... responsibilities and opportunities for economic growth, cost effective ... diversification. However, market fluctuations, and resource revenues can ... resources wealth into sustainable economic growth and development.

... toxic substances into nearby waterbody.

... spoil heaps and other waste overburden dumps in mining areas ... minerals which gets dissolved in rain water and becomes a major source

... due to leaching and percolation.

... the banks of streams and river causes blockages of free flow and

... from the surface mine sites and coal preparation plants especially

... in water from workshops andHEMM.

...

... coal washeries. Truck loading, conveyor transfer point and railway ... sources contributing fine particles from surfacerun-off.

... WATER

... first step is the identification of sources of waste water and ... of waste water from a mine site can be broadly classified into;

...ICT... ...ODELLING OF CRIME DATASET ...ING DATA MINING

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...ubstanti... ...across the globe, there is a need for analysing the crime ... the police and citizens to take necessary actions and ... paper, data mining techniques are applied to crime data for ... high crime rate. Supervised learning uses data sets to train, ... whereas Unsupervised learning divides an inconsistent, ... clusters. Decision trees, Naïve Bayes and Regression are some ... of data mining and machine learning on previously collected ... the features responsible for causing crime in a region or ... the features, the Crimes Record Bureau and Police ... to decrease the probability of occurrence of the crime.

...Learning, Decision Tree, Naïve Bayes, Regression, Data

I. ...

...lobe have created a menace in the society. Every year large ...rated by the law enforcement organizations and it is a major ... data to implement decision for avoiding crimes in future. The ...cluding information about immigrants, race, sex, population, ...ing this data not only helps in recognizing a feature responsible ...ps in taking necessary actions for prevention of crimes. Data ... provides ...niques and algorithms to analyse data and extract important ...

...mining is gaining useful information or extracting patterns that ...tion from large amounts of data. McCue defines [1] knowledge ...onally actionable output from crime data for solving crimes or ...sthatcrimeinvestigationbypoliceusescasebasedreasoning ...ining. Therefore, the data source from police can be used as a ...dictive analysis according to Nyce [2] is a statistical technique ...ict future events. These predictive models usually are measured ... are extracted are taken as accuracy, precision, recall and F1 ...eed to train the data according to a specific data mining ...dataset to know how well our model fits the new dataset by ...and F1scores.

...categories with respect to the data to be mined that includes ...iption with Prediction [4]. Description mining usually is ...in patterns, clusters, or correlations.

...ive ... classifying a class label for data using probability ...are using numeric measures accordingly.

P..d Adv.rtisement ..n Facebook An Evaluation Using A Data Mining Approach

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[2](Computer Sc... ...ngineering Gandhi Engineering College)

...per fo... on evaluating ... performance of paid publications (paid ads) on Facebook and ... implication ... maximize the paid publications' performance in reaching as many ... possible with the greates... ...e engagement. Artificial neural networks, Garson's algorithm, ... vector machine weig... ...ere used to analyze publication characteristics. The results ... of nu... ...people reached, paid publications are only 9.52% relevant, ...thour, ... totalpagelikes,and16.44%fortypeof publication. With regards ...kes, an... ...aid advertisement contributes 10.46%, 19.51%, and 15.55% respecti... Additionally, the real ...ovemen... ...gpaidadsandnonpaidadsarecompared and calculated. This ...ial impli... ...to marketing managers to improve the paid ad performance of ...

K... ...So... ...Data mi... ...id ads. Artificial Neural Networks.

...CTION

...l medi... ...one of the most famous communication platforms among ...te, 2009 ... media provides various opportunities such as reaching out to ...ng with ... costumers, promoting, and introducing special products or ...11). Us... ...social media as a marketing and promotion tool has been widely ...owerf... ...to gain millions of customers (Hanna et al., 2011). Online ...sed fro... ...llion in 2002 to $6 billion in 2012 and is expected to increase ...n et al., 2...

...were 1... ...n Internet users in Indonesia, and more than 90% of those ...on Face... ...wearesocial, 2018). This information reveals huge opportunities through ...ebook in Indonesia. For companies that want to promote their ...Facel... ...an online publisher is probably a good strategy. Moreover, 27% ...in re... ...s indicate that Facebook is the most efficient marketing tool ...50... ...rs Needleman, 2014).

...univers... ...aysia rely on social media to attract new students (Krishnan ...

...tisemen... ...has two major methods to promote products or services: organic ...otion. ... organic promotion, users can create free company pages or ...disc... ...even personal accounts without any charge. However, if ...anic ... ...tion (without any payment), then the company fan pages must ... ...mandates some specific publishing polices. By contrast, if ... ...Facebook paid advertisements (paid ads), the reach of the ...omers i... ...and does not rely solely on the followers of company fan pages. ...ny be... ...potential customers can be targeted without limitation. However, ...scove... ...Facebook paid ads do not reach new customers effectively (e.g. ...

...ents ... ...cheap, each decision must be controllable. The results of each ...ta mining provides someexcellent research methods for analyzing ... Moreover, data mining is regarded as a powerful tool for ...a con... ...d copious social media data (Barbier and Liu, 2011). Machine ...ing ... ...for analyzing such data sets. Artificial neural networks (ANNs) ...ta min... ...for social media data (e.g Krebs,2017).

...iewth... ...nceofFacebookpaidadsintermsofnumber ...epu... ...engagementofeachpostbyusingANNs. Garson's algorithm was ... ...dition, to helpmarketing managers in optimizing the performance ... a managerial implication

A[illegible]lic[illegible]ns [illegible] in Stock Market Prediction:A Survey

[illegible]tish Ku[illegible]nayak[1], Mr. Victor Chakrabarthy[2]
[1](Co[illegible]ter Sci[illegible] [illegible]gineering Gandhi Engineering College)
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[illegible] This [illegible] literature in the domain of machine learning techniques and [illegible] stock market movements. Artificial Neural Networks (ANNs) are [illegible] to be the [illegible]minant [illegible] learning technique in stock market prediction area.

Key[illegible] Artific[illegible] Neural Networks (ANNs); Stock Market; Prediction

I. [illegible]RODUCTION

[illegible] markets has been one of the biggest challenges to the AI [illegible] and statistical indicators have been proposed and used with [illegible] techniques or combination of techniques has been successful [illegible] research has been largely beyond the capability of traditional AI [illegible] developing intelligent systems that are supposed to emulate human [illegible] the stock marketismostlycomplex(non- [illegible] artificialneuralnetworksinvestors are hoping that the market [illegible] have great capability in pattern recognition and machine [illegible] and prediction. These days' artificial neural networks are [illegible] in different fields like economy, business, industry, and

[illegible] networks in prediction problems is very promising due to some of [illegible]

[illegible]ial ne[illegible] works [illegible] the relationship between the input and output of the system [illegible] complicated because they are general function approximations. [illegible] are well applied to the problems in which extracting the [illegible] but on the other hand there exists a large enough training data

[illegible] generalization ability meaning that after training they can [illegible] haven't been in training set. Since in most of the pattern [illegible] events (unseen data) is based on previous data (training set), the [illegible] would be very beneficial.

[illegible] been claimed to be general function approximations. It is proved [illegible] any complex continuous function that enables us to learn [illegible] input and the output of the system.

[illegible]CIAL NEURAL NETWORKS

[illegible]networks"denotesagraph-likestructure.Artificialneuralnetworks [illegible] theme is borrowed from the analogy of biological neural

[illegible] neuron.Aneuroncontainsdendrites(smallbranchedextensions of [illegible] cells) for receiving input and axons that carry output to the [illegible] that is collected as signals from dendrites. When the signal

[illegible]soutanimpulse(atransformationoftheoriginalinputsignal) [illegible] Blakemore and Frith(2005).
[illegible] as "neural nets". The roots of all work on artificial neural [illegible] date back to about a century ago.
[illegible] artificial neurons receive inputs and produce an output but [illegible] counterparts.
[illegible] in a memory bank, while in an artificial neuron the data or [illegible] network and stored in the form of weighted interconnections. The [illegible] of
[illegible]sisdonebyanonlinearfunction.Theinterconnectionsbetween [illegible] Artificial neurons reside in layers. Fig 1 shows a graphical [illegible] xi represents the inputs to the neuron and wi represents the

[illegible] to be in (0, 1).

A ...il Surv... on ...icting Stock Price Movement based on Communication Network

...hakrabarthy[1], Mr.Abhijit Pal[2]
...Engineering, Gandhi Engineering College)
...Engineering, Gandhi Engineering College)

...RA...
...pric... ...diction is a ... topic ... al studies. Stock market is basically nonlinear in nature and predicting ...rice... very difficult b... ...cific set of rules to estimate the price of the share in share market. Many ...ls ... used to ... statistical analysis, time series analysis but none of these methods are ...re... ...methods and applying traditional methods may not ensure the accuracy of ...ion ...rious m... ...have been used to study the highly unpredictable nature of stock market by ...ng ...itive patterns. ...e their preferred analysis tool for stock market forecasting and the reason ...fer... ...edict. This paper gives brief survey of well-known prediction techniques ...r p... of stock i... stock r...

...al T... ...nai... pattern r... ...prediction algorithm

...rd... ...da...

...Ma... is a... ...researchers because there is no specific method that has been designed to ...ely ...et stock pr... ...ment ... of numerous scientific attempts that have been made. Stock Market ...ion ...to det... ...company stock and several other financial instruments traded in a stock ...ge. ...k mark... ...economy of country [4]. Two main entities are involved in the stock market ...in... ...rs ar... ...entities are interested to know whether some stock will rise or fall over ...p... ...funds for business expansion, stock market is a primary source. Higher the ...the share price of company and share price of company will be low if ...ock...

...re... ...pred... fundamental approach and technical approach [12]. In fundamental analysis ...u... ...netic inform... ...pr... ...ratios and earnings for prediction while technical analysis utilize modeling ...que... ...price. Even with the lack of prediction methodologies there is little success in ...or... ...rely on historical data to predict the stock market price [8][9]. Textual data ...for prediction can be extracted from company's news stories and quarterly ...is heavily depending on predefined set of keywords and some machine ...assigned to keywords with respect to the movement of a share price. Some text ...retri... ...ial ...articles and blogs published in previous year and respective stock market ...labeled as positive or negative depending on their impact on stock price ...en... ...vector machines is then trained with labeled train articles. This train model is ...ed... ...pany [11][16].

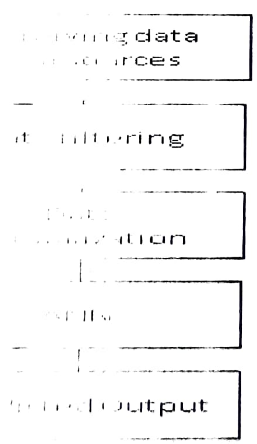

Fig 1 Prediction Process

...rk done on prediction of stock prices. Work basically contains text ...stock price movement. Fig. 1.1 shows the traditional prediction process ...There... ...classification methods are used in stock prediction such as k nearest neighbor,

Stock Mar... ...rediction Approach: An Analysis

...r.Abhijit Pal[1], Binayak Panda[2]
...mpu... ...e & Engineering, Gandhi Engineering College)
...mpu... ...e & Engineering, Gandhi Engineering College)

...The ... mining ...roach... ...data m... ...h can ...n extract useful information from the large amount of data. The prediction analysis ...future possibilities based on current information. The prediction analysis approach ...pr... ...cessi... ...re extraction and classification. This review paper is based on the stock market ...arious ...l.ma... ...ictiontechniquesarereviewedwhich are based on classification. The stock market ...prediction ... ...implemented imp...

Keywords:- St... market, machine learning, ...xtraction

I. INT...

...ngbett... ...data". Everyhumanbeingisincreasinglyfacedwithunmanageable ...nowl... ...overy apparently affects all of us. It is therefore recognized as one of the key ...like to develop techniquesfor"makingbetteruseofanykindofdataforany ...hat ...oalist... ...nding yet [1]. Over the last three decades, increasingly large amounts of ...ical ... been stored electroni... ...d this volume is expected to continue to grow considerably in the future. Yet ... ...undna... ...beenunabletofullycapitalizeon their value. Recently, data mining techniques ...and artificial ... ...es like ...trees, rough set approach, and artificial neural networks have been applied to ... extrac... ...mining knowledge from large data stores or sets. Some of its functionalities are ...scrip... ...ociations and correlations, classification, prediction, clustering, trend analysis, ...analy... ...and similarity analysis. Data classification can be ...chosen ...sthe classification by using Decision Tree. It is a graphical representation of all ...by ...eymaybereached Publiccompaniesraisefundsby issuing shares to public and ...in share ...an inv... ...quires partial ownership of company. A stock market is a place where public ...are tr... Stock ...changed among buyer and seller which generate transaction data. Prices are ...ly of s... ...]. All trading data is captured by stock exchange where stock companies are ...ear, ...g hence highly time variant. A lot of information is hiding in this huge data ...cult a... ...consuming for human being to extract without powerful tools. Thus predicting ...nging ...rices are changing due to demand and supply of stocks in stock market. Based ...tion,in... ...rebuyingorsellingstocksof listed companies. Investors, stock analyst and stock ...supply ...ks after studying fundamentals and technical information of stocks [4]. In order ...investo... ...to go through vast amount of data to discover hidden patterns which is very ...ly stoc... ...sts analyze stocks based on three vital aspects - external environmental factors, ...analys... ...re are several theories applied for stock market prediction among which some are

...H): ... Market Hypothesis was an idea developed in the 1965. EMH states that the ...whole ...information. As soon as there is any information indicating that a security is ...profit ...ity, investors will immediately buy it and its price will rise up to a fair value. ...finan... ...arket efficiency introduced: weak, semi-strong andstrong[5].Inweak- ...e pred... ...analyzing prices from the past; hence the technical analysis was unreliable. In ...th... ...price will rapidly adjust to publicly available ...analy... ...hnical analysis techniques are able to reliably produce excess returns.

...ral ... explains whyand howmarketsmightbeinefficient.Itistostudytheinfluence ...emot... ...torson the security and the markets. The historical patterns and the current ...cally ...e investor, and their respond will lead to a predictable market trend [6].

...es of s... ...rket prediction include the following techniques:

...Times... ...ecastingis a process of analyzing time series data and predicting the future ...nique... ...el and explaintime-dependentseriesofdatapoints.TSFisawidely used technique

...ork (... Neural network (NN) is a computational model that is capable of estimation ...sific... ...isrobustwithrespecttonoisyanderroneousdata,andisable to learn and adapt to the ...is... ...icable to the problem that algorithm is indefinable or ...consi... ...s long as the optimal solution is the first priori, not the ...neura... ...rk ismulti- layer perceptron (MLP) and uses a back propagation (BP)

An Ec ni l Ra Control Prototyping System Design with M lab/ ulink and TMS320F2812 DSP

h Rout[1], Biswa Ranjan Pattanaik[2]
[1](Electr onics & cation Engineering, Gandhi Engineering College)
[2](Electr onics & unication Engineering, Gandhi Engineering College)

bstra pid cont yping now the typical method used by engineers to develop and test their control al P syst too expansive for researchers to use. This paper presents an economical RCP AT B/Simu d the Target Support Package TC2 toolbox. A TI TMS320F2812 DSP based d for 4 s mech stem and data acquisition was developed for the eRCP system. The eRCP model development, automatic code generation, variable parameter compe ollerforthe linear motor driven double inverted pendulum (LMDDIP) was plemen to dem the performance of the developedsystem.

eywo pid ypin 20F2812 DSP, MATLAB, double inverted pendulum.

I

l eve ment has separated processes such as controller design, implementation, test and The ss has started when occurring errors or divergences, which makes the development

Rapid CP). r. is a process which executes every development processes under unified ield and iterate their control strategies on a real-time computer with real unseer nditerate solutions rapidly before building expensive hardware. So RCP can accel the development and save costs, and it has been widely used in g.vehi lity.flight control systems, navigation systems, servo-control, and medical st rap rol prototyping systems are being used as teaching tools inmost university in l and n control theory.

nll l RC ucts such as dSPACE, ConCurrent, RT- LAB, xPC, and CompactRIO are lar industry, aerospace and industrial automation. Almost all over the world, cars nes. dSPACE is involved [3].

l their RCP system for different applications. Hong, Gan, Chong, Chew, Lee, and ligit ocessing algorithms using MATLAB and Texas Instrument TMS320C30 and presented a rapid control prototyping based custom made DSP using [5]. les a quick transition from the off-line simulation in Simulink to real-time Wootaik, Minsuk, and Myoungho proposed a "target identical" control typ contr bases on an MPC555 controller [6]. Duma, Dobra, Abrudean, and Dobra op using embedded target for TI C2000 DSP to control a DC motor[7].

the d complexity of the control hardware. A typical commercial rapid control ands 000.00 depending on the vendor [2]. This entry level price is too expansive for use d RCP system is only for some plants or vehicles.

d general RCP system, this study uses TI TMS320F2812 DSP based control MATLAB/Simulink to design a RCP system. A complex controller for linear d DIP) was implemented by the eRCP system to demonstrate the capabilities of leve

SED RAPID CONTROL PROTOTYPING SYSTEM

m iscomprised of a math modeling program, a real-time development computer, and a Graphical User Interface (GUI)application.

al-time development. Matlab/Simulink is a design and simulation tool used

lo re and software design in detail.

...Speech Signal Synthesis System

...njan Pattanaik[1], Soumyajit Dash[2]
...lectronics & C...cation Engineering, Gandhi Engineering College)
...cation Engineering, Gandhi Engineering College)

Abstrac... ...xt to s... provide an overview of existing methods Text-To-Speech synthesis techniques. ...rmant ... speech sy... ...ized into three categories, formant Based, Concatenative based and Articulatory. ...n sy... can be broadly ... techniques such as cascade, parallel, klatt and PARCAS Model etc. Concatenative ...sis ... three categories, Diphones Based, Corpus based and Hybrid whereas Articulatory ...sis ... al Tract ... Models, Glottis Models , Noise Source Models . In this paper, all text to speech ...ones.

...eywords ... to speech s... ...ch synthesis, Concatenative speech synthesis, Articulatory speech synthesis

1. INT...

...create natural sounding speech from arbitrary text. Moreover, the current trend in ...tion of speech in different speaking styles with different speaker characteristics and ...to the artificial generation of human voice – either in the form of speech or in other ... for speech synthesis is known as a speech synthesizer. There are several types of ...ech synthesizers (... software based) with different underlying technologies. For example, a TTS (Text to ...peech) s... converts ... human speech, while there are other systems that can convert phonetic transcriptions ...to speec... ...s to automatically produce speech output from new, arbitrary sentences. The text-to-...hrases. The first is text analysis, in which the input text is transcribed into a phonetic ...second is the actual generation of speech waveforms, in which the acoustic output is ...first phase [2]. A simplified version of the synthesis procedure is presented in figure 1.

...Phases ... ...tem

...ased on two primary factors – its similarity to normal human speech (naturalness) and ...ener). Ideally, a speech synthesizer should be both natural and intelligible, and speech ...h characteristics [3].

...a front end and a back end. The front end is responsible for text normalization (the ...n. Text normalization or tokenization is the phase where numbers and abbreviations

...conversion is the process of assigning phonetic transcriptions to each word and ...auses, and sentences. The output of the front-end system is the symbolic linguistic ...etic transcriptions along with the prosody information. This output is then passed on to ...it into sound [1].
...n introduction about text to speech synthesis. In section II, a review about various ...al. The conclusion is given in section III.

2. ...SYNTHESIS

...ar... ...d below.

...of speech. There are two basic structures: parallel and cascade, but for better ...ally used. Formant synthesis also provides infinite number of sounds which makes it ...ach, at least three formants are generally required to produce intelligible speech and ...used. Each formant is modelled with a two-pole resonator which enables both the ...dth to be specified. The input parameters may be the open quotient that means the ...on: Voicing fundamental frequency (F0), Voiced excitation open quotient (OQ) , ...uencies and amplitudes (F1...F3 and A1...A3), Frequency of an additional low-...frequency region (ALF,AHF)[1].

...nd the output of each formant resonator is applied to the input of the next one. The ...trol information. The main advantage of the

...udes for vowels do not need individual controls.

...d sounds because it needs less control information than parallel structure. Moreover, it ...e model the generation of fricatives and plosive bursts is a problem [1].

...ar... ss P...operties Of Banana/Pineapple Natural Fibre ...einf...rced Hybrid Composites

... Saroj Kumar Pradhan[1], P.K.Dash[2]
... Engineering, Gandhi Engineering College)
... Engineering, Gandhi Engineering College)

... been car... out to inv...stigate the tensile and hardness properties of composites made by ... the new natural fibres into epoxy resin matrix. The natural fibres ... processes. The composites are fabricated using banana pineapple ... Hybrid ... were prepared usingbanana/pineapple fibres of 0/40, 15/25, 20/20, ... weight ... while overall fibre weight fraction was fixed as 0.4Wf. It has been ... rties ...crease with the increase in the weight fraction of fibres to certain ... hybridization of the re...forcement in the composite shows greater tensile strength when ... individ... of n...t...al fibres reinforced. All the composites shows increase in tensile ... ...ilar trends have been observed for elongation, hardness, break load ... ...en...

... ...ineapple fibres, Hybrid composites, Hardness and Tensile strength.

...CTION

... combined to get composite materials. The combination results in ... individual materials. Many composite materials are composed of ...ix phase, which is continuous and surrounds the other phase often ...ment phase [1-2]. The reinforcement is usually much stronger and ... and ...s the composite good properties. The matrix holds the reinforcements in an ... reinforcements are usually discontinuous, the matrix also helps to transfer load ...

...ogether and acts as medium by which an externally applied stress is ...s. Only a very small portion of an applied load is sustained by the ...tained by the fibres. The fibres are basically two types. They are ... ute and Sisal are some examples for Natural Fibres and Glass, Nylon ... Synthetic Fibres.

... have recently attracted the attention of researchers because of their ... materials. They are environmentally friendly, fully biodegradable, ... Plant fibres are light compared to glass, carbon and aramid fibres. ...an contribute to a healthy ecosystem while their low cost and high ...est of industry. When natural fibre-reinforced plastics are subjected, ...tion process or landfill, the released amount of CO2 of the fibres is ... amount during their growth. Natural fibres such as banana, cotton, ... attention of scientists and technologists for application in consumer ...vil structures. It has been found that these natural fibre composites ... thermal and acoustic insulating properties and higher resistance to ...d have relatively high strength and stiffness and cause no skin ... also some disadvantages, for example moisture absorption, quality ...any investigations have been made on the potential of the natural ...s and in several cases the result have shown that the natural fibre ... composites do not reach the same level of strength as the glass fibre ...rials are made by combining two or more different types of fibres in ...o types of short fibres having different lengths and diameters offers ... of the fibres alone in a single polymer matrix. Most of the studies ...ibres with glass fibres to improve the properties [4–10]. With this ...ttempt has been made to fabricate and to evaluate the properties of ...ites.

S... u ly ... of Cr...nic Cooling With Modified Cutting Tool Insert in ... Turning of Ti-6al-4v Alloy

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...l Engineering, Gandhi Engineering College)
...l Engineering, Gandhi Engineering College)

Abstract

The present study invo... ...ication of the cutting tool insert for supplying liquid nitrogen to the heat ... s in the turning ... this research work, an attempt has been made to investigate the effect of liquid ...trogen ... ...ion zones through holes made in the cutting tool insert during the turning of Ti-...Al-4V ... tungsten carbide cutting tool inserts of ISO CNMG 120408 MP1 – KC5010. The ...ryogenic ... the cutt... cutting force, and surface roughness for the modified cutting tool insert have ...en ... ...utting temperature was reduced by 64 – 67% in cryogenic cooling over wet ... the cutti... force was ... by 43 - 53% in cryogenic cooling with modified cutting tool insert over wet ... It was also observed ... cryogenic cooling method, the surface roughness was reduced to a maximum of ... machining. Cryo... provided the substantial benefit in reducing the cutting forces and improving ... ...ting temperature and reduction in adhesion between the interactingsurfaces.

Keywords: ... ...oy, Cutting temperature, Cutting force, Surface roughness

I. In...

...-4V is the mo... used titanium alloy. It has many applications in the aerospace and medical ... ...eight ratio, good corrosion resistance and excellent biocompatibility. It is a

... ...lems in machining Ti-6Al-4V alloy are the high cutting temperature and ...pi... too... ...d is used to cool and lubricate the cutting process, which could reduce the ... ve ... life to some extent. But the conventional cutting is an environmental ... ent ... regulations limiting the cutting fluid waste. Cryogenic cooling is an ... the desirable control of cutting temperature and enhancement of the tool

L...er...

... main functions of cryogenic cooling in the metal cutting process. It was ... a c... removed the heat effectively from the cutting zone, lowering the cutting ...nal ... ...ristics at the chip-tool interfaces. Dhar et al (2000) have investigated the ... jet in the cutting temperature in the turning of plain carbon steel (C-... ...d rates. The experimental and computational results indicated that the ... reduction in the cutting temperature, depending upon the levels of the ... geometry. It was also reported that the chip formation and chip-tool ... the cutting forces decreased to some extent, when the liquid nitrogen jet ... supplied at the cutting zone along the main and auxiliary cutting edge ... the temperature is attributed to a reduction in the chip contact length, ... breaking, reduced forces and enhanced heat transfer situation under

...nomical and practical approach to cryogenic machining technology. The micro ... approach minimizes the amount of liquid nitrogen consumption to levels at ...nal cutting fluid. It was reported that the cryogenic cooling reduces tool wear, ...reby allowing for high-speed cutting, improving productivity and reducing the ...proach reduces the frictional forces, improves chip breaking, eliminates build-... ...Hong and Ding (2001) studied the influence of various cryogenic cooling ... alloy. A small amount of liquid nitrogen applied locally to the cutting edge is ... the cutting temperature. Liquid nitrogen applied in close proximity to the tool ... tool temperature, depending on the target location. It was reported that ... worst to best) are: dry cutting, cryogenic tool back cooling, emulsion cooling, ...cooling, cryogenic rake cooling, and simultaneous rake and flankcooling.

... the temperature affects the titanium properties, and compared the different ...rs introduced an innovative cryogenic cooling approach in the cryogenic

Study on Machining Response in Wire EDM OF Inconel 625

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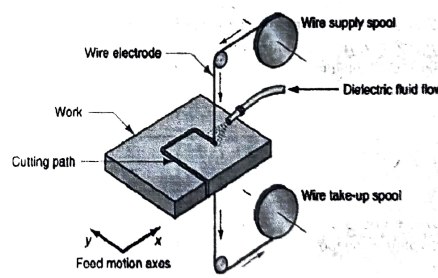
Abstract

Inconel ... a super alloy which ... of nickel and chromium .Inconel is a conductive material. Super alloys are suitable ... Wire EDM is a non-... tional machining process .WEDM is mainly used for machining very hard and ... alloys ... Inconel 625 ... corrosion oxidation resistant nickel alloy that is used both for its high strength and outstanding ... Inconel625 alloys are often employed in aerospace industry components due to their outstanding ... properties of inconel. alloy 625 that make it an excellent choice for sea-water applications ... fatigue strength. and resistance to chloride-ion stress-corrosion cracking. WEDM is ... aerospace, nuclear, computer and electronicsindustries.

... cutting the material .the brass wire diameter is 0.25micron.For seeing the brass wire ... done on ... 625 alloy for checking the dimension deviation, surface roughness,and material ... deals with ... control parameters viz.. Input parameter are pulse on time, pulse off time, input ... water pressure but here considering parameter are pulse on time, pulse off time, ... rectangular sheet of inconel 625 material removal in square shape .In the present research . ... is used to design for experimental run. Taguchi L-18 orthogonal array along with ... different parameters like sensitivity, Ton, Toff and water pressure. These parameters are used to minimized ... and maximum material removal rate isobtained.

... S/N ratio, Grey Relational Analysis.

... ng ... non-traditional machining process which is based on thermos electrical energy between the ... and water as the dielectric medium and erodes the work piece to produce complex two ... numerically controlled (NC) path. The wire cut EDM is a discharge machine that uses ... desired contour or shape ,It does not require a ... WEDM situses a continuous traveling vertical wire under tension as electrode. The ... is a very small ... whose path is controlled by the machine computer to produce the required shape ... the wire travels vertically downwards and table movement is horizontal which is ... piece is held on table with the help of fixtures which does not cause any obstruction in the ... and ... wire acts as cathode: and material is removed from the anode by spark erosion ... cutting tool material. The wire diameter was 0.25mm.



M... piece

... were sensivity,pulseontime,pulseofftime,andwaterpressure ... ANOVA technique ... used to find out the dimension deviation, surface roughness and material removal ... is ... alloy which is widely used in aerospace industry ,jet engine components such as ...

... combination of mechanical, physical and chemical properties. In here machining of ...

... 135×6mm was selected as work piece material. materials have been selected ...

Di ect N kel Laterite Limonitic Ore Using A Coal-Dolomite re ed nd NA_2SO_4 as A Selective Agent

afi i Kumar Swain[1], Dr. K S Raghuram[2]
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STR

Ni strial lic on. It is obtained through extraction from nickel-containing ores. The le msin nicke esanimportantalternativebecauseofnickelsulphideorereserves e ii vaimstodetermin al lolomitemassratiothatcanproduceferronickelproductsofhigh nickel ve d selectivi e action process studied refers to a direct reduction using a coal/ ve Ilte splaceinaSiCcruciblewithin6hatatemperatureof1300^{0}C. The best coal to omit m 2 It pr ides the highest Ni content of 12.04 %, the highest se- lectivity factor of 91 17
K re. lol nite bed, direct reduction, selectivity factor.

TION

Ni ll m il with a wide range of applications in the industry [1]. The nickel ysl ty are arac- terizedbyhighcorrosionthermalresistance.Thenickel laterite type ore er el rv However,only40%ofitisprocessedforfurther application [2]. This is due to the cu roc wl ncomparedtothatcontaining nickelsulphide.Itisattributedtometallicnickeluniform il ntureexcludesthe bili of ap- plying flotation and gravity separation[3]. Li rolitic type he ckel laterite orearepresent.Thefirstoneisalownickelgradeofi content ranging be rocessed following a hydrometallurgy route such as that of high-pressure acid hi 7]. Several hydrometallurgy processes have been applied in pr ductiv- itylevelachievedislow,whiletheoperationalcostsare too high [6 - 9]. % dwhichiswhytheprocessisnoteconomically viable [7]. sai ned new methodsfortreatinglateritenickeloreincludingapyro process at a i.e. ct duction[10-14] Butthelatterproducthasalowcon- tent of Ni because of the Fu ore thebondbetweenoxygenandironisonly slightly stronger than that between O i reduced almost as readily as NiO [15]. So, the challenges are how to reduce icke limonite ore leaving theferrousoxideunchanged.Until now,manyresearch- ro dures. Some of them have applied Na_2SO_4 as an additive[16, usi ga

d a l Na_2SO_4 as a selective agent varying the coal to dolomite mass ratio ol ob ined in the course of the coal and the dolomite heating.

e a 50 mesh standard size were obtained from Southeast Sulawesi, Indonesia. in ro south Borneo, Indonesia, while the dolomite was a product d de nposi- tionofthenickelorewascharacterizedbyEDXandthe results obtained are refe ing to the contents of the coal used in this research is shown in Table 2. The ar terizedbyEDX.Theresults obtained are listed in Table3. te edinthis investigation were of a chemicalgrade.

al coal, and the dolomite) were crushed and sieved aiming 50 tr ucedto the mixture containing the ore and the coal. Then, the starch and d the mixture. The latter was pressed to form pillow bri- quettes using a

...i...l Divide in India: Issue and Challenges

Saro... ...r Das[1], Dr.Diptiranjan Maharana[2]
...e & Humanities,, Gandhi Engineering College)
...e & Humanities, Gandhi Engineering College)

Paper ... Divide In a developing country like India. In ICT have brought a lot of ...pportuniti... as well. One of the main challenges is frightening gap between the ...information h... ...n have-...ts, what we call the digital divide. Purpose of this study to highlights the ...f digital divide in gen...al and ...pecial reference to Indian prospect. It identifies some major efforts to ...ivide. It co... providing the some possible solutions in bridging the digital divide.

Words ... ...veloping Countries, Libraries.

I. ...TR...

...tion age p... ...don't have access to the internet and World Wide Web through the ...and ...cation technologies are increasingly disadvantage in their access to ... ...ed to the digital divide such as poor education system. Developing ...ffected ...digital divide. Indian government policies are being established to ensure ...have ... ...nd ...ble to use it. Technology is developing very fast mode as a result leaving ...back... ...on in developing country where by many people are still lacking of

... FORMS OF DIGITAL DIVIDE

...al de... the te... digital divide as provide in the literature. Purpose of this paper the ...ill be used.

...o ... as the growing gap between those parts of the world which have easy ...e, ... works of information through technology and those who do not.

...that d...parity between individuals and/or communities who can use electronic ...tion ... as the internet, to better the quality of their lives and those who cannot. ...plied to the gap that exists in most countries between those with ready ...munication technologies and the knowledge that they provide access to ... ...ills.

...ide can be defined in simplest words "the gap they exist between those ...cess to technology.(telephone ,computer, Internet access) and related