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Research paper: Karthick et al., 2023: Pp. 1-3

DESIGN OF GENERAL ATOMICS MQ-9 REAPER

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ABSTRACT

Nowadays, Unmanned Aerial Vehicle (UAV) is an important technology for both military and civilian application. With the advent of technology, various missions can be done using UAV such as Electricity faults inspections, agriculture and forest analysis, identifying property boundaries, surveying construction sites or corridors for roads and railroads, stockpile volume calculations, flooding and coastal erosion assessments, building information management, disaster planning and handling, surveys in remote or undeveloped areas, and the delivery of goods etc. Their usage in electricity faults inspections is particularly suitable, as those areas are often very crucial for human. In order to harvest renewable energies to reduce world green gases, this paper is intended to build up a drone that can enhance those powers' production efficiency by inspecting equipment and lines' failures such as solar panel, windy turbine and transmission tower etc. To do so, the project is divided in two main parts. In the first stage, to find an updated component for the UAV, a thorough research on both current market and legislation is carried out. To save the budget, an online ordered had been set up to receive the compartments of the vehicle. Once receiving the order. Second section can be started which involve two subsections. On the one hand, at the mechanical process, the pieces are brought together by means of soldering, wiring and screwing. On the other hand, at the software process, the vehicle's processor is configured with the aid of a compatible open-source software where we can stabilize the platform by using PID parameters and other flight modes. Furthermore, after all work is done, a test flight is taken to ensure the quadrotor is operational as expected otherwise it is double checked again to identify the fault-related.

INTRODUCTION

Unmanned aerial vehicle (UAV) is used more and more in many applications because of its rapid and cost-effective deployment. UAV can be used not only for reconnaissance, but also as a communication platform. Compared with satellite communication platform, it has simple system construction, high speed and low lag communication capability. As an auxiliary infrastructure, it provides reliable wireless links for ground users to realize safe and reliable transmission of information. With the increasing requirements of UAV application for autonomy, intelligence, and multitasking, the efficiency and intelligence level of UAV single-machine operation have gradually failed to meet the requirements of task application. When flying alone, the limited energy supply limits the flight distance and operation range. At the same time, it is vulnerable to various network attacks and the communication reliability is not high. Under this background, the UAV cluster communication network composed of multiple UAVs can effectively improve the reliability of UAV communication and become the development direction of UAV communication in the future. UAV clusters mainly rely on advanced and open communication networks. UAVs have the ability of cooperation and interaction. The whole system presents group intelligence, and a single node has substitutability. The UAV cluster technology can complete the task quickly and effectively, and the whole system has the advantages of strong survivability and distributed functions. Although UAV cluster networking communication has great development potential, there are some key and challenging problems. UAV cluster networking communication effectively solves the problem of insufficient coverage of traditional cellular wireless networks, but the networking mode needs to be selected according to the specific environment and operating conditions. When UAV cluster network communication works, the data 5 transmission volume increases sharply, and the static spectrum allocation efficiency is not high, which leads to the performance decline of cluster system; Under the condition of ensuring communication security, increasing transmission power can obtain certain communication reliability, but eavesdroppers can also obtain highquality eavesdropping signals, which will reduce communication security. In addition, with the trend of diversification and miniaturization of models, UAVs with limited energy will be challenged by more severe power supply and endurance, which will have an important impact on long-term operation of diversified tasks. The above networking, spectrum allocation, communication security and energy supply are all issues worthy of further study. In most cases, the design objectives are not as focused. More often, the nature of an aircraft design is compromise. That is, the goal is to balance the different aspects of the total performance while trying to optimize a few (or one) based on well-defined mission requirements. There are many performance aspects that can be specified

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Research paper: Priya et al., 2023: Pp. 5-12

EXPERIMENTAL STUDY OF CONCRETE USING SILICA FUME AS PARTIAL REPLACEMENT

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ABSTRACT

Cement, sand, aggregate are basic needs for any construction industry. Cement is a primary material used for preparation of mortar and concrete and which plays a major role in mix design. The high rise in cost of conventional building material in developing countries has been a source of concern to government and private developers. Now a day's absence of power and lack of materials, there is scarcity of cement and also increasing the cost of cement. The high cost of the cement will affect the construction industries. Hence there is a need to find the new alternative material to replace the cement. In our project we are plan to replace cement by using silica fume. This project focuses on investigating characteristics of M20 concrete with partial replacement of cement with silica fume. The present study investigates the compression strength of silica fume in concrete compared with normal conventional concrete.The silica fume is replaced as 0%, 10%, 20%, 30%, 40% and 50%, cubes have been casted and tested for compression with an increases in increase in percentage in fine aggregate is been done and compared to the conventional concrete.

INTRODUCTION

The production of Ordinary Portland Cement (OPC), the main ingredient in normal concrete unfortunately, emits vast amounts of carbon-dioxide gas into the atmosphere which has major contributions to green house effect and thereby causing global warming; hence it is obvious to use either alternate or other materials as part replacement. Some alternate or supplementary pozzolanic materials like Fly ash, silica fume, Rice husk ash, Ground Granulated Blast furnace Slag, and High Reactive Metakaolin can be used for cement as partial replacement in concrete and should lead to global sustainable development and lowest possible environmental impact and energy saving. The advantages like high strength, durability and reduction in cement production are obtained due to the incorporation of silica fume in concrete and the optimum percentage replacement of silica fume ranging from 10 to 20 % to obtain maximum 28-days strength of concrete. Durability and the other mechanical properties of concrete are improved when pozzolanic materials are incorporated in concrete because of the reaction between silica present in pozzolans and the free calcium hydroxide during the hydration of cement and consequently forms extra calcium silicate hydrate (C – S – H). N. K. Amudhavalli, Jeena Mathew showed that a part replacement of cement by silica fume at varying percentage has improved the performance of concrete in strength and durability aspect and reported that 10-15 % silica fume replacement level produce the optimum (7 and 28- days) compressive strength and flexural strength and it is seemed that silica fume have a more prominent effect on the flexural strength than the split tensile strength. The incorporation of silica fume in concrete is useful to increase the compressive strength, decrease the drying shrinkage, and the permeability. Also the incorporation of silica fume in concrete is effective to increase the bond strength with the steel reinforcement and abrasion resistance. Consequently, the use of silica fume concrete in civil structures is wide spreading. Nevertheless, the loss of workability due to the use of silica fume creates the difficulty to utilize silica fume concrete accurately. The smaller sizes (10 mm and 5mm) and rounded shape aggregates should be used for high strength of concrete than other sizes and shape respectively. Incorporation of silica fume in concrete has an adverse effect on workability and higher percentage of super plasticizer is needed for higher percentage of cement replacement by silica fume. In this paper our attempt have been made to investigate the different mechanical properties like compressive strength, compacting factor, slump of concrete incorporating silica fume considering a single water-cementitious material ratio of 0.40.

Silica fume can either be added separately at the concrete mixer, where they are referred to as „additions" or else be incorporated into a factory-produced composite cement. The following sections describe the way in which Standards deal with these two alternative approaches and the relative merits and practicalities. The European standard for cements BS EN 197-1 covers a wide range of cements other than CEM I.

METHODS

The methodology of the work is as follows,

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Research paper: Chithra et al., 2023: Pp. 1-7

POLYHERBAL INFUSED CHITOSAN NANOFILM FOR FOOD PRESERVATION

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ABSTRACT

Worldwide, millions of tons of crustaceans are produced every year and consumed as protein-rich seafood. However, the shells of the crustaceans and othernon-edible parts constituting about half of the body mass are usually discarded as waste. These discarded crustacean shells are a prominent source of polysaccharide (chitin) and protein. Chitosan is the N-acetyl derivative of chitin obtained by N deacetylation. Chitosan is widely used in food and bioengineering industries for encapsulation of active food ingredients, enzyme immobilization, as a carrier for controlled drug delivery, in agriculture as a plant growth promoter. Chitosan is also a defense elicitor and an antimicrobial agent. Chitosan has interesting properties such as biodegradability, biocompatibility, bioactivity, nontoxicity and polycationicnature. We present an overview of the application of chitosan in composite coatingsfor applications in food. In the context of food industries, the focus is on fabricationand application of chitosan-based composite nanofilms and coatings for prolongingthe post-harvest life of fruits and vegetables.

Key words: chitin, chitosan, antimicrobial, nanofilm, food preservative.

INTRODUCTION

Foods consumed by humans and animals to produce energy can be raw, processed or formulated materials which can promote growth and are required to maintain good health .In most cases, there are no limitations on food consumption but sometimes, the excessive consumption of certain kind of food such as carbohydrate, fat, sugar and salt, may have harmful effects on health of consumer. Food products will promote the growth of microbes because chemically they consistof water, fat, carbohydrates, protein and small amounts of organic compounds and minerals, since all these compounds are the source energy for microbes to grow. Various preservation methods are proposed to prevent this from occurring. A preservative is a natural or synthetic chemical that is added to different kind of products such as foods, pharmaceuticals, paints, wood, etc. to prevent their decomposition by microbial growth or by unwanted chemical changes. Thesepreservatives are commonly added to various foods and pharmaceutical products inorder to increase their shelf life (Sabir, *et.al* 2016).

Food preservation is a method that prevents the growth of microorganisms such as yeast and bacteria and it helps to control the spoilage of food. By preserving food, we can reduce food wastage and increase food security. Different food preservation methods have different impacts on quality of the food and food system. Traditional and modern techniques are the two type of techniques. Food preservation is used to increase the shelf life of food. Curing, cooling, freezing, heating, sugaring,

Chitosan is modified from the chitin. the chitosan is derived from chitin by treating that in the way of deacetylation. It is composed of random molecules of β- (1-4)-linked d-glucosamine and N-acetyl-d-glucosamine in the linear polysaccharide chain. The production of chitosan is based on a hydrolysis of the acetamide group. When fungi are used to produce chitosan, the alkaline treatment removes the protein and deacetylates chitin. When the shells of crustaceans are used as source of chitosan, two pretreatments are required, one to remove traces of organic material and another to remove calcium carbonate. They are chemical treatment andenzymatic treatment. (Uchida *et al.*, 1989)

In food industry the use of chitosan is widely investigated as an edible coating, which is defined as the formation of a thin film directly on the surface of the product they are intended to protect. Edible coatings/films form a protective barrier and can be consumed along with the coated product in preservative

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Research paper: Mallika et al., 2023: Pp. 1-5

Green Synthesis Of Zinc OxideNanoparticles From Barassus Flabellifer And Demonstrate The Anti-Hepatic And Anti-Inflammatory Activity

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ABSTRACT

In Modern science, Nanotechnology is an ablaze field, for the researchers to explore and identify its pharmaceutical value. Zinc oxide nanoparticles (ZnO NPs) are known to be one of the most multifunctional inorganic nanoparticles which paves the way for new field of biomedical applicationfrom diagnosis to treatment. ZnO semiconductor is a material that can be easily synthesized with different structures due to its chemical behaviors. Nanoparticles were synthesized using fresh leaf extract of the plant *Borassus flabellifer* and were characterized by UV-visible Spectroscopy (UV–vis), Fourier Transform infrared spectroscopy (FTIR), Therefore, thestudy revealed an efficient, eco-friendly and simple method for the green synthesis of multifunctional ZnO NPs using *Borassus Flabellifer*. The synthesized ZnO NPs were tested for anti-inflammatory activity by proteindenaturation method and anti-hepatic activity using AST, ALP and ALT estimation in HepG2 cell lines. Thus, the synthesized ZnO NPs using *Borassus flabellifer* is very effective towards the anti-inflammatory and anti-hepatic activity.

Key words: ZnO nanoparticles, anti- inflammatory, anti-hepatic.

Introduction

The biodiversity of flora of Tamil Nadu is very broad, and several native Tamil Nadu medicinal plant species have a long tradition of use with greatPhyto therapeutic potential. In the recent years, there has been a great demand for the plant derived traditional formulations in the developed countries. These formulations are increasingly being required as medicinal products, nutraceuticals, and cosmetics. Tamil Nadu has one of the mega bio diversities in the world and having great assets of traditional systems of medicines.

Medicinal plants are an accessible, affordable and culturally appropriate source of primary health care system in Tamil Nadu. Marginalized, rural and indigenous people, who cannot afford or access formal health care systems, are especially dependent on these culturally familiar, technically simple, financially affordable and generally effective traditional medicines. As such, there is widespread interest in promoting traditional health systems to meet primary health care needs. This is especially true in this country, as prices of modern medicines spiral and governments find it increasingly difficult to meet the cost of pharmaceutical-based health care.However, it has been observed that many other medicinal plants growing in the country have not been identified taxonomically and that there are many of them, which have not been chemically examined and no attention has yet been paid to characterize them from the pharmacogenetic viewpoint. Thus, it is expected that the number of medicinal plants growingor available in Tamil Nadu may be more than what has so far been enumerated. It has further been observed that the countless herbs found in Tamil Nadu should be used for promotion of health and for fighting many diseases.

Borassus flabellifer (doub palm, palmyra palm, tala palm, toddy palm,wine palm or ice apple) plant is native to the Indian subcontinent andSoutheast Asia. It is reportedly naturalized in Socotra and parts of China. *Borassus flabellifer* is a robust tree and can reach a height of 30 metres (98 ft). The trunk is grey, robust and ringed with leaf scars; old leaves remain attached to the trunk for several years before falling cleanly. The leaves are fan-shaped and 3 m (9.8 ft) long, with robust black teeth on the petiole margins. Like all *Borassus* species, *B. flabellifer* is dioecious with male and female flowers on separate plants. The male flowers are less than 1 cm long and form semi-circular clusters, which are hidden beneath scale-like bracts within the catkin-like inflorescences. In contrast, the female flowers are golfball-sized and solitary, sitting upon the surface of the inflorescence axis. After pollination, these blooms develop into fleshy fruits 15–25 cm wide, each containing 1-3 seeds. The fruits are black to brown with sweet, fibrous pulp and each seed is enclosed within a woody endocarp.

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Research paper: Yuvashree et al., 2023: Pp. 1-6

GREEN SYNTHESIS OF MAGNETICNANOEMULSION FOR BACTERIAL BIOFILM INHIBITION

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ABSTRACT

Bacterial Biofilms are community of a single microorganism which is being a persistent-infections in worldwide due to its ability to form heterogeneous entities on biotic or abiotic surfaces by secreting Extracellular Polymeric Substances (EPS). Bacterial Biofilm infections are also being a serious problem of considerableconcern to healthcare providers and on medical devices. There is an immediate needin reso lving the huge burden caused by biofilm community, by introducing anti- microbial or anti-biofilm surfaces. The application of Nano-biotechnology has given a static action against pathogenic infections by using Nanoparticles. In this present study, the bacterial biofilms are isolated and the formation of biofilm community was inhibited by Magnetic Nano-emulsion using green synthesis methodology. Nano-emulsion is a colloidal dispersion of two immiscible liquids and comprises droplets and each droplet have a protective coating of emulsifier molecules. In this study, the first step involved in synthesizing Magnetic Nanoemulsion is, screening of Essential Oil of *Lavandual Angustifolia* (English Lavender) and then the formulation of Magnetic Nanoparticles (Iron Oxide) was done from *Magnifera indica* (Mango leaves) extract. Finally, the combination of both, essential oil and the magnetic nanoparticles (Iron Oxide) were combined and forms a Nanoemulsion which is used in aiding Bacterial Biofilm Inhibition.

Keywords: Bacterial Biofilm, Anti-biofilm, Magnetic Nano-emulsion, *Lavandula Angustifolia, Magnifera indica.*

INTRODUCTION

Biofilms are slimy, glue like substance which comprises of microorganisms such as fungi, alage, yeast and protists that sticks to each other, thus forms a biofilm. They have been likely found growing on moist environment with nutrients, minerals and metals. Biofilms are often formed on moist surfaces like pipe section, pond scum, rocks, underwater, streams, rivers and are also scraped from reverse osmosis membrane (Alfred B. Cunningham *et al.*, 2010).

Bacterial infections are the most common as well as effective pathogen, which is a single-celled organism. These are small organisms which invade the body by causing illness/infections. Normally in case of bacterial biofilm, the biofilms are formed bycommunicating with another bacterial cells by Quorum Sensing (QS) which is a process of signalling or communication between each bacteria and results in a bacterial biofilm which is an effective infection (Lupp *et al.*, 2003).

The nanoemulsion produced by green synthesis of lavender essential oil and iron oxide nanoparticles will helps in controlling the development of bacterial biofilm by attaching over the cell wall and disturb their growth and development. Generally, Nanomaterials (NMs) has that ability to penetrate the bacterial cell membrane and eradicate bacterial biofilm. The novel physical, chemical and biological properties of nanoparticles is mainly because of their size (i.e., usually less than 100 nm) that which increases their surface area to volume ratios drastically. Before it was thoughtthat bacterial grow in planktonic state, but later it was found that most bacteria live in complex structures called biofilm (Santosh Pandit *et al.*, 2018).

However, there are certain bacteria which are pathogenic in nature. One of the mostcommon entry points of such pathogenic bacteria is through the Gastrointestinal tract through foodborne pathogens enter. Bacteria Contaminates foods during processing,harvesting, etc. The major pathogens involved in foodborne disease are Bacillus cereus, Bacillus subtilis, Acinetobacter species, Campylobacter jejuni, Citrobacter koseri, Clostridium

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Review paper: Anuradha et al., 2023, Pp.1-6

HINT-BASED EXECUTION OF WORKLOADS IN CLOUDS WITH NEFELI

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Abstract:
A virtual infrastructure gateway that lifts this restriction. Through Nefeli, cloud consumers provide deployment hints on the possible mapping of VMs to physical nodes. Such hints include the collocation and anticollocation of VMs, the existence of potential performance bottlenecks, the presence of underlying hardware features (e.g., high availability), the proximity of certain VMs to data repositories, or any other information that would contribute in a more effective placement of VMs to physical hosting nodes. Consumers designate only properties of their virtual infrastructure and remain at all times agnostic to the cloud internal physical characteristics. The set of consumer-provided hints is augmented with high-level placement policies specified by the cloud administration. Placement policies and hints form a constraint satisfaction problem that when solved, yields the final VM-to-host placement. As workloads executed by the cloud may change over time, VM-to-host mappings must follow suit. To this end, Nefeli captures such events, changes VM deployment, helps avoid bottlenecks, and ultimately, improves the quality of the rendered services.

Keywords: **Distributed system, cloud computing, virtual machines scheduling.**

INTRODUCTION

Cloud Computing allow for the transparent access to diverse physical resources available in the form of services. In this work, focus on IaaS-clouds that exploit virtual machines (VMs) to deploy computing systems on-demand. Examing the effective placement of VMs on the physical infrastructure so that multiple and diverse workloads are efficiently handled. The key benefit in using an IaaS-cloud is that it shields users and/or applications from all administrative tasks and resource sharing policies of the underlying machinery. Moreover, the decoupling of physical resources from system software offers enhanced server utilization through collocation of VMs and effective options for node recovery in light of failure(s). However, sharing physical resources may yield peak performance rates that are below expectation due to VM contention on particular physical nodes. The main contribution of our approach is that we present a complete solution in extracting and exploiting the knowledge cloud consumers posses regarding the operational aspects of their virtual infrastructures. Our approach is compatible with the cloud abstractions that dictate users are kept agnostic of the physical infrastructure properties at all times. Furthermore, our approach is able to adapt to dynamic environments where both task-flows and user preferences change over time. Nefeli produces suitable VM to physical node mappings in response to signals coming from the infrastructures (both physical and virtual) or any other external notification mechanism. The produced mappings are applied through appropriate VM placement calls to an underlying cloud middleware.

IAAS-CLOUD MANAGING

IaaS-clouds provide for their users a separation of concerns at the level of hardware as their respective services are confined to the provision of VMs; the latter collectively form virtual infrastructures. Users may consume IaaS-cloud services, yet, they are unable to impose changes on the fundamental aspects and functional characteristics of the elements of the underlying physical substrate. Users may only offer minimal information to influence the

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IDENTITY BASED CRYPTOGRAPHY FOR CLIENT SIDE SECURITY IN WEB APPLICATIONS

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Abstract

Practice. WebIBC integrates identity based cryptosystem into web based applications and is totally established by JavaScript without any browser plugins.
Keywords: Public key Infrastructure, Public key Cryptography, Public Key Generator, Identity Based Cryptography, Limitation and Performance matching.

INTRODUCTION

The main purpose of this paper is to provide secure link and confidentiality of data within the group. In order to achieve this primarily focus on the authentication protocols, which is the main region of attack by any hackers or intruders? This application focus on authentication protocols which directly eliminate the chances of break through into the system. WebIBC, which integrates public key cryptography into web applications without any browser plugins. The public key of WebIBC is provided by identity based cryptography, eliminating the need of public key and certificate online retrieval; the private key is supplied by the fragment identifier of the URL identifier. The implementation and performance evaluation demonstrate that WebIBC is secure and efficient both in theory and Public key cryptography is a fundamental building block for information security that can provide authentication, authorization, integrity and non-repudiation. But public key cryptography is seldom utilized in web applications. The mainstay of the project is to collaboratively generate a common key for peer to peer group communication. To dynamically perform re-keying operation after batch of joins or leaves using Queue Batch algorithm and to share resources using the generated group key. While acquiring ease of use services, users will have to give the control of their data privacy to the application providers. Although application providers announce that these private data will not be abused and will be automatically handled without the involvement of administrators, these applications did not provide any mechanisms to guarantee this promise. Users have to trust the providers to be reliable and honest, and will "do no evil". But some providers have "done evil". One famous example is Yahoo providing user information in its email system to government that helped land a journalist in prison for 10 years . And the leakage of private information will bring greater harm to enterprise users. Some providers like Google and Yahoo also provide services such as Google Apps for enterprise users to take the place of their own email servers and applications. The misuse of provider's privilege will bring huge losses for their customers.

With the increasing popularity of Web 2.0 applications like Google Gmail and Google Docs, people are moving their private data and communication information from their local storage to the online application providers. These online applications offer reliable storages and ease to access services. With the AJAX techniques these applications only rely on browsers with common features including HTML, JavaScript and CSS, without the need of installing any browser plugins or software. These applications make the exchange, management and access of data much simpler than previous desktop applications.

Network services are provided by means of dedicated service gateways, through which traffic flows are directed. Existing work on service gateway placement has been primarily focused on minimizing the length of the routes through these gateways. Only limited attention has been paid to the effect these routes have on overall network performance. These networks consist of various components like routers and gateways. But routers are not reliable since it has major disadvantages like packet lose, delay in data transfer due to traffic

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Review paper: Anuradha et al., 2023, Pp.1-3

XML WITH CLUSTER BASED SPEEDY AND EFFECTIVE FEATURE EXTRACTION FOR EFFICIENT SEARCH

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ABSTRACT:
Searching becomes very tedious process due to various factors, where as one of the major identified reason is the input search query (or) search keyword to the search engine. A feature selection algorithm may be evaluated from both the efficiency and effectiveness points of view. Extensive experiments are carried out to compare FAST and several representative feature selection algorithms, namely, FCBF, Relief, CFS, Consist, and FOCUS-SF, with respect to four types of well-known classifiers, namely, the probability based Naive Bayes, the tree-based C4.5, the instance-based IB1, and the rule-based RIPPER before and after feature selection. There is no clustering approach is achieved in existing. Feature subset selection is an effective way for reducing dimensionality, removing irrelavant data, increasing learning accuracy and improving result comprehensibility. XML based cluster formation is achieved in order to have space and language competency. Feature selection involves identifying a subset of the most useful features that produces compatible results as the original entire set of features. Features in different clusters are relatively independent, the clustering based strategy of FAST has a high probability of producing a subset of useful and independent features.
Keywords— Clustering , Feature subset selection , Minimum spanning tree.

INTRODUCTION

In a data mining is the process that uses a variety of data analysis tools to discover the pattern and relationship in data that may be used to make valid prediction. In Our Proposed System FAST algorithm works in two steps. In the first step, features are divided into clusters by using graph-theoretic clustering methods. In the second step, the most strongly related feature to the target classes is selected from each cluster to form a subset of feature. The algorithm involves, removing irrelevant features constructing a minimum spanning tree (MST) from relative ones partitioning the MST and selection representative features. A cluster consists of features and each cluster is treated as a single feature and thus dimensionality is drastically reduced.

Existing system: In the Proposed System of Implementation [1], among many subset selection algorithms, some can effectively eliminate irrelevant features but fail to handle redundant features. Relief is the method for feature subset selection which is ineffective for removing redundant features. Relief-F extends Relief, enabling this method to work with noisy and incomplete datasets, but still cannot identify redundant features. Hierarchical clustering has been adopted in word selection in the context of text classification. Distribution clustering has been used to cluster words into groups based on the relations with other words.

Related work: Feature subset selection research has focused on searching for relevant features. Feature subset selection can be viewed as the process of identifying and removing as many irrelevant and redundant features as possible. This is because 1) irrelevant features do not contribute to the predictive accuracy , and 2) redundant features do not redound to getting a better predictor for that they provide mostly information which is already present in other feature(s). Relief-F extends Relief, enabling this method to work with noisy and incomplete data sets and to deal with multiclass problems, but still cannot identify redundant features. CFS is achieved by the hypothesis that a good feature subset is one that contains features highly correlated with the target,yet uncorrelated with each other. FCBF is a fast filter method which can identify relevant features as well as redundancy among relevant features without pairwise correlation analysis. Quite different from these hierarchical clustering-based algorithms, our proposed FAST algorithm uses minimum spanning tree-based method to cluster features.

PROPOSED SYSTEM

- Low time consuming process.
- Effective search is achieved based on feature search.
- XML based cluster formation is an advantage.

GROWTH POTENTIALITY OF *ANABAENASPHAERICA*IN ELECTROPLATING INDUSTRIAL EFFLUENT

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ABSTRACT

The growth of microalga *Anabaena sphaerica* in electroplating industrial effluent with reference to the vegetative cells, heterocysts and dry biomass weight brings about oxygenation and mineralization in addition to the increase in biomass which serve as a multipurpose raw material to the industries. From lab scale experiments it is demonstrated that the present investigation could be converted to pilot study for large scale production of biofuel and other commodity chemicals. Cultivation of microalgal biomass as a potential resource/raw material for various industries to produce commodity chemicals could enhance the economy and curtail the environmental hazards.

Key words: microalgae, *Anabaena sphaerica*, electroplating effluent and hetrocyst.

INTRODUCTION

The growing global population and the need of large amounts of energy effected a least care about environment. The direct and indirect anthropological activities had a negative impact on the environment and human health leads to the depletion of resources at faster rate and increase of pollutants at high levels. Hence curtailing the load of pollutants in the environment and remediating the polluted sources are the need of hour. Bioremediation by various microbes is the part of green technology and circular economy [1-4]. Several wastewaters from domestic, agricultural, and various industries consist of enormous nutrients .Any waste water can be used as an inexpensive alternative resource for the raw nutrients tocultivate microalgae [5-6].

Electroplating industries are characterized based on its infrastructure, production and quality of raw materials used. Source of water in each unit varies. Few industries use distilled water as source for chrome plating and zinc plating industries use tap water or ground water based on their availability. Many small scale units of EP industries release not only waste waster but also the toxic load.Proper treatment has to be provided for the safe discharge of electroplating effluent [7-8]. Blue green, filamentous,intercalary heterocystous ,branched trichomes with oxygenic photosynthetic thallus.*Anabaena* are heterocyst-forming, photoautotrophic cyanobacteria that perform oxygenic photosynthesis. *Anabaena* grow in long filaments of vegetative cells. The envelopes of these BGA are similar to those of gram negative bacteria. Lipopolysaccaride of these BGA envelop is helpful in ionic exchange properties/intracellular accumulation/adsorption onto cell surface. Yasodha [9] reported *Anabaena* the cells are ovoid or barrel-shaped, often giving the filaments (trichomes) the appearance. *Anabaena* possesses heterocysts and can also develop akinetes (thick walled resting cells that can survive in sediments for many years). Biosorption is possible due to the unique and complex structure of the microalgal cell wall [10]. With this background the physico chemical characteristics of the electroplating industrial effluent were analysed for its constituents before and after the microalgal treatment. *Anabaenasphaerica* had been selected to find out its growth response in electroplating industrial effluent with reference to vegetative , heterocyst cells and dry biomass weight.

MATERIALS AND METHODS

Physico chemical characteristics of electroplating effluent such as pH,d issolved oxygen, total dissolved solids,total suspended solids , COD, BOD, sulphate, chloride, nickel, chromium, copper, zinc and ferrous were analysed by the methods of APHA,2012. Microalga *Anabaena sphaerica* was cultivated in growth chamber(under 12/12 h light/dark cycle by fluorescent illumination of 40 $\mu Em^{-2}s^{-1}$) in 250 mL flasks with 150 mL, in BM and EPI effluent incubating at 25 ± 2° C [11]. Triplicates were maintained in each treatment. Sterilized glass beads were added to the culture flasks .So that microalgal cells sticking on the glass wall and clumping of cells were avoided. Gentle shaking of the cultures was done manually every day to reduce the clumping of cells. Treatments followed for microalga cultured in BM and EPI effluent, T1-100% Basal Medium , T2-75% Basal Medium+ 25% water, T3-50% Basal Medium+ 50% water, T4-25% Basal Medium + 75% water, T5-100% Electro plating industrial effluent, T6-75% Electro plating industrial effluent + 25% water, T7-50% Electro plating industrial effluent + 50% water, T8-25% Electro

MULTI-MODAL META MULTI-TASK LEARNING FORSOCIAL MEDIA RUMOR DETECTION

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Abstract

With the rapid development of social media platforms and the increasing scale of the social media data, the rumor detection task has become vitally important since the authenticity of posts cannot be guaranteed. To date, many approaches have been proposed to facilitate the rumor detection process by utilizing the multi-task learning mechanism, which aims to improve the performance of rumor detection taskby leveraging the useful information contained in stance detection task. However, most of the existing approaches suffer from three limitations: (1) only focus on the textual content and ignore the multi-modal information which is key component contained in social media data; (2) ignore the difference of feature space between the stance detection task and rumor detection task, resulting in the unsatisfactory usage of stance information; (3) largely neglect the semantic information hidden in the finegrained stance labels. Therefore, in this paper, we design a Multi-modal Meta Multi-Task Learning (MM-MTL) framework for social media rumor detection task. To make use of multiple modalities, we design a multi-modal post embedding layer which considers both textual and visual content. To overcome the feature sharing problem of the stance detection task and rumor detection task, we propose a meta knowledge-sharing scheme to share some higher meta network layers and capture the metaknowledge behind the multi-modal post. To better utilize the semantic information hidden in the fine-grained stance labels, we employ the attention mechanism to estimate the weight of each reply. Extensive experiments on two Twitter benchmark datasets demonstrate that our proposed method achieves state-of-the-art performance.

Keywords: Social Media, Rumor Detection, Meta Learning, Multi-task Learning and Multi-Modal

INTRODUCTION

Online social media platforms have become the most important medium for people to share, coordinate, and spread information. Unlike the traditional media, where news is published by reputable organizations, online news on social media platforms is released and shared by hundreds of millions of users spontaneously. However, few users carefully check the authenticity of the information they share, whichmeans large volumes of rumors may emerge andspread. Without an accurate and systematic effort to verify the posts, the dissemination of social media rumors may cause large-scale negative effects and sometimes may affect or even manipulate critical public events. Therefore, how to effectively detect misinformation and minimize its negative impact has become a significant challenge faced by social media platforms. To minimize the harmful effects of rumors, many efforts have been made. The early efforts come from news websites, such as snopes.com and politifact.com, which try to expose or confirm rumors by expert analysis and crowd sourcing. However, manually collecting and investigating rumors is quite time-consuming and has obviouslimitations on efficiency. Thus, automatically mining and detecting rumors has drawn much attention in the research community. Basically, existing studies on automatic rumor detection can be summarized into two categories: (1) The first category is to extract or construct comprehensive and complex features with manual ways. For example, Castillo et al. design plenty of handcrafted features from the media content of posts and the social context of users, then use these features to train a support vector machine. (2) The second category is to automatically capture deep features based on neural networks. For example, Ma et al. introduce a recurrent neural network to learn the hidden representations from the text content of relevant posts. Yu et al. use a convolutional neural network to obtain key features and their high-level interactions from IEEE Transaction on Multimedia, Issue Date:Jan.2022 2 the text content of the claims. Although these algorithms show promising performance in rumor detection, most of these methods only focus on the text content. In fact, the content of the postin social media platforms may consist of multiple modalities (e.g., text, images), and these multiple modality information can complement each other. Moreover, the tweets in rumor detection tasks are all posted by users, and the user's stance can play important roles for rumor detection. Therefore, it is critical and important to exploit multimedia content and the user's stance for rumor detection. Recently, a novel multi-task learning method is proposed to introduce the stance information of users' replies to the rumor detection task. Ma et al. propose a novel shared-private multi-task learning

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Review paper: Kannan et al., 2023, Pp.10-24

TRUST WORTHINESS ASSESSMENT OF USERS IN SOCIAL REVIEWING SYSTEMS

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ABSTRACT

Social Networks represent a cornerstone of our daily life, where the so-called social reviewing systems (SRSs) play a key role in our daily lives and are used to access data typically in the form of reviews. Due to their importance, social networks must be trustworthy and secure, so that their shared information can be used by the people without any concerns, and must be protected against possible attacks and misuses. One of the most critical attacks against the reputation system is represented by mendacious reviews. As this kind of attacks can be conducted by legitimate users of the network, a particularly powerful solution is to exploit trust management, by assigning a trust degree to users, so that people can weigh the gathered data based on such trust degrees. Trust management within the context of SRSs is particularly challenging, as determining incorrect behaviors is subjective and hard to be fully automatized. Several attempts in the current literature have been proposed; however, such an issue is still far from been completely resolved. In this study, we propose a solution against mendacious reviews that combines fuzzy logic and the theory of evidence by modeling trust management as a multi criteria multi expert decision making and exploiting the novel concept of time-dependent and content-dependent crown consensus. We empirically proved that our approach outperforms the main related works approaches, also in dealing with sock puppet attacks.

Keywords: Social Networks, fuzzy logic and automatization.

INTRODUCTION

As well known, the online social networks are Internet-enabled applications used by people to establish social relations with the other individuals sharing similar personal interests and/or activities. A part from exchanging personal data, such as photographs or videos, mainly all these applications allow their users to share comments and opinions on specific topics, so as to suggest objects or places of interest (e.g., Trip Advisor, Four square, etc.). Due to this comment/opinion sharing, these social applications, which we will refer to as social reviewing systems (SRSs) have been extensively used when people need to make daily decisions, increasing their popularity. As a concrete example, most of us access to a preferable SRS before choosing a restaurant or buying something so as to get reviews and feedback. People are progressively and symbiotically dependent on them as proved by the advanced opinion modeling and analysis, exploiting the impact of neighbors on user preferences or approaching the existing information overload in SRS, such as. For this reason, the trustworthiness of SRS is particularly important, and a key concern for effective opinion dynamics and trust propagation within a community of users. In fact, SRSs suffer from forged messages and camouflaged/fake users that are able to avoid individuals take the right decision. In addition, threats in SRS, such as data leaks, phishing information tampering, and so on, are never limited to a given social actor, but

SPEECH EMOTION RECOGNITION USING MACHINE LEARNING IN PYTHON

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ABSTRACT

Among the different methods, voice-based intelligent devices are gaining popularity in a wide range of applications. In a voice-based system, a computer agent is required to completely comprehend the human's speech perception order to accurately pick up the commands given to it. This field of study is termed as Speech Processing and consists of three components: Speaker Identification, Speech Recognition and Speech Emotion Detection.

Keywords: voice-based intelligent devices, Speech Recognition and Speech Emotion Detection.

INTRODUCTION

For several years now, the growth in the field of Artificial Intelligence (AI) has been accelerated.AI, which was once a subject understood by computer scientists only, has now reached the house of a common man in the form of intelligent systems. The advancements of AI have engendered several technologies involving Human-Computer Interaction (HCI)[1]. Aiming to develop and improve HCI methods is of paramount importance because HCI is the front-end of AI which millions of user's experiences. Some of the existing HCI methods involve communication through touch, movement, hand gestures, voice and facial gestures [1]. Speech Emotion Detection is challenging to implement among the other components due to its complexity. Furthermore, the definition of an intelligent computer system requires the system to mimic human behavior. A striking nature unique to humans is the ability to alter conversations based on the emotional state of the speaker and the listener. Speech emotion detection can be built as a classification problem solved using several machine learning algorithms. This project discusses in detail the various methods and experiments carried out as part of implementing a Speech Emotion Detection system.

METHODOLOGY

The speech emotion detection system is implemented as a Machine Learning (ML) model. The steps of implementation are comparable to any other ML project, with additional fine-tuning procedures to make the model function better. The flowchart represents a pictorial overview of the process (Figure 1). The first step is data collection, which is of prime importance. The model being developed will learn from the data provided to it and all the decisions and results that a developed model will produce are guided by the data [1]. The second step, called feature engineering, is a collection of several machine learning tasks that are executed over the collected data. These procedures address several data representation and data quality issues. The third step is often considered the core of an ML project where an algorithmic based model is developed. This model uses an ML algorithm to learn about the data and train itself to respond to any new data it is exposed to. The final step is to evaluate the functioning of the built model. Very often, developers repeat the steps of developing a model and evaluating it to compare the performance of different algorithms. Comparison results help to choose the appropriate ML algorithm most relevant to the problem [2].

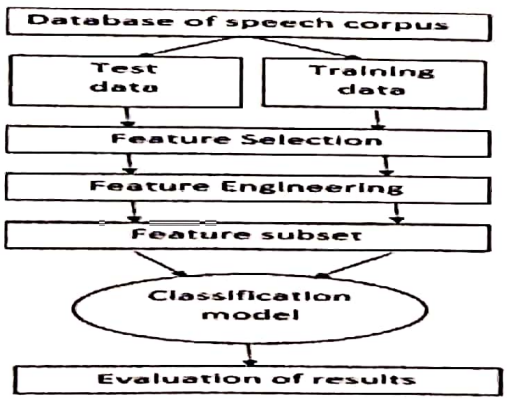

Fig.1 Flow of implementation

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Review paper: Anuradha et al., 2023, Pp.4-9

BLOCK CHAIN TECHNOLOGY FOR PROTECTING THE BANKING TRANSACTION WITHOUT USING TOKENS

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ABSTRACT

Increasing digital technology has revolutionized the life of people. There are many threats and frauds detected in banking system. A centralized database is used by banking system which makes the attacker easy to get access to data and this makes the system insecure. The drawback of this centralized system can be reduced by reforming the system by implementing block chain technology without using tokens. Block chain uses decentralized architecture for storing and accessing data over the database. This reduces attacks on database hacked. Transactions done through block chain technology are verified by each block in the chain, which will make the transaction more secure and help banking system work faster.

Keywords: Block chain Technology; Distributed database; Crypto currency; Consensus; Security and Protection.

INTRODUCTION

Block chain was first implemented on Bitcoin Crypto currency. This technology was first proposed in 2008 to develop bitcoin which is a successful Crypto currency and executed in 2009 [1] Computerized cash is supported and powered by innovation of Block chain. Block chain plays a vital role in affirming and approving exchanges in a digital currency. It has a special structure that does not involve a third person. When a new transaction is requested a new block is created in an existing block chain by validating that block and thus this chain grows. Banking as a service requires maintaining and securing customer information to protect it from hackers, which is increasing day by day. In today's world commercial banks has importance in the financial institutions so that data should be able to withstand information leakages and attackers, which provide customers satisfaction and reliable services. For this security purpose, an alternate solution is provided which requires high cost and time, hence its less efficient [2]. Block chain to serve the customer with a reliable and less time-consuming system. So, the block chain is a preferred solution. Peer to Peer network is implemented in the block chain. The main characteristic of this distributed system includes fault tolerance and extensibility in the block chain. It is very necessary to protect the geographically decentralized data structure to protect it from data losses, internal failure, and termination of the entire system [3].

To retain consistency in a decentralized system, a block chain technology is preferred. Block chain is about advanced data (chunk) put away in an open database (chain). The information is conveyed across numerous PCs, and the entire block chain is completely decentralized. This implies no individual has command over block chain, this is an extreme database that

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Global J. of Mechanical Engg. and Comp. Sci. 2023: 13 (1)

Research paper: Dhinakaran et al., 2023: Pp. 4-9

FIGHTER JETS

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ABSTRACT

Through this project, we intend to design and conceptualize a FIGHTER AIRCRAFT that can cater to a wide range of needs. Fighter aircraft is a term describing an aircraft, usually of smaller size, designed for military purposes and combat. The project involves the design of a fighter jet that can carry heavy weapons, providing the amenities with sophisticated care while incorporating the design specifications and performance parameters of a fighter jet. The aircraft allows for better efficiency and reduced fuel consumption and noise levels owing to a state of the art engine and design features

INTRODUCTION

Modern aircraft are a complex combination of aerodynamic performance, lightweight durable structures and advanced systems engineering. Air passengers demand more comfort and more environmentally friendly aircraft. Hence many technical challenges need to be balanced for an aircraft to economically achieve its design specification. Aircraft design is a complex and laborious undertaking with a number of factors and details that are required to be checked to obtain optimum the final envisioned product. The design process begins from scratch and involves a number of calculations, logistic planning, design and real world considerations, and a level head to meet any hurdle head on. Every airplane goes through many changes in design before it is finally built in a factory. These steps between the first ideas for an airplane and the time when it is actually flown make up the design process. Along the way, engineers think about four main areas of aeronautics: Aerodynamics, Propulsion, Structures and Materials, and Stability and Control.

Aerodynamics is the study of how air flows around an airplane. In order for an airplane to fly at all, air must flow over and under its wings. The more aerodynamic, or streamlined the airplane is, the less resistance it has against the air. If air can move around the airplane easier, the airplane's engines have less 2 work to do. This means the engines do not have to be as big or eat up as much fuel which makes the airplane more lightweight and easier to fly. Engineers have to think about what type of airplane they are designing because certain airplanes need to be aerodynamic in certain ways. For example, fighter jets maneuver and turn quickly and fly faster than sound (supersonic flight) over short distances. Most passenger airplanes, on the other hand, fly below the speed of sound (subsonic flight) for long periods of time.

Propulsion is the study of what kind of engine and power an airplane needs. An airplane needs to have the right kind of engine for the kind of job that it has. A passenger jet carries many passengers and a lot of heavy cargo over long distances so its engines need to use fuel very efficiently. Engineers are also trying to make airplane engines quieter so they do not bother the passengers onboard or the neighborhoods they are flying over. Another important concern is making the exhaust cleaner and more environmentally friendly. Just like automobiles, airplane exhaust contains chemicals that can damage the earth's environment.

Structures and Materials is the study of how strong the airplane is and what materials will be used to build it. It is really important for an airplane to be as lightweight as possible. The less 10 weight an airplane has, the less work the engines have to do and the farther it can fly. It is tough designing an airplane that is lightweight and strong at the same time. In the past, airplanes were 3 usually made out of lightweight metals like aluminum, but today a lot of engineers are thinking about using composites in their designs. Composites look and feel like plastic, but are stronger than most metals. Engineers also need to make sure that airplanes not only fly well, but are also easy to build and maintain.

Stability and Control is the study of how an airplane handles and interacts to pilot input and feed. Pilots in the cockpit have a lot of data to read from the airplane's computers or displays. Some of this information could include the airplane's speed, altitude, direction, and fuel levels as well as upcoming

TRUST BASED VOTING SCHEME USING MULTIFACTOR ANALYSIS

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ABSTRACT

To provide a legal system that enables individuals to vote electronically. This system encompasses legal and social science aspects of the present legal system, while adding extra convenience and security to the general selection method. Bio metrics is the study of machine-driven methodology physical traits includes fingerprint identification that is that the method of scrutiny questioned and famous friction skin ridge impressions from fingers to work out if the impression square measure from identical finger. Casting vote may be a right given to each person by the constitution and whether or not the person truly solid votes in step with the law is that the major issue that has been discovered. Thevote solid by a elector is reached to a candidate or party safely is additionally the particular right to befamous by the elector. This paper shows a planned model employing a fingerprint as a security that is take into account because the high security positive identification for soliding the vote and also the aadhar ID to login and cast the vote. This model truly provides importance to people that truly Need to solid their vote, however cannot come back to their native places to merely solid vote. Insteadindividuals will sit within the most popular location and solid their vote firmly. This makes solid their precious vote simply and firmly to the party they really need to.

Keywords: *Biometric fingerprint, ASP.NET, SQL, Aadhar card, c# and visual studio*

INTRODUCTION

Voting schemes have evolved from enumeration hands in period of time to systems that embody paper, punch card, mechanical lever and optical-scan machines. An electronic electoral system that is employed these days offer some characteristic totally different from the normal selection technique, and conjointly it provides improved options of electoral system over ancient electoral system like accuracy, convenience, flexibility, privacy, verifiability and quality. However Electronic selection systems suffers from numerous drawbacks like time intense, consumes massive volume of paper work, no direct role for the higher officers, harm of machines as a result of lack of attention, mass update doesn't permits users to update and edit several item at the same time etc [1].

These drawbacks will overcome by Biometric on-line electoral system. This is an electoral system by that any elector can use his/her selection rights from anyplace within the country. We offeran in depth description of the purposeful and performance characteristics of biometric on-line electoralsystem. Elector will solid their votes from anyplace within the country in extremely secured means. That produces selection a fearless of violence which increase share of selection [2].

EXISTING METHODOLOGY

Global J. of Mechanical Engg. and Comp. Sci. 2023: 13 (2)

Research paper: Illanchezlyan et al., 2023: Pp. 1-4

DESIGN AND FABRICATION OF PNEUMATIC SHEET CUTTING MACHINE

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ABSTRACT

To increase the productivity and to overcome skilled labor shortage, most of the manufacturing industries are going for automation. The main arm for us to select the project work is to acquire practical knowledge in the field of automation using PNEUMATIC SYSTEM.Hence we have selected this project "fabrication of pneumatic sheet cutting machine" In this project the sheet is cut with the help of HSS Blade and force is applied on the job by the pneumatic cylinder. The pneumatic cylinder is actuated by the 5/2 way directional control valve.The operating pressure required for this system is 5 to 6 bar. The maintenance required for this system is less than the other systems.

INTRODUCTION

The sheet metal shearing machine is the heart of sheet metal industries. In some industries, hand sheet cutter is used which is operated manually. In these machine, we are using pneumatic cylinder for sheet metal cutting. These machine should be easy to operate and maintain also. Hence, we are introducing a pneumatic sheet metal cutting machine which will reduce manufacturing cost and minimize industrial labor problems which is the biggest headache for human (Madhukumar et al., 2016). The main objective of our project is perform job holding operation effectively with less human efforts by using a machine with the pneumatic power (Quazi and Shaikh, 2012). This will also reduce the time required for metal cutting. By using these machine we can increasethe production rate and automatically the industry will be in profit. Automation plays an important role in mass production. Automation can be achieved through pneumatic form (Viraj et al., 2019 and Gupta et al., 2013). The main advantage of pneumatic system is economically cheap and easy to handle. The manufacturing operation is being atomies for the following reasons.

- To reduce human efforts
- To increase production rate
- To increase efficiency of industry
- To reduce the work load

In this project the cutting blade is connected to the rod end of the double acting cylinder which gives the cutting force to cut the sheet effectively.

Methods

The metal sheet to be cut is placed between the cutting edge of sheets metal cutting machine blade for applying force. Now check the cutting edge position lined metal sheet. After aligning the job, the job is cut from the blade contact shearing area by the action of double acting cylinder (Khaja Gulam Hussain and John babu. 2016). The double acting cylinder is actuated by 5/2way Directional control valve. For better finishing cut, applying shearing force between the blades cuts the sheet. Air pressure of 5 to 6 bar is supplied from the compressor to the valve. Using this blade up to 2.5mm thickness sheet can be cut. Various metal sheet material like aluminum, (GI), mild steel and tin sheet can be cut. The better manual force place the hand at the edge of the hand and move from top to bottom (Fig 1and 2).

SAFETY

Before starting the machine, some of the points to be noted for safety purpose,

1. Before starting the operation, check the following items
   - (1) Check the blade in the machine
   - (2) Check the alignment of sheet metal in the machine
   - (3) Don't insert the any material or object between the during operation of machine
   - (4) Check the pressure and valve handle in the machine
   - (5) Wear gloves and shoe for proper handling the sheet metal

FEATURES OF SHEET METAL CUTTING MACHINE

- It is compact in size

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A Study on ICT in Teaching - Learning Processes in Secondary School Education

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Abstract

The purpose of this paper is to estimate the applying of data and Communication Technology (ICT) for effective performance in teaching and learning in instruction schools located in Chennai like implementation of ICT in teaching and learning process, to suggest other technological teaching methods which will be attempted in imparting knowledge to the students by the teacher. In general, the two key components of ICT is carrying information and received by receiver i.e., students through a teachers as a mediator with the help of computers and other related ICT. At the end of the day, the teacher tries his utmost to convey wisdom as he understood it, and therefore the learner always has to fully know it. Research findings show that ICT media brings abstract concepts to real-life situations for the right understanding of teachers and students.

Introduction

ICT is changing shapes of teaching and learning by counting components of essentialness to learning circumstances checking virtual circumstances for the explanation. Present day propels make it conceivable for classy collaborative works out of teaching and learning by segregating it in space and time, with reliable arrange between them. The sphere of instruction has been influenced by ICTs, which have without a doubt influenced instructing, learning, and investigate. ICTs have the potential to quicken, enhance, and extend abilities, to propel and lock in understudies, to help relate school involvement to figure hones, make financial reasonability for tomorrow's laborers, yet as fortifying educating and making a difference schools alter.

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A STUDY ON PROBLEM SOLVING ABILITY AND CREATIVE THINKING ABILITY AMONG THE HIGHER SECONDARY STUDENTS

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ABSTRACT:

An adolescent by nature has to strike balance between being not a child and nor an adult. Most of the late teens though attain physical maturity of reproductive capacity, their intellectual, emotional and spiritual dimensions are still undeveloped. Hence the constant search for 'who I really am?' and 'what is that which is going to differentiate me from others?' leads many adolescents to look and explore beyond what is visible and factual. This leads many adolescents to attempt problems which they never tried before and to establish their intellectual and emotional superiority and thus trying to explore one's real potentiality. In this context, many adolescents consciously or unconsciously step into the realms of creativity and problem solving. This also clearly explains why many adolescents are so crazy about celebrities and engage in great 'fan following culture'.

INTRODUCTION

Problem solving abilities empower adolescents to form an opinion about themselves and encourage them to boost an grasp of self in the higher image of society with the assist of thinking, reasoning, intellectual pursuit etc., Solving a problem is applying new expertise and capabilities undiscovered before in distinct context. Man has been endowed with many unique and unique powers. Two essential factors that have an impact on problem solving are Nature