RESOLUTION TWO-STEP TDC CMOS BY PULSE-SHRINKING FINE STAGE, BUILT-IN COARSE GAIN CALIBRATION

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Abstract:

This article proposes a computerized converter (TDC) solution that can meet a broad range of knowledge and fine-time goals at the same time. The proposed TDC utilizes a beat contracting (PS) plot for a precise target and two-advance (TS) engineering for a larger range in the second phase. The suggested PS TDC solves the undesired non-uniform contracting rate issue that plagues conventional PS TDCs by using an assumed counterbalance beat and a balance beat width detecting method. Due to sign spread and extension fraud between coarse and fine phases, the proposed TS architecture achieves nonlinearity with a few methods, resulting in an inferred coarse increase adjustment mechanism. The replication findings in a 0.18-m normal CMOS innovation show 2.0-ps targets and 16-piece go connected to 130-ns input time interim of 0.08-mm2 area in a TDC modification. With an 18.0 maws 1.8-V supply, it has a single-shot accuracy of 1.44 ps and operates at 3.3 MS/s.

Built-in coordination includes beat contracting (PS), transition time-to-advanced, and two-stage transition time-to-advanced (TS).

1. INTRODUCTION EXAMPLE

As a result of late enhancements in Cmos producing scale, rapid semiconductors, and lower supply voltage, time goal is turning out to be more prevalent than voltage goal [1], [2]. ADPLLs, space logical programming, jitter computations, and different applications have as of late profited from the utilization of a chance to-computerized converter (TDC). It's likewise used to figure high-accuracy flight times, which are turning out to be more incessant as TDC effectiveness improves.

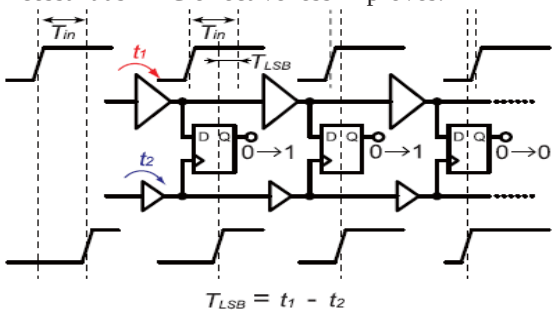

Fig. 1. Simplified schematic of a typical Venire TDC.

Two instances of testing applications are the laser range locater [3] and mass spectrometry [4]. It is normal utilized in imaging frameworks for fluorescence lifetime [5]. Fine fleeting exactness and a huge unique reach are needed in these applications, which are the examination's fundamental objective applications [6]. The general estimation proficiency is determined by the TDC, in this way a couple of PHS time goals with low jitter at various MS/s samplingrates are constantly required. A few time change procedures with sub-door defer goal have been proposed as far as fine goal. In view of the adaptability of its plan thought, the Venire TDC is widely used [6]-[9]. An ordinary Venire TDC needs two separate postpone lines, which are for the most part associated as ring defer lines to save space, as displayed in Fig. 1. The underlying time span Tin diminishes when the lower defer line gets up to speed to the higher postpone line's change in light of the fact that the defer phases of two postpone lines, for example, t1 and t2, vary (t2 t1). We might get specific time goal by changing the defer differentiation TLSB = t1-t2. This plan, then again, comprises of two separate postpone lines with an underlying confound.

As displayed in Fig. 2 [10], [11], the beat contracting (PS) TDC is a sort of Venire TDC that uses the defer hole among rising and bringing down cradle advances rather than two separate postpone lines.

At the point when the info beat width diminishes TLSB = tryt f as it proliferates through each cushion level, the cradle is expected to create differing rise and fall delays, for example, pattern t f. (t f attempt). Rather than Venire's TDCs,

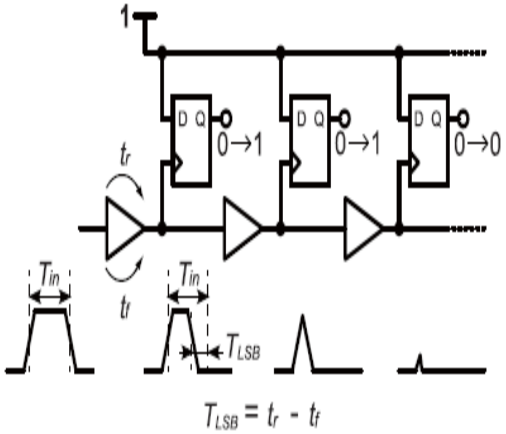

Fig. 2. Simplified schematic of a typical PS TDC.

Review on the Detection of Leaf Disease Using Image Processing Techniques in Plants

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Abstract:

To achieve this goal, a survey on the detection of leaf disease using various image processing methods will be conducted as part of this investigation. Digital image processing is a technique that is fast, trustworthy, and accurate when it comes to the diagnosis of plant diseases. Additional algorithms for the diagnosis and classification of leaf diseases in a number of plant species are available, and they may be used in a variety of situations. Multiple authors in this paper explore a range of sickness identification methodologies, including clustering, colour base picture analysis, classifiers, and artificial neural networks for classification of illnesses, among others. In this paper, we focus primarily on the assessment of several leaf disease detection systems, but we also provide a comprehensive review of various image processing techniques in general. This research makes use of a variety of concepts, including leaf disease classification, SVM, segmentation, morphological processing, features extraction, neural networks, clustering, and fuzzy logic.

Introduction:

India is primarily an agricultural country, and agriculture provides a means of subsistence for the vast majority of the population. When it comes to fruit and vegetable crops, farmers have a wide range of possibilities to choose from. With the use of technology, it is possible to increase the efficiency of the agricultural process. If a pathogen is present, any environmental condition might cause disease to develop in a plant. Most plant diseases exhibit themselves on the leaves, fruits, and stems of the plant, and as a consequence, early detection of illness is essential to the success of crop production. For the most part, pathogens, germs, fungi, bacteria, viruses, and other pathogens are to blame for the formation of plant illnesses in the first place. An unfavourable environment, which might include soil and water in some cases, can lead to the development of plant diseases in certain cases. When it comes to diagnosing the many different types of plant diseases in their early stages, there are a range of options. Naked eye observation techniques are the conventional method of detecting plant diseases; however, these approaches are inadequate when dealing with large fields of crops. When digital image processing methods are used in the detection of plant diseases, the procedure is more efficient, less time-consuming, and the results are more accurate. By removing the need for pesticides, this technique saves time, effort, labour, and money. It also reduces the use of pesticides. Different authors propose a range of ways for accurate plant disease diagnosis using digital image processing, each with its own set of benefits and drawbacks, which are discussed in detail below. A great number of algorithms have been developed by a range of academics for the purpose of image processing. This paper provides an overview of many different types of image processing algorithms for the detection and classification of various leaf diseases, as well as their applications in the field of agriculture. Leaf disease identification is introduced in the first part, which offers an overview of the process. A concise assessment of the literature is provided in Section 2, and it includes all of the tactics used by all of the authors. Part III of this section is a review table that allows you to quickly find out about the methodologies that were used by all of the authors for the different research. The results of the article are presented in Section 4 of this publication.

2. LITERATURE REVIEW

Rice disease detection approach presented in article [1] was used to the two most frequent diseases in north-eastern India, namely Leaf Blast (Magnaporthe Grisea) and Brown Spot (Secalaria sativa) (Cochiobolus Miyabeanus).

MULTI-TERRAIN ROBO DESIGN

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ABSTRACT

Due to the rapid progress in the field of robotics, it is a high time to concentrate on the development of a robot that can man in all type of landscapes, ascend and descend stairs and sloping surfaces autonomously. This paper presents details of a prototype robot which can navigate in very rough terrain, ascend and descend staircase as well as sloping surface and cross ditches. The robot is made up of six differentially steered wheels and some passive mechanism, making it suitable to cross long ditches and landscape undulation. Static stability of the developed robot have been carried out analytically and navigation capability of the robot is observed through simulation in different environment, separately. Description of embedded system of the robot has also been presented and experimental validation has been made along with some details on obstacle avoidance. Finally the limitations of the robot have been explored with their possible reasons.

INTRODUCTION

Multi Terrain Robots are the category of mobile robots that are capable of showcasing excellent off-road performances. They are able to navigate across bumpy and rough terrains. They mainly have wheels or tracks for locomotion. ATRs have various link mechanisms in order to overcome various sized obstacles. It is always desirable that the ATRs will be autonomous, that is, it will sense its environment with the help of sensors and then will take further decision on its own, with the help of instructions. The goal of this work was to conceive and build a mobile robot which will be a wheeled rover having good off-road capabilities, good grip over undulating, rough terrain, variable size obstacle negotiation capability, staircase ascending and descending capability, ditch/crevasse crossing capability and generating stable motion in undulating surface.

BLOCK DIAGRAM

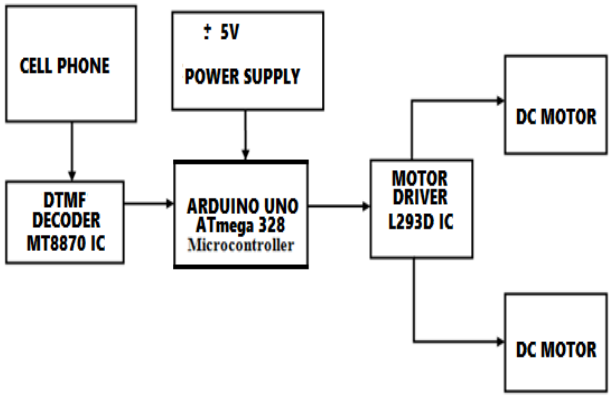

Fig 2.1 Block Diagram of Multi Terrain Robo

HARDWARE COMPONENTS

3.1 BLUE TOOTH

Bluetooth is a standard used in links of radio of short scope, destined to replace wired connections between electronic devices like cellular telephones, Personal Digital Assistants (PDA), computers, and many other devices. Bluetooth technology can be used at home, in the office, in the car, etc. This technology allows to the users instantaneous connections of voice and information between several devices in real time. The way of transmission used assures protection against interferences and safety in the sending of information.

Between the principal characteristics, must be named the hardiness, low complexity, low consume and low cost. The Bluetooth is a small microchip that operates in a band of available frequency throughout the world. Communications can realize point to point and point multipoint.

How it works?

Every device will have to be equipped with a microchip (transceiver) that transmits and receives in the frequency of 2.4 GHz that is available in the whole world (with some variations of bandwidth in different countries). Besides the information, there are three channels of voice available.

Fluid Structure Interaction Effect of Dynamic Stress on Heavy Duty Centrifugal Pump Assembly

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ABSTRACT:- Based on fluid structure interactions, the project aims to decrease centrifugal pump vibration and fatigue in the rotor by determining optimal operating parameters and performing structural analysis to estimate deflection and frequency using ANSYS 16.2 software. Various nodal positions are projected to be subjected to dynamic stresses, which might lead to a strategy for reducing vibration frequencies. To achieve the project's goals, we used Ansys 16.2 to conduct a computational fluid dynamics (CFD) analysis.

Keywords: FEA, FSI, Pump

I. INTRODUCTION

Rotational kinetic energy may be converted to hydrodynamic flow in the centrifugal pump, which is utilised for fluid transportation. An engine or electric motor normally provides the rotational energy. Centrifugal pumps are the most common form of kinetic pump and are the most common type of pump utilised [1].

The centrifugal pump Transforms the mechanical energy of a flowing fluid into electrical energy. Energy is transferred to the fluid by the outward force exerted by the curved impeller blades, which are powered by shafts within a casing. This rotation of the fluid around the impeller causes centrifugal force to be exerted on the water particles, causing them to flow outward. The fluid's pressure and kinetic energy increase as a result of the transmission of rotating mechanical energy.

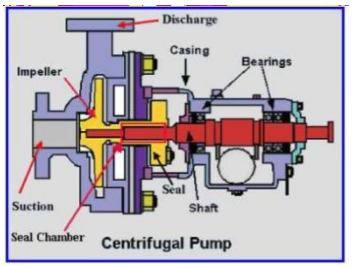

Fig. 1. Setup of Centrifugal Pump[3]

Models were built to anticipate how high-pressure fluids would affect the solid structure in this research, using FEA and CFD. The following simulations were run using CFX with ANSYS 16.2[6] solver.

By analysis, it is possible to determine the pressure force at different flow rates for the given centrifugal pump shape.

Vibrations induced by dynamic loads may be reduced by interacting with the fluid structure.

II. MODEL INFORMATION

Pressure and temperature conditions that are ideal for the pump's performance. Fluid structure interaction creates vibration and dynamic stress in the structure when a high-pressure fluid enters the casing via the intake. Pumps' dependability is harmed by vibration and dynamic stress[4].

As demonstrated in figure.2 if loose bearings are fitted, fatigue damage is more probable at the shoulder areas where vibration and dynamic load occur. This lowers the pump's dependability.

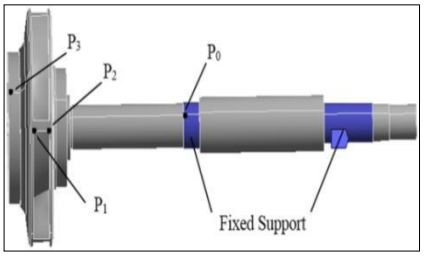

Fig .2.Constraint of rotor and distribution of monitoring points

Geometry Details

Pressure and temperature conditions that are ideal for the pump's performance. Fluid structure interaction creates vibration and dynamic stress in the structure when a high-pressure fluid enters the casing via the intake. Pump dependability is impacted by this vibration and dynamic stress [5]. High flow rates cause vibration and dynamic stress, that leads to fatigue damage at the shoulder locations as illustrated in the figure where the loose bearings are positioned, resulting in a lower pump's capacity to operate reliably.

Advances In Biology A Study On The Health Effects Of Microwave-Heated Meals

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ABSTRACT

With the increase in the use of microwave technology in the workplace, it has piqued the attention of many researchers, leading to an increase in the number of articles addressing the health hazards connected with microwave exposure. With this study, the researchers sought to determine the physiologic effects of microwave-heated food on the blood and organs of experimental mice, and the results were encouraging. This study sought to examine the effects of feeding on microwave-heated meals with the goal of improving their nutritional value. These experiments were carried out on male Swiss albino mice at two distinct ages: one month before (before puberty) and three months after (after puberty). The results of all of the albumin and bilirubin tests indicated that the levels of both parameters had increased, although the protein concentration had decreased in all of the tests. Following exposure to oxidative stress, glutathione peroxidase and superoxide dismutase levels considerably decreased, but malondahyde levels significantly increased. [*] It was discovered that physiological anomalies were caused by the oxidative stress that occurred. A recent study found that microwave radiation has a deleterious influence on liver functioning, resulting in histological and physiological abnormalities of the organ.

Indexing terms/Keywords Microwave, oxidative stress, heated food.

1-INTRODUCTION

Waves of very short electromagnetic energy that are a component of Mother Nature's energy spectrum and may be seen in the sky are referred to as microwaves or microwaves. It encompasses frequencies with wave lengths ranging from the longest to the shortest, and it includes radio waves, microwaves, infrared radiation, optical radiation, ultraviolet radiation, X-rays, and gamma rays, among other types of electromagnetic radiation. An electromagnetic field (EMF) with a high frequency is produced by a range of sources such as radar sites, radio and television transmitters, and microwave ovens, amongst other things. The Environmental Protection Agency has classed microwave radiation as an environmental pollutant since it is a sort of non-ionizing electromagnetic radiation that does not produce any ions (Paulraj and Behari, 2004). According to the World Health Organization, exposure to microwave radiation has a biological effect on living things such as humans and animals. Concerns have been raised concerning the possible influence of microwave leakage on biological systems, especially in youngsters, as a result of the expanding usage of microwave radiation technology in the home and in business. Most often seen in both domestic and commercial food preparation, microwave radiation with a frequency of 2.45 GHz is the most common kind of radiation. Ionizing radiation is a kind of radiation that is harmful to living things. A source of environmental pollution and a potential harm to human health, leakage from ovens that have been improperly maintained (Parkar et al., 2010).

Using electromagnetic radiation to heat food in a volumetric way, microwave ovens are used to prepare meals. The process of heating food in the microwave has been extensively examined and investigated (Nott and Hall, 2005). Because of the huge amount of energy that microwave radiation delivers to food molecules, protein molecules are readily disrupted, resulting in the production of several novel chemicals that are not found in natural environments. Denaturation of proteins has also resulted in the synthesis of a large number of new compounds. A change has been made to the chemical structure of food, and the substances created in the body are now regarded to be carcinogenic. In addition to digestive system problems, microwave-heated food has a nutritional value that ranges from 60 percent to 90 percent lower than that of conventionally prepared meals (Lita lee, 2001). Researchers discovered that the liver biomarkers alkaline phosphatase (ALP), alanine aminotransferase (ALT), and aspartate aminotransferase (AST) were significantly affected when exposed to a 50 Hz magnetic field (Sert et al., 2002). In this study, it was shown that several changes had occurred in the levels of antioxidant enzymes, such as superoxide dismutase (SOD) and

Kinetic modeling of catalytic transformation of methanol and ethanol into hydrocarbons: a review

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Abstract:*The conversion of methanol and ethanol to hydrocarbons or olefins has been the subject of several investigations. Researchers use kinetic modelling to better understand how a catalytic process works and to simulate the results of experiments. Analyzing experimental data based on mechanism or reactivity might benefit from theoretical methodologies. Using a combination of theory and practise, deterministic kinetic modelling can depict a catalyst in real-world industrial circumstances. The Lumped-Parameter model and the Langmuir-Hinshelwood model were among the kinetic models examined in this research.*

Key Word*:Kinetic Modeling, Methanol, Ethanol, Lumped-Parameter Model, Langmuir-Hinshelwood model*

I. Introduction

Steam and fluid catalytic cracking are now the two main processes for manufacturing lower olefins, principally ethylene (C 2=) and propylene (C 3=). These technologies rely on fossil fuels like oil and natural gas as a source of energy. Currently, the supply of petroleum and naphtha is decreasing, and cracking procedures need a lot of energy. Scientists have been pushed to improve current technologies to produce chemicals utilising renewable resources in a more ecologically responsible manner because of the scarcity of these non-renewable materials. For example, the creation of olefin compounds and heavier hydrocarbons like petrol may be achieved from alcohols such as ethanol and methanol.

To improve methanol or ethanol to hydrocarbon or olefin conversions, prior research has modified the catalyst to promote selectivity, identifying the exact reaction process and increasing the catalyst lifespan; ZSM-5, Al2O3, SAPO-34, and amphoteric metal oxide catalysts were changed to increase product selectivity. In order to decrease coke and secondary reactions to aromatic and paraffin, the catalyst's effectiveness must be enhanced even more [1]. Catalysis deactivation, reaction mechanism optimization, process and power consumption management are all issues that need to be addressed in the current procedures [1,2].

Researchers use kinetic modelling to better understand how a catalytic process works and to simulate the results of experiments [3]. Some of the subjects addressed by a vast number of papers include the synthesis and characteristics of catalysts, as well as mechanistic analysis, kinetic assessment, and kinetic modelling. Analyzing experimental data based on mechanism or reactivity might benefit from theoretical methodologies. An industrial catalyst may be depicted using deterministic kinetic modelling, which includes theory and experimental results [4].

The kinetic model of the Lumped-Parameter (L-P) model is simpler and has a lower compound number. Other than that, it needs far less experimentation. Lump format kinetic modelling is used in heavy petroleum fraction cracking [5]. Instead of treating each component as a separate entity with distinct qualities, the L-P model divides them into smaller groups based on their related properties and alters the reaction route between them. It is therefore preferable to utilise the L-P model because of its ability to reduce the number of simulations that must be done in reactor design [2].

An important kinetic expression for understanding the kinetics of catalytic heterogeneous processes is the Langmuir-Hinshelwood (L-H) model. It is both impossible and incorrect to use zero-order kinetics to approximate L-H kinetics [6].

The conversion of methanol and ethanol to hydrocarbons or olefins has been the subject of several investigations. According to Ying et al. [7], an L-P model was presented for the transformation of dimethylether (DME) and methanol into olefins utilising SAPO-34. Methanol may be converted into lower olefins and gasoline using the L-P model at temperatures between 673 and 823 K, according to Aguayo et al. [8]. Ethanol dehydration into olefins using an H-ZSM-5 catalyst (Si/Al = 70) with a pressure of 1 atm and temperature of 423-633 K was modelled using

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GROUND WATER LEVEL PREDICTION USING MACHINE LEARNING

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Abstract – ***This Paper introduces the implementation of different supervised learning techniques for producing accurate estimates of ground water, including meteorological and remotely sensed data. The models thus developed can be extended to be used by the personal remote sensing systems developed in the Center for Self-Organizing Intelligent Systems (CSOIS). To analyze these data and to extract relevant features, such as essential climate variables (ECV), specific methodologies need to be exploited.. The new algorithm enhances the temporal resolution of high spatial resolution of soil moisture observations with good quality and can benefit multiple soil moisture-based applications and research.***

Keywords – Soil Moisture, SVM, ANN, Machine Learning

Introduction

Surface soil suddenness is usually the water content inside the upper 10 cm of soil. Despite the way that such water is a little piece of the overall water content, it is on a fundamental level basic to various hydrological, biochemical, characteristic, green and various strategies. Various applications also incorporate surface soil clamminess as a key variable, including improvement building, meteorology, ecological change watching, characteristic science and country illustrating. On account of these real factors, it is basic to screen soil moistness conditions, especially to secure spatial and short lived assortments in soil clamminess. To get whatever number soil sogginess recognitions as could sensibly be normal with as high a quality as could be normal considering the present situation, much effort has been applied. Their discrete discernments measure soil suddenness exactly at express regions and are thusly insufficient to address the earth clamminess spatial transport, notwithstanding the way that they give fleetingly relentless recognitions SM is as a general rule a key state variable that impacts both overall water and essentialness spending plans by controlling the redistribution of precipitation into attack, flood, penetration in soil. SM
Over the top SM conditions that are addressed by submersion and the unchanging shrinking point (whose characteristics depend upon soil surface and structure) can propel flood events or show dry seasons. Exactness agribusiness is a developing the board technique that remembers the examination of the spatial assortments for a gather field using mechanical gadgets, for instance, Global Positioning Systems and airborne pictures. This examination can be helpful in assessing manures and other data needs by studying the close by affliction and soil conditions in a predominant way, hence hindering inflexible practices in developing. The upsides of precision cultivating are genuinely critical in agronomical, characteristic, particular and down to earth perspectives. For the meteorological strategies, SM is the "memory of precipitation" since it stores water and transmits it by methods for disappearing or overflow with some delay. On account of these credits and to the mind boggling sway externally imperativeness exchange, SM substance may emphatically influence ecological change components

DATA PROCESSING:

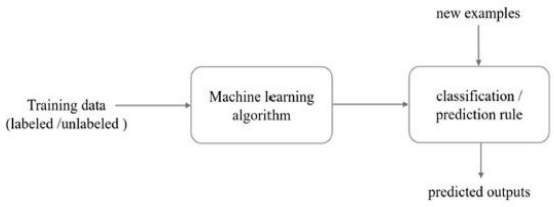

Fig.1. Data process in ML

The performance of the ML model in a specific task is measured by a performance metric that is improved with experience over time. To calculate the performance of ML models and algorithms, various statistical and mathematical models are used. After the end of the learning process, the trained model can be used to classify, predict, or cluster new examples (testing data) using the experience obtained during the training process.

In metric that is improved with experience over time. To calculate the performance of ML models and algorithms, various statistical and mathematical models are used. After the end of the learning process, the trained model can be used to classify, predict, or cluster new examples (testing data) using the experience obtained during the training

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The performance analysis of high-efficiency and low-power architecture for fuzzily-based image fusion has been carried out in this paper.

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ABSTRACT

When it comes to image fusion, the wavelet transform is the most generally used method. It combines the information included in the source photos' information in the wavelet domain according to a set of fusion rules, and it is the most widely used method. It is, however, difficult to develop a fair fusion rule because of the uncertainty in the contributions of the source images to the fused image.The capacity to include as much information as possible into the fused image becomes the most difficult problem. ThisWhen developing an image fusion algorithm in this study, the wavelet transform and fuzzy reasoning were applied to aid in the process. In this case, the corners are rounded.The source photographs are identified via the application of a set of fuzzy criteria that are applied to each image. This paper describes in detail the hardware architecture used for fuzzy-based photo fusion.is put forth as a possible solution. Using the recommended hardware design, resource usage may be reduced, making it especially well suited for low-end computer systems.applications that need a large amount of power There are just two line memory buffers in the design, and they each have a limited amount of computing capability.It minimises complexity, resulting in cheaper hardware costs, and it is suited for a broad variety of real-time applications, including gaming and medical applications. TheIt is estimated that the hardware design will use 4179 gates and will demand a total of 203.27 milliwatts of power.

Keywords: Fuzzy Reasoning, Fuzzy Rules, Image Fusion, Low Power.

1. INTRODUCTION

Images are fused together using image fusion, which is a way of integrating multimodal images that makes use of image processing technologies to do this. Its particular purpose is the integration of a variety of data sources that are complimentary to one another.to gather information in order to increase the quantity of information visible in thephotographically improving the overall quality of the images while also boosting their reliabilityinterpretation. This leads to the production of more accurate data.an increase in the usefulness Furthermore, it has been asserted that fused is a kind of fusion.Data allows for steady operational performance, for example, by permitting the use of a database.improved self-assurance, reduced doubt, and improved performanceImproved classification and reliability are two benefits of this enhancement. Image fusion is a method that combines two or more images.a way for bringing disparate and unconnected pieces of information togetherthe provision of information that is complementary to the information currently accessibleIn order to increase the reliability of the source images as well as the

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End-to-End Image Super-Resolution via Deep and Shallow Convolutional Networks

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ABSTRACT

A novel picture super-resolution (SR) technique based on a Convolution Neural Network (CNN) is being developed as part of this project's research. When learning the feature extraction, upsampling, and high-resolution (HR) reconstruction modules at the same time, a deep convolutional neural network (CNN) is created that can be used to rebuild pictures from any source and is completely trainable. If, on the other hand, you want to train a deep network in a straight line from start to end, this is time-consuming and may provide sub-optimal results since it takes a longer time to converge than other strategies. According to our results, an ensemble of deep and shallow networks should be trained at the same time in order to overcome this difficulty. Its stronger representation power, rather than a lower learning capacity, allows the deep network to capture the high-frequency information contained within visual images, rather than the other way around. When utilised in combination with joint training, the shallow network reduces the complexity of deep network optimization by a factor of two, in part because the shallow network is considerably simpler to optimise than the deep network. High frequency characteristics are rebuilt in a multi-scale manner to further improve the accuracy of HR reconstruction. This allows for the simultaneous integration of both short- and long-range contextual information to be included in the reconstruction, which further improves the accuracy of HR reconstruction. The suggested technique has been carefully examined on a variety of commonly used data sets, and when compared to current best practises, it beats them by a significant margin. Large-scale ablation experiments are carried out to establish the contributions of various network topologies to image SR, which results in the finding of new insights that may be used to future study.

1. Introduction

A low resolution (LR) observation is used to attempt to recover a high resolution (HR) picture with a large number of high-frequency characteristics from a low resolution (LR) observation. Single image super-resolution (SR) attempts to recover a high resolution (HR) picture with a large number of high-frequency characteristics from a low resolution (LR). However, SR is fundamentally ill-posed since there is a lack of appropriate information about the situation, which is particularly true when considering that numerous HR images may be down-sampled into a single lower-resolution image. According to the most recent study, learning-based strategies have been gaining more and more attention, and they have shown to be more effective in image SR than their predecessors. It is the fundamental premise of learning the mapping function from the LR picture to its HR counterpart via the examination of auxiliary data obtained

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A crane hook's design and stress values calculation

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ABSTRACT

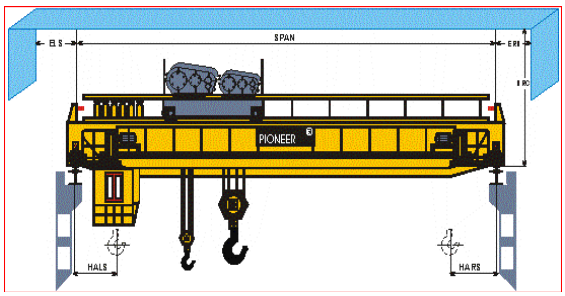
Crane Hooks are highly liable components and are always subjected to failure due to accumulation of large amount of stresses which can eventually lead to its failure. To study the stress pattern of crane hook in its loaded condition, a solid model of crane hook is prepared with the help of CAD software. Real time pattern of stress concentration in 3D model of crane hook is obtained.

The present work is directed towards the modeling of a CAD tool called solid works and also analyzed in it by applying force on crane and determining the von misses stresses, after design and calculation of stress values, material selection is happened, and discussed each material properties,

INTRODUCTION

A crane is a type of machine, generally equipped with a hoist, wire ropes or chains, and sheaves, that can be used both to lift and lower materials and to move them horizontally. It is mainly used for lifting heavy things and transporting them to other places. It uses one or more simple machines to create mechanical advantage and thus move loads beyond the normal capability of a man. Cranes are commonly employed in the transport industry for the loading and unloading of freight, in the construction industry for the movement of materials and in the manufacturing industry for the assembling of heavy equipment.

The first construction cranes were invented by the Ancient Greeks and were powered by men or beasts of burden, such as donkeys. These cranes were used for the construction of tall buildings. Larger cranes were later developed, employing the use of human tread wheels, permitting the lifting of heavier weights. In the High Middle Ages, harbor cranes were introduced to load and unload ships and assist with their construction – some were built into stone towers for extra strength and stability. The earliest cranes were constructed from wood, but cast iron and steel took over with the coming of the Industrial Revolution.



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THE WHITE TIGER BY ARAVIND ADIGA CONTAINS MATERIALISM

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An abstract –

Literature and society are inextricably linked in their pursuit of knowledge. Literature is a reflection of the social, economic, cultural, and political milieu in which it is set. Occasionally, literature has an impact on society, and occasionally, society has an impact on literature. Earlier Indian novels dealt with topics of national importance, as well as social and family difficulties. With A lot of developments have occurred as a result of globalisation. The effects of globalisation are both bad and favourable. problems. When compared to industrialised nations, negative problems outnumber good ones in emerging countries. nations. Materialism and Marxism are intertwined and interdependent on one another. Materialism holds that there is no such thing as a soul.

1.Introduction:

A society without classes that is built on the shifting of means of production, distribution, and trade. Aravind Adiga's (Aravind Adiga's) "The White Tiger" is a book that shows the negative impacts of globalisation on human beings, especially on the poor. those who aspire to financial success The narrative follows the protagonist's evolution from the time he meets him by chance. From Munna to Ashok Sharma, a journey of an innocent, impoverished rural youngster to the most corrupt man in the world is described. Money and power are two important factors in life. Materialism, obalisation, and degradation are some of the key terms to remember. Aravind Adiga has established himself as a talented writer in the galaxy of prominent contemporary Indian authors by writing a variety of genres. winning the prestigious Man Booker Prize for his first book, 'The White Tiger,' and becoming a published author (2008). In addition, he has 'Between the Assassinations,' a collection of short tales, and 'Last Man in Tower,' a book and number one New York Times best-selling novel. To his credit, he has written a number of articles. Balram's confession to the murder of his master is shown in Adiga's 'The White Tiger.' A disgruntled and dissatisfied driver in Delhi is the subject of this book, which narrates the narrative of him slitting the neck of his boss. It also paints an ugly picture of India as a nation plagued by corruption on the one hand and slavery on the other as a result of the film. It is a powerful piece of writing that is unrelenting in its dismantling of the flimsy and unimportant." The illusion of a contemporary India serves to show the essence of the country's rotten heart - corruption and caste oppression. system, debauchery, and so forth." 2 Aravind Adiga acknowledges in one of the interviews that he wants to "reveal the truth about the situation." 'The evil aspect of the nation.' 3 A sincere

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Recent Mimo Wireless System In antenna design schemes

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Abstract:
Multi-input Multi-output (MIMO) and diversity technology have recently attracted considerable attention in both industry and academia due to high data rates and high spectrum efficiency. The multiple/MIMO techniques can increase the number of antennas on the transmitter and/or receptor side of the wireless link without needing additional power or spectrum in a rich scattering environment. However, the correlation coefficients between MIMO antenna elements are usually very high, due to the small space of mobile devices and the overall efficiency of MIMO elements would be severely degraded by the interconnected connections. Furthermore, the human body causes high electromagnetic waves losses. The presence of users in actual applications could significantly reduce the total efficiency of the antenna, and the correlations of MIMO antenna systems are also greatly affected. This chapter examines the performance of some basic MIMO antennas as well as the recent technologies to improve the performance of MIMO antennas on mobile devices and terminals. In mobile terminal applications, the interactions between MIMO antennas and human body are also targeted.

Keywords: Multiplexing Antenna array Mobile handset antenna Long Term Evolution (LTE) WiFi Over-The-Air (OTA) performance Human body effect Specific Absorption Rate (SAR)

1. Introduction

For many years since 1960, antenna diversity techniques have been introduced into communication systems (Pierce and Stein 1960; Schwartz et al. 1965; Jakes 1974). In the late 1970s, the diversity technique was used with multi-antenna systems to overcome degradation by decaying environments (Taga 1990; Pedersen and Andersen 1999; Ogawa et al. 2001). In order to achieve good performance of diversity, multi-antenna systems typically require low reciprocal loss and a low pattern correlation between radiating elements. Independent fading signals (branches of diversity) are achieved not only via spaced antennas, spatial diversity and other techniques such as frequency diversity, angle of arrival diversity, polarization diversity, time diversity and multipath diversity.

A system's overall diversity performance usually results from different diversity mechanisms. Since 1985, mobile communications systems have evolved quickly from analogue system (1G) to digital (2G: second-generation system) and later to third-generation (3G), supporting multimedia transmission. MIMO technology has become an important feature in the LTE

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A Micro strip Patch Antenna for Wireless Communications of Design and Analysis

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Abstract:
It is critical that the microstrip antenna used for wideband communication be lightweight, easy to build, and small in size in order to be effective. A basic geometrically organised design for the microstrip antenna is required in the present context in order to achieve appropriate broadband performance. Presented here are the findings from a two-dimensional design study of rectangular and square shaped microstrip antennas conducted by the author. In order to feed both antennas, microstrip line was used in conjunction with each antenna. When compared to the rectangular microstrip antenna used in the preceding example, the square-shaped microstrip antenna provides a wider bandwidth and a more acceptable return loss. Small and lightweight, the small antenna is intended to function in the X band of frequencies, where it will be most effective. According to the results of the antenna performance evaluations, the proposed microstrip antenna has a wide bandwidth of 500MHz and a considerable return loss (-24 dB). Because of its huge bandwidth, it may be used in a wide variety of wideband applications in the X- band spectrum.

Index Terms: Broadband, Microstrip Antenna, Reflection coefficient, Stub Matching.

I. INTRODUCTION

The usage of a Microstrip antenna is a significant advancement in wireless communication systems because it satisfies the needs of the most recent generation of wireless communication technology, which is distinguished by its ability to introduce new concepts and ideas. It is being employed in each of these devices owing to the several benefits [1] that microstrip antennas provide, including the fact that they are incredibly lightweight, have a basic construction, and are highly efficient while being inexpensive. In contrast, the limited operating bandwidth of it is a restriction, and as a consequence, its usage in wireless systems is severely constrained [2]. We have grown to rely on broadband programmes that perform a range of tasks as well as wireless gadgets as crucial components of our day-to-day life. As a consequence, the need for low-profile wideband has been decreased [3] as a result of this development. As well as being able to fulfil the great majority of the requirements for mobile and satellite equipment, microstrip antennas are also capable of addressing an extensive variety of business demands. When it comes to wireless applications, the quantity of electrical circuits required is gradually decreasing, making the

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Thermal analysis of cantilever beam

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Abstract—
Structural and modal analysis of carbon steel members exposed to heat loading is the focus of this research. Both the cantilever and fixed-end components undergo theoretical stress and deflection calculations. The effect of deflection and stress on members with varying cross sections but the same cross section area has been investigated as well. Heat stresses and deformations caused by limited mechanical forces are often overlooked while designing structural components. When it comes to mechanical parts, temperature changes may have an impact. In this study, the effects of temperature change on structure are explored.. As it becomes hotter, the material swells, which might affect its structural performance. If you don't take into consideration the effects of limited settings, you might end up with dangerous designs. The structural performance of constructions that are exposed to high temperatures is significantly impacted by this. The major goal of this inquiry is to analyse beam deflection and stress. ANSYS is used to do feasibility studies, which are then compared to outcomes from real-world tests. As the temperature rises, ANSYS is used to investigate how this impacts the structure's mode shape and frequency.

INTRODUCTION

Deflection, Mode, Mode shape, and Modal analysis are all included in the index. The expansion of a material due to thermal stress is called thermal expansion.

Temperature variations have an impact on almost all mechanical components. Components expand and contract as a result of temperature changes. Thermal stresses are caused by the restriction of the member's expansion. Temperatures over a certain threshold weaken the structure's elasticity and stiffness. Studying how various sorts of restrictions affect a member's response to temperature and mechanical stresses has helped researchers better understand mechanical structure behaviour. Mechanical and thermal stress are applied to a component, and the results are analysed. It was shown that mechanically loaded members with varying restraining support conditions (ASME SA36) were affected by heat loading [9]. Cantilever and supported beams with a point load under thermal loading are studied in this study. When the temperature changes, researchers examine how a loaded beam deflections and slopes in response.

ANSYS [5] is used to do the FEA analysis. Mechanical stresses are common in real-world constructions because of applied loads and constrained thermal expansion. Structural mechanics theories were used in the development of all analytical formulations. Temperatures may influence the behaviour of structures when they are linked to one another. This basic relationship affects everything in life.

$$\epsilon_{Total} = \epsilon_{Thermal} + \epsilon_{Mechanical} \qquad (1)$$

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Facts about Flexible AC Transmission Systems (FACTS) Controllers: Practical Installations and Benefits

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ABSTRACT
As a result of FACTS controllers' actual installations, advantages and utility applications, this paper provides a wide range of information. Detailed details on the development of these devices and the first utility installation/demonstration of FACTS devices are provided. Then, a thorough list of important FACTS installations across the globe is shown. Additionally, the article examines how these gadgets might benefit the user and how much they will cost. Various FACTS devices may be used in a deregulated market, according to the report. The FACTS controllers are likewise the subject of discussion. Advanced FACTS controllers have higher losses than their traditional counterparts, and thus must be taken into consideration when designing future power systems. FACTS controller examples and analysis are provided for each major controller in the study.

INTRODUCTION

Static limits and dynamic limits are two classifications for the limitations of the AC transmission system [1-3]. As a result of these built-in restrictions, transmission resources aren't being used to their full potential. Many of the issues were traditionally addressed using fixed or mechanically switched shunt and series capacitors, reactors, and synchronous generators. However, there are limitations on how these traditional gadgets may be used. Efforts to meet expectations were unsuccessful. Mechanical component wear and reaction time were the root causes of the issues. Solid state devices with quick reaction capabilities were in growing demand as an alternative technology. Overhead transmission line building permits and right-of-way were difficult to get because of the global reorganisation of electric companies, increased environmental and efficiency rules, and the difficulty of obtaining these permits and rights of way [4]. Since then, a new class of power electronics devices called as Flexible AC Transmission Systems (FACTS) controllers has emerged thanks to the discovery of the Thyristor switch (a semiconductor device). As high-power semiconductor devices advanced quickly [1-3], they enabled the transition from traditional Thyristor-based FACTS controllers to the current, ultramodern versions based on voltage source converters. Controllers of FACTS have

since the 1970s, when the first utility demonstration of the first FACTS family, the Static Var Compensator (SVC), was completed, has been used in utilities across the globe. A lot of time and energy has been devoted to the study and creation of FACTS controllers since then.

HISTORY OF DEVELOPMENT AND STATUS

STATIC VAR COMPENSATOR

The Static Var Compensator is a rudimentary FACTS controller from the first generation. The Electric Power Research Institute (EPRI) first introduced this technology to the market almost a quarter of a century ago. With this compensator, you may dynamically compensate for shunt effects by manipulating the reactor and/or the shunt capacitor bank through a fast-thyristor switch. A total of more than 800 SVCs have been deployed across the globe, in utility and industrial settings (most notably in electric arc furnace and rolling mills). Since its inception, SVCs have been used by utilities in undeveloped nations as well. Despite being a pioneer in the deployment of SVC, ABB only provided 55% of the total installations, with 13% of those installations taking place in the Asia-Pacific region. In 1974, General Electric (GE) established the world's first demonstration of SVC for utility use and marketed it [1].

Voltage control got more challenging in the UK after deregulation in 1990. The UK deployed relocatable SVC in order to deal with the uncertainty of the future and the ever-changing power system conditions (RSV). The

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A Review on Image Processing

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Abstract:
Image processing is the act of modifying the nature of a picture in order to improve its graphical information for human interpretation or for autonomous machine perception, among other things. Image processing is also known as image enhancement or image enhancement processing. In the electronic domain, image processing using digital technology is a subset of the process in which a digital image is converted into an array of small integers, known as pixels, that represent some physical quantity such as scene radiance, and then stored in digital memory before being processed by a computer or other digital hardware. According to the authors, the interest in digital image processing methods is primarily driven by two primary application areas: the enhancement of pictorial information for human interpretation, as well as processing of image data for storage, transport, and representation in order to enable autonomous machine perception. In image processing, edges are used to discern boundaries, and edge detection is one of the most difficult issues to solve. As a result, it is considered to be a subject of fundamental importance within the area of image processing. In this research, we will take a look at the many techniques that are involved in digital image processing. For example, a non-linear Adaptive median filter implementation with high speed is detailed in depth in the next section. Once the picture has been cleaned up, the Adaptive Median Filter achieves the twin purpose of eliminating impulse noise from the image while also decreasing distortion in the image as a result of clearing away the impulse noise from the image. Images are processed with the help of the Image Processing Toolbox programme, which is a collection of functions that extend the capabilities of the MATLAB numeric computing environment, which is utilised to do so. The toolbox is capable of conducting a wide range of image processing operations on the picture that is now being shown in the window.
Keywords - Image Enhancement, Feature Extraction.

I.INTRODUCTION

Since the creation of the electronic medium, and notably the computer, society has been more dependent on computers for the processing, storage, and transmission of information, and this need is only expanding in the coming decades. Computers have an important part in all elements of current life and civilization, and they are ubiquitous in today's society and daily life. Man becomes increasingly linked to the computer as technology advances, and the computer has emerged as the leader of this contemporary period as a consequence. As a result, the technological revolution has swept the world, with the United States leading the way. That event has signalled the beginning of a new age, one in which humans may go on a trip into an entirely new planet, known as the technological world, to which it has been renamed. Today's society is increasingly reliant on computer vision for many tasks. One of the most essential goals in

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HVDC (High Voltage Direct Current) Transmission System: A Review Paper

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Abstract
In the early days of electrical delivery, transformers used AC (alternating current) to step up and down the transmission of power as required, and it was more readily interrupted than DC (direct current). Using high-voltage AC grids, formerly isolated distribution networks and huge power plants might be linked together to serve industrial and residential customers. The first commercially viable high-voltage direct current (HVDC) connection was not built for many decades after the invention of HVDC technology. Review of present and planned HVDC transmission networks in India is the subject of this research. New advances in HVDC Transmission and other technologies are discussed in the article. The design, operation, building, and maintenance of HVDC transmissions are compared to HVAC in this study. In addition, an economic evaluation of HVDC transmission over an AC framework is included in the study. This study provides an overview of the HVDC transmission frameworks in India that are referenced in this research. The article concludes that HVDC frameworks should be used in the current development of power frameworks.

Key words : Bipolar transmission, HVDC links and transmission.

HVDC History:-
Only 1.5 KW of electricity were transported in the world's first HVDC transmission in Miesbach-Munich power transmission in a year. Between Miesbach and Munich, Germany, it was erected [16,17]. As is well-known, the AC system was immediately used for the production, transmission, distribution, and so on of electricity. [13] In an AC system, the transformer made voltage conversion simple. Low losses and high electric power are the hallmarks of a transformer. Compared to DC generators, the synchronous three-phase generator is an excellent choice. Because of this, transmission via an AC system is more easier than through a DC one. When using asynchronous grids and long-distance transmission, the HVAC system has a wide range of applications.
The following Table 1 shows the evolution of HVDC technology throughout time.[1]

Table 1: HVDV Technology Development

Hewitt's mercury-vapour rectifier, which showed up in 1901.
Experiments with thyratrons in America and mercury circular segment valves in Europe before 1940.
First business HVDC transmission, Gotland 1 in Sweden in 1954. • First robust state semiconductor valves in 1970.
First microcomputer-based control gear for HVDC in 1979.
Highest DC transmission voltage (+/ - 600 kV) in Itaipú, Brazil, 1984.
First dynamic DC channels for excellent separating execution in 1994.
First Capacitor Commutated Converter (CCC) in Argentina-Brazil interconnection, 1998

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Modified Z-source Integrated PV/Grid/EV DC Charger/Inverter Modeling, Design, Control, and Implementation

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Abstract— ***Sun based Energy has been the most well known wellsprings of sustainable power source for private and semi business applications. Vacillations of sunlight based vitality gathered because of climatic conditions can be moderated through vitality stockpiling frameworks. Sun oriented vitality can likewise be utilized to charge electric vehicle batteries to lessen the reliance on the network. One of the prerequisites for a converter for such applications is to have a decreased number of changes organizes and give seclusion. Z-source inverter (ZSI) topology can expel various stages and accomplish voltage lift and DC-AC power transformation in a solitary stage. The utilization of latent parts additionally exhibits a chance to coordinate vitality stockpiling frameworks (ESS) into them. This paper presents demonstrating, plan and activity of an altered Z-source inverter (MZSI) incorporated with a split essential secluded battery charger for DC charging of electric vehicles (EV) batteries. Reenactment and exploratory outcomes have been displayed for the evidence of idea of the activity of the proposed converter.***

Index Terms—quasi-Zsource inverter (qZSI); Z-source-inverters; Active filter; energy storage; photovoltaic (PV) power generation; single-phase systems; transportation electrification; Solar energy; distributed power generation, inverter.

I. INTRODUCTION

Charging of electric vehicles at present heavily involve the use AC grid. The various methods of charging exclusivey use AC grid, such as wireless charging or plug-in charging can still cause pollution irrespective of how highly efficient the topology is. The amount of fossil fuels that are consumed to generate the energy to charge an electric vehicle gives a clearer picture of the carbon footprint that is left behind while charging an electric vehicle. To achieve lower carbon footprints, one of the ways is to integrated renewable energy sources into a charging infrastructure to reduce the dependency on the AC grid. A major requirement for designing an EV battery charger isthe use of isolation transformers in the converter topologies, to provide galvanic isolation at the user end from the rest of the high voltage (HV) system as a safety measure [1]. The galvanic isolation can be provided either on the AC grid side or on the charger side. The size of the isolation transformer on the grid side is usually much larger than the one on the charger side [2]. Due to the improvement in semiconductor technology, high frequency switching facilitates the use of smaller size transformers for galvanic isolation. Photovoltaic grid interconnected systems have been used in the past for commercial charging infrastructure [3]. These systems reduce the dependency of the charging infrastructure on the AC grid. The use of solar and grid interconnected system is an attractive solution for residential charging systems for EVs. For systems upto 10 kW, single phase inverters can be used for residential applications [4][5]. For interconnection of the residential solar PV to the grid, various isolated and non isolated topologies are available with multiple stages [4]- [6]. Residential photovoltaic systems for EV charging require features such as isolation and voltage boost capability to match the solar PV array voltage to the grid voltage requirements. The ZSI topology was first introduced in [7]. It has an ability to buck or boost and invert the input DC voltage in a single stage. It has gained tremendous interest in photovoltaic-grid connected applications. The ZSI topology uses two capacitors and two inductors to boost the input DC voltage to match the inverter side AC output voltage requirements. The operation of a ZSI is heavily dependent on the passive components. It presents an opportunity to integrate energy storage units into such a system.

In this paper a proof of concept of a single phase MZSI based solar grid connected charger has been presented as an application towards a string inverter configuration. In section II, the basic operation principle for a ZSI have been discussed along with the component design. Section III, discusses the sizing of components, modeling and control of the converter. Section IV, presents the simulation results for the operation of a 3.3 kW proposed inverter charger and results from an experimental setup built as a proof of concept. Section V, presents the conclusion.

JOURNAL OF CRITICAL REVIEWS

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Gaussian Hermite Moments are used for 3D face recognition

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Abstract:

In the subject of pattern recognition, the issue of face recognition is an intriguing one. Using three-dimensional depth data, we provide an approach for face recognition that is both accurate and fast. The goal is to get the absolute minimum of attributes while yet achieving good identification rates for those qualities. Following the extraction of 3D clouds points from the VRML face database, the nose tip of each sample is identified and is used as the new origin of the coordinate system, which is defined as the place where the 3D clouds points intersect. To characterise each person, Gaussian Hermite Moments are employed, and a back propagation neural network is used for the recognition job to finish the extraction process, after which the data is extracted. Following the studies, it was discovered that Gaussian Hermite moments combined with global depth information outperformed another strategy that was based on local depth information. A approach based on local depth information is compared to another method based on ratios of distances and angles between manually chosen facial fiducial sites in this research, and it is shown to perform much better.

Keywords GaussianHermite Moments, 3D Face Recognition, Back Propagation Neural network

1.INTRODUCTION

Given the fact that it is non-intrusive, face recognition is one of the several biometric identication modalities that are now accessible, and it rates highly on the list of subject preferences. However, from the standpoint of the operator, face recognition encounters a number of significant challenges, such as the vast diversity of emotions, ages, positions, lighting, and occlusion that may be seen in the real world. Numerous academics have worked on this problem for years, with the goal of developing a technique that is very accurate at facial recognition. A significant lot of research has been done on it. Several commercial face recognition algorithms are examined in the Vendor Test 2006 [1, which is held every two years and evaluates the performance of several commercial face recognition algorithms. There are three types of face recognition procedures, each of which is classed according to the kind of data that is employed in the recognition process. The first category consists of approaches that are used in two-dimensional space. When applied in a controlled setting, the performance of these technologies is outstanding. Methods that make use of three-dimensional information are classified as belonging to the second category. The integration of both 2D and 3D facial data results in the creation of the third kind of face data. There is a general summary of various techniques offered in [2][3, which is separated into two sections]. Because of the rapid development of 3D collecting technology in recent years, 3D capture has become easier to do, faster to complete, and more resistant to fluctuations in lighting conditions.

There are two ways to 3D face recognition systems that we may distinguish: global and local approaches. Face matching across the whole face is performed using global techniques, although it is computationally inefficient. Also noteworthy is that it is local in the sense that it divides the face surface into regions and extracts pertinent descriptors for each of those areas. A 3D face recognition system is often used to identify and categorise individuals by analysing depth information and surface properties [4][5][6] as well as other characteristics. It has been established that several different techniques for reporting on the importance of specific areas have been developed. These techniques are based on the geometric features

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Aravind Adiga's "The White Tiger": A Study of Cross-Cultural Encounters

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Abstract:

"The White Tiger," a book by Aravind Adiga, is an authorised work that brilliantly depicts cultural exchanges amongst diverse parts of Indian society. Aravind Adiga is a well-known author in India. Adiga has shown cultural exchanges inside India, and we feel that togetherness is the key to success. The beauty of our country may be found within its wide variety. Actually, our nation has a number of There are several varied cultures in our country, and as a result, there are numerous cultural exchanges. a process that is going place It is well acknowledged that India is a rapidly expanding nation, and in this regard In order to pursue an economic goal, it must first navigate through a series of cultural contacts. Furthermore, in the There is a vast area of India that has been disregarded, and these stupid individuals have benefited from this neglect. been driven to engage in battle with the wealthier members of society In actuality, the Meetings between the 'haves' and the 'have nots' raise a slew of issues in the minds of both parties. readers who are well-versed in the literature under consideration Cultural interactions provide a signal as to the cultural context. Our civilization is characterised by its uniformity. Traditions, norms, conventions, rituals, and so on have all been revealed in this case. to the prism of the present day Interactions with other cultures are constantly related with one's own identity. The author of the book According to the author, the primary focus is on cultural exchanges between two societies: urban and rural. There is an India of Light, and there is an India of Darkness. The book under consideration also depicts Indians. The impact of Western civilization is having an effect on the way society is evolving. It also draws attention to the The difficulty of rural society to keep up with the speed of urban life in India. This is a rural area.India is feeling ignored and impoverished, which has motivated the lead character of the novel to be a woman. new to engage in rebellion, resulting in a variety of cultural conflicts Balram, the major figure, is eventually revealed. Following all social and economic norms, the main character becomes a successful entrepreneur Indian customs and traditions In this piece of writing, an effort has been made to provide a variety of viewpoints. Episodes of cultural contacts, as depicted by the author, are presented without any type of context. Any emotional propensity towards a certain direction, no matter what it may be.

1. INTRODUCTION

Indian English writing has contributed significantly to the advancement of English literature. "The White Tiger," written by Aravind Adiga, is an epistolary book that won the Man Booker Prize in 2008 and was published in English. A flashback type narrative has been used to

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A SURVEY OF LOCATION PREDICTION ON TWITTER

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ABSTRACT

Places such as countries, states, cities, and points-of-interest play an essential role in news coverage, emergency situations, and people's daily activities. They are also crucial in politics. Researchers have been experimenting with automated recognition of locations that are related to or referenced in documents for several decades. Because of the vast number of users that send millions of tweets every day, Twitter has risen to become one of the most popular social media platforms available today. Geographic prediction has gained a great deal of attention in recent years, owing to Twitter's global reach as well as the real-time freshness of the information included in tweets in real time. The majority of the research is devoted to identifying and solving the new challenges and opportunities given by the loud, quick, and contextually rich nature of Twitter messages. In addition, we hope that this survey will give a more comprehensive picture of location prediction on Twitter than we now have. To be more specific, we're looking for user home location forecasts, tweet location predictions, and mentioned location predictions. We begin by identifying the three tasks and going over the assessment criteria one more time. When we summarise and analyse the Twitter network as well as the tweet content and context as possible inputs, we can more systematically explain how these inputs have an impact on the issues in question. Detailed analyses of the solutions that have been implemented in current best practises are offered for each dependency to support the point being made. In addition, we provide a high-level description of two related challenges, semantic location prediction and point-of-interest recommendation, which are treated in further depth later in this section. We then draw a conclusion based on the facts and offer some suggestions for further research.

1. INTRODUCTION:

It is estimated that the number of online social networking sites has expanded at an unparalleled rate since 2000, outpacing the number of people on the world at one point. In addition to Twitter and Facebook, there are a variety of additional social media platforms, including location-based platforms such as Foursquare and Gowalla, photo-sharing sites like as Flicker and Interest, and other domain-specific platforms such as Yelp and LinkedIn. Individuals can build online relationships with others who share similar interests as their own by making use of the services offered by these companies. Users may also share information about their regular activities with their online friends by sending messages, uploading images, uploading videos, and checking in at certain areas, among other methods. Its ability to allow users to follow friends and exchange messages with one another distinguishes it from the rest of the crowd of other online social networks. Even while Twitter relationships aren't always mutually advantageous to both sides, users have the option of "following" celebrities without having to reciprocate. On Twitter, textual submissions, often known as tweets or microblogs, are limited to a maximum of 140 characters, however photos are not restricted to a maximum of 140 characters. Aside from that, users are encouraged

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Flow Characteristics Simulation Using CFD on Semi-Submersible Platforms

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Abstract: The turbulent flow around a semi-submersible platform is simulated in this work using Ansys Fluent. The computational domain is shaped as a rectangular horizontal canal, with the semi-submersible platform positioned within. No slip boundary conditions are applied to the channel's top, bottom, left, and right walls. The velocity input and pressure outlet boundary conditions are provided for the front and rear walls. Two pontoons, four square columns, and two bracings comprise the semi-submersible platform. The issue is represented as three-dimensional, transient, incompressible flow, with turbulence represented using the Large eddy simulation (LES) turbulence model. The computational domain has 4,72,749 hexahedral mesh cells. The Reynolds number (Re) in the range of 104 Re 106, as well as the geometry of the columns, are varied in the parametric analysis. Plotting stream function, velocity, and pressure contours is used to conduct the inquiry. We saw vortex shedding and flow separation between the semi-submersible platform's front and rear columns. The strength of flow separation rises as the Reynolds number increases. By showing the coefficients of lift and drag for various Reynolds numbers and column forms, the transient flow features of the lift and drag forces are analysed..

Keywords*: *CFD, LES turbulence model, Reynolds number, Semi-submersible platform.

I. INTRODUCTION

Semi-submersible platforms are among the most common offshore structures used for oil and gas exploration in the sea. Semi-submersibles often operate in a variety of difficult circumstances within the sea, necessitating an entire study of the flow characteristics of a semi-submersible. In this study, we use ANSYS Fluent to investigate the flow characteristics of a four-column semi-submersible platform while accounting for turbulent flow around the platform. The parametric study approach is carried out by altering the Reynolds number (Re) in the range of 104 Re 106 as well as the shape of the columns. Drag and lift forces are important in the operation of the semi-submersible. As a result, we are also analysing the semi-lift submersible's and drag in this research. Liu et al. [1] conducted an outstanding investigation to determine the flow featuresdistributed among four square-shaped cylinders arranged in a square pattern For the parametric study, they considered spacing ratios and array attack angles and discovered that both the drag and lift forces experienced around the cylindrical columns show a very small difference for different L/D values, with the fluctuating forces reaching their maximum when the L/D value equals 4.14. The article also demonstrates that lift force peaks for downstream cylinders at an angle of = 15°. Goncalves et al. [2] studied the Vortex Induced Motion (VIM) of a four square column semi-submersible. They ran several model studies to assess the effect of hull appendages and different headings. The final findings include information regarding different movements such as in-line, transverse, and yaw motions, as well as combined motions in the XY plane and a study of both drag and lift forces. They determined that