International Journal of Ambient Energy ›
Volume 43, 2022 - Issue 1

Review

Influence of design of microchannel heat exchangers and use of nanofluids to improve the heat Transfer and Pressure drop characteristics: A review

Gururaj Lalagi, P. B. Nagaraj, Mallikarjuna Veerabhadrappa Bidari & Ramakrishna N. Hegde

Pages 6849-6877 | Received 22 Nov 2021, Accepted 09 Mar 2022, Published online: 07 Apr 2022

Cite this article https://doi.org/10.1080/01430750.2022.2056918 Check for updates

Abstract

The microchannel heat exchangers are used in various electrical and electronics components and the transportation industry is transitioning from traditional gasoline-powered vehicles to zero-emission electric vehicles. This paper attempts to provide a detailed study on the design of microchannel heat exchangers and nanofluids to enhance the heat transfer and pressure drop characteristics. The investigation of experimental and numerical methods used to analyze various design parameters serves as a guide to carry out the research and predict the performance

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Production Of Ethanol From Jack Fruit (Artocarpus Heterophyllus)

Suryanarayana.K#

Department of Physics
Srinivas Institute of Technology,
Mangalore, Karnataka, India

Abstract

The over production of jack fruit (Artocarpus heterophyllus) during harvest season and its short self-life have caused serious losses for farmers. The unused jack-fruit and its parts also produce environment pollution in the form of odd smell. Since there is high sugar content in the jack fruit pulp makes it a potential substrate for alcohol production. Basically, the fruit juice should contain at least 14% of sugar to be converted into alcohol. If the sugar content is less than 14 % , some amount sugar must be added to compensate the lack of sugar content. Since the sugar content of jack fruit is in the range of 18% without any extra sugar it is possible to convert it in to alcohol. The present work deals with the formation of ethanol from jack-fruit.

We confirmed the ethanol by few basic tests like odor, ignition test, action of sodium esterification and iodoform test. It is found that about 18% of alcohol present in the ripped jack-fruit flesh. In addition to this we extracted the alcohol from the outer part and the waste part of the jack-fruit using same method. It is found that it also contains about 13% of ethanol. We quantitatively studied the variation of ethanol quantity with the number of days needed for fermentation. The addition of yeast accelerates the fermentation process.

Key words: Esterification, Fermentation, yeast, Iodoform test

I. INTRODUCTION

The **jackfruit** (*Artocarpus heterophyllus)* also known as **jack tree**, **jakfruit**, or sometimes simply **jack** or **jak** is a species of tree in the *Artocarpus* genus of the mulberry family (*Moraceae*). It is native to parts of South and Southeast Asia, and is believed to have originated in the south-western rain forests of India, in present-day Kerala, in Tamil Nadu, coastal Karnataka and Maharashtra. The jackfruit tree is well suited to tropical lowlands, and its fruit is the largest tree-borne fruit reaching as much as 40 kg in weight, 36 inches (90 cm) in length, and 20 inches (50 cm) in diameter.

The overproduction of jackfruit (Artocarpus heterophyllus) during harvest season and its short self-life have caused serious losses for farmers. The waste product also produces environment pollution. Since there is high sugar content of the fruit pulp makes the juice a potential substrate for alcohol production. Some are carried out to find the possible sources of wine making process such as banana [2], pineapple [4], kiwi [5], apple [6], addition of sugar at 16-18% w/v to produce wine with mango [7] and other fruit juices. Basically, the fruit juice should contain at least 14% w/w of sugar to be converted into alcohol. If the sugar content is less than 14 % w/w, some amount sugar must be added to compensate the lack of sugar content. In addition to the inherent characteristics of fruit (pH values, sugar contents and nitrogen contents), other factors must be taken into account during fruit alcohol production. Since the sugar content of jack fruit is in the range of 18% [8] without any extra sugar it is possible to form alcohol from it.

A ES

ISSN: 2096-3246
Volume 54, Issue 02, October, 2022

CONVOLUTIONAL DENSE NET FOR DIABETIC RETINOPATHY LESION SEGMENTATION AND AUTOMATED GRADE CLASSIFICATION UTILIZING ENSEMBLE OF CLASSIFIERS.

Padmanayana[1], Dr.Anoop B K[2]

[1,] Research scholar, Dept. of Computer Science and Engineering, Srinivas University Institute of Engineering and Technology, Mangalore, India,574146

[2] Associate Professor Dept. of AI & ML, Srinivas Institute of Technology, Valachil, Mangalore, India 574143

Corresponding author Padmanayana(padmanayana10@sitmng.ac.in)

ABSTRACT

Diabetes is a chronic disorder, characterized by low insulin production and high blood sugar levels in people of all ages. Diabetes, if left untreated, may lead to a variety of ailments throughout the body parts. Diabetic Retinopathy (DR) is a symptomless eye disease caused due to diabetes, where vessels present in retina of the eye are destroyed and wall of the vessel becomes weak. It is very important to catch the signs of Diabetic Retinopathy before it becomes too serious. Prolonged Diabetic Retinopathy will lead to blindness if left untreated and after that it cannot be reversed.So it is verymuch crucial to detect the diabetic retinopathy in the initial stage. Many of the present automatic diagnostic approaches make use of the decesion from the clinical practitioner. So, an efficient Deep learning and Machine Learning based method to classify the grades of diabetic retinopathy by segmenting different retinal lesions is proposed in this work because Deep Learning (DL) does automated feature extraction and it produces more accurate and potentially useful findings, especially in medical imaging. The methodology used in this paper provides both multilesion segmentation and disease severity diagnosis using an ensemble framework which is fully automated and computationally efficient and hence this method can be potentially included in CAD(computer-aided diagnosis) tools used for clinical practice.

Keywords: Diabetic Retinopathy, Segmentation,Grading ,Convolutional neural networks, Deep Learning,Machine Learning.

INTRODUCTION

The biomedical imaging is a field that has been playing a big role in research fields. The main focus of this field is the processing of interior images of the body for medical analysis. Hence, this filed is considered as the backbone of researches which are based on the diagnosis. Eye is one of the sensory organs of our body and it plays a vital role in survival and evolution of our species. Thus, its health is of utmost importance. There are several diseases that can affect the eye and can cause temporary or even permanent blindness of the eye. One of the most common among them are caused due to diabetes which begins as a result of high sugar levels (glucose does not reach cells and remains in blood). As diabetes increases so does the risk of any type of eye disease. And the fact that these

Computer Integrated Manufacturing Systems

A Survey on DR detection by Segmenting Blood Vessels and Lesions from Fundus Colour Images with Deep Learning Techniques

Padmanayana, Dr.Anoop B K

Keywords: Deep Learning, Blood Vessel Extraction, Segmentation, Neural Nets, Fundus Images, Classification.

Abstract

Visual sense is one of the most important senses among others for us humans. There are several numbers of diseases that could damage our eye permanently. One of the most common causes is due to diabetes. The condition is called Diabetic Retinopathy. It is caused because of damaging that occurs to the blood vessels of the light sensitive tissues at the back of retina. This disease can be identified from the fundus color images of the eye called retinal fundus images. These tasks although are challenging as it is symptomless. Many algorithms were deployed and analysed to check the abnormalities in the images. The ones that are going to be discussed in this paper are cluster-based methods, data mining techniques, binary filters, screening techniques and convolutional neural networks (CNN). The largest population of diabetic patients and unavailability of experienced ophthalmologists have produced the demand for computer-aided automatic DR diagnostic systems. The classification of DR is very difficult for ophthalmologists, especially in the presence of different small features. Increasing DR cases have adverse impact on ophthalmologists and require an efficient and accurate method for fundus image evaluation.

Published
2022-12-30

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A REVIEW ON BREAST CANCER DETECTION APPROACHES FOR VARIOUS IMAGE DATA SETS

[1]Mr. Gurusiddayya Hiremath,[2]Dr. Jose Alex Mathew

[1]Assistant Professor, [2]Professor,

[1]Department of Electronics & Communication Engineering, [2]Department of Electrical & Electronics Engineering

[1]Sahyadri College of Engineering and Management, Mangaluru, India, [2]Srinivasa Institute of Technology Mangaluru, India

Abstract: According to global statistics, deaths among women due to breast cancer (BC) are the leading cause out of all the several types of cancers. Hence treating breast cancer as early as possible, and even relatively complicated to detect and analyse at the beginning stage. The conventional method is time-consuming and not efficient and very less accurate. Henceforth an efficient technique to diagnose the cancerous cell, not including human association close to accuracy. CT scan is a particular case of Mammography, which adopts the X-ray technique & uses superior-resolution pictures such that, it perceives fine tumors in the breast. The review paper elaborates on the recognition of the BC by employing various image processing (IP) application and techniques

Index Terms **- Cancer, Breast Cancer, Machine Learning, Mammogram, Histopathology image, Pre-Processing, Segmentation**

I. INTRODUCTION

According to stats of the "World Health Organization (WHO)", Breast cancer is the foremost cause of mortality in women of all cancers. [1], hence initial caveat and analysis helpful in preventing the death rate by making out the disease in its early stages. Patients who are diagnosed on time will have a better chance of avoiding the undesirable spread of malignant cancer cells. The anomalies in the breast are of different categories like masses, speculated lesions, micro calcifications plus architectural distortions. These anomalies take place in two means called begin as well as malignant. Non-cancerous abnormalities are begun and abnormalities are reported as malignant cancers. The breast masses usually occur in the intense region with dissimilar shapes and sizes, which include shapes such as stellate, circumscribed, and lobulated. Breast muscles, fibrous tissues, and breast parenchyma are difficult to identify due to low contrast, varying sizes and forms, and similarities to other blood vessels. At present, it is fairly simple to gather and store a bunch of data sets and create databases of patients in electronic documents with the latest computing tools [2], like the National Breast Cancer Foundation (NBCF), patient database [3]. With the help of the computer, it is possibl9e for health professionals to examine these various databases predominantly whenever required to study the various complex breast cancer data. figures 1 and figure 2 give the image of ultrasound and mammogram images of a breast cancer cell.

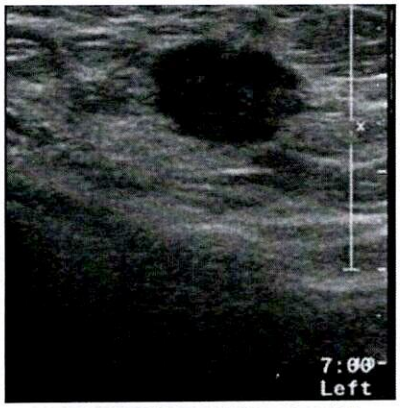


Fig1. Ultrasound Image [1]

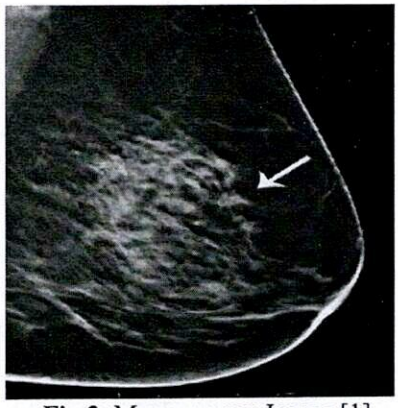


Fig 2. Mammogram Image [1]

In current scenario cancer is one of the deadliest disease as compared to other types of disease. If we enlist they type of cancers, and list as follows "Brain and nervous system cancer, Bladder cancer, Non-Hodgkin lymphoma, Leukaemia, Prostate cancer, Liver and intrahepatic bile duct cancer, Breast cancer, Pancreatic cancer, Colorectal cancer, Lung and bronchus cancer". When you consider different sets of cancer and its death rate statistics as follows.

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DEEP LEARNING TECHNIQUES FOR DIABETIC RETINOPATHY: A SURVEY

[1]Clitus Neil DSouza, [2] Dr. Jose Alex Mathew

[1]Assistant Professor, [2] Professor

[1] Department of Electronics & Communication Engineering, [2]Department of Electrical & Electronics Engineering

[1,2]Srinivas Institute of Technology, Mangaluru, India

Abstract: Diabetes is a common type of constantly recurring illness observed with various people with varying age segments resulting from low insulin generation, resulting in generating high glucose content in the body. If Diabetes is not treated in proper manner, it will lead to several diseases affecting different organs of the body. One such organ which gets affected with diabetes, if not treated properly is the Eye. Diabetes Retinopathy (DR) is one kind of Eye disease which is caused by overtime diabetes. Lots of people around the world suffer from this disease that would result in blindness if not cured on time. Many automated diagnostic systems is observed from literature that makes use of traditional extracted features. With the advent of Deep Learning, more precisely in the field of medical imaging, very specific and excellent results are obtained as the model learns to extract features by itself. Convolutional Neural Networks (CNN's) are prominent methods in deep learning in detection of DR through large datasets. In this paper, various traditional and deep learning based DR detection and classification methodologies are analyzed.

Index Terms **- Convolutional Neural Networks (CNN), NPDR, PDR, Deep Learning, DR.**

I. INTRODUCTION

Diabetes mellitus, also known as Diabetes, is caused by high blood glucose level over the prolonged duration of time. As per the epidemic estimation over 370 million people worldwide will be affected by Diabetes by the end of 2030. People suffering from the above disease has high chances of DR occurrence because of damage occurred to retinal blood vessels due to high insulin level as mentioned above. With systematic screening and medical check-up around 85% of the people can be diagnosed and future trouble can be avoided. The only trouble with DR is it is almost asymptomatic eye disease where it will not show unique symptoms until the end stage is reached. Manual inspection of retinal image features is a tedious task. Hence many automated diagnostics systems have been developed which in turn helps optomologists in examining retinal abnormalities. The structure of the paper is as follows: section 2 gives insight on Diabetic retinopathy and its classifications. Section 3 gives the insight on Deep learning and different pretrained convolutional Neural Networks (CNN) Techniques used, section 4 gives the literature review and section 5 draws the conclusion remarks and inferences.

II. INSIGHT TO DR

DR can be classified into two stages, one proliferative DR (NPDR) and proliferative DR (PDR).NPDR is early stage of DR which also has mild, moderate and severe phases.

The following table shows the different features of DR Classifications

Table 1. DR Classification Features

Stage	Observable findings	Class
I	No abnormalities	No DR
II	Micro-aneurysms only	Mild NPDR
III	Any of the following: - micro-aneurysms - retinal dot and blot haemorrhages - hard exudates	Moderate NPDR
IV	Any of the following: - > 20 intra-retinal hemorrhages in each of 4 quadrants - definite venous beading in 2 or more quadrants	Severe NPDR

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DETECTION OF PLANT DISEASE USING IMAGE SEGMENTATION AND SUPPORT VECTOR MACHINE

[1] Manjunatha Badiger,[2] Dr. Jose Alex Mathew

[1]Assistant Professor, [2]Professor,

[1]Department of Electronics & Communication Engineering, [2]Department of Electrical & Electronics Engineering

[1]Sahyadri College of Engineering and Management, Mangaluru, India, [2]Srinivasa Institute of Technology Mangaluru, India

Abstract: Agriculture is a major source of income for the country. Leaf diseases in agriculture are a major concern for many countries, as food consumption is increasing rapidly owing to population growth. The early and precise detection and diagnosis of leaf diseases are critical to preventing their spread. Image processing techniques including mathematical equations and mathematical transformations can be employed for disease identification. For human eyes, an image is a mixture of RGB colours from which we can extract the features. Modern computers, on the other hand, store images in a mathematical structure, which means the computer views the image as numbers. After evaluating the image as a numerical array or matrix, we may apply various transforms to it to extract specific features. However, before the picture can be transformed, it must first go through different procedures such as transformation. K-Means Clustering and the Support Vector Machine Algorithms are used in MATLAB to identify and classify several forms of leaf diseases.

Index Terms **- Algorithm; Classification; Feature extraction; Plant Leaf Diseases; Segmentation; Training**

I. INTRODUCTION

Agriculture is one of the world's most important sources of revenue. Agriculture employs half of the world's population. Research is being performed to boost agricultural yield and improve crop quality at a lower cost. Plant diseases pose serious concerns to global food security by lowering crop yield worldwide. According to data, plant diseases are responsible for around 20% -40% of all crop losses worldwide, according to data [1]. Plant diseases not only pose a worldwide danger to food security, but they may also have devastating effects on smallholder farmers whose livelihoods rely on healthy crops. Each disease has unique features that necessitate specific treatments. As a result, disease identification is crucial to preventing the spread of plant diseases and reducing agricultural economic losses. Image-based technologies, including mathematical equations and manipulations, are frequently employed for illness identification. It may be utilised to understand visual material in a variety of multidisciplinary activities, such as medical imaging [2, 3], and food computing [4]. For natural eyes, a picture is a blend of RGB colours, but for digital devices like computers and cameras, images are real numbers inside a matrix [5]. Since modern images include digital and numerical features, we may perform some mathematical transformations on them and extract some of their hidden details by modifying their parameters [6].

Based on those retrieved characteristics, we may do more study. A image will be treated as a series of numbers within a matrix, and the magnitude of these numbers will define the colour of that pixel in the real world. We highlight key integers inside that matrix using a few methods and mathematically modify the matrix to extract some information. We cannot, however, discover the nature of the disease by extracting the features; instead, we must make an evaluation of the acquired data, which takes time and requires human intervention. Image processing technology and algorithmic advancements can be utilized in medical research to diagnose various illnesses and their phases. Some disorders may be visually assessed, whereas others require both visual examination and medical tests to be confirmed [7]. Because computers can change the properties of pictures, they can reliably identify particular areas of images as abnormal based on training data, saving time. The main aspect of AI is that, after training, it will learn on its own, providing a dynamic reaction to new data kinds. Furthermore, AI is employed everywhere in today's society, and in the future, all AI-based systems may be merged as one, significantly improving the interface.

II. LITERATURE SURVEY

Plants are employed in a number of industrial applications, including herbs and ayurvedic medicinal ingredients, biofuels, biomass, and so on [8]. India has a long history of utilizing plants as a source of food and medicine. Automatic plant identification and classification will increase automatic enhancement systems with additional functionality, such as automatic labelling and flexible searching, with the use of sophisticated information technology, image processing, and machine learning techniques. Image segmentation and object identification are two components of digital image processing that are rapidly being employed in a variety of applications, including leaf recognition [9].

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

IOT Based Fingerprint Voting System

[1]Mr.Sharathchandra N R,[2]Dr. Jose Alex Mathew,[3]Dr. B C Prem Kumar

[1]Assistant Professor,[2] Professor,[3] Professor

[1]Department of Computer Science and Engineering,

[1]Sahyadri College of Engineering and Management, Mangalore, India

Abstract: To avoid rigging completely. Electronic voting systems have come into picture to prevent rigging up to the maximum extent. But even there may be some malfunctions during elections. Thus, fingerprint based electronic voting system has been designed. According to ancient Greek scripts BIOMETRICS means study of life. Biometrics studies commonly include fingerprint, face, iris, voice, signature, and hand geometry recognition and verification. Many other modalities are in various stages of development and assessment. Among these available biometric traits, Finger Print proves to be one of the best traits providing good mismatch ratio and also reliable. To provide perfect security and to make our work easier, we are taking the help of two different technologies viz. EMBEDDED SYSTEMS and BIOMETRICS.

Firstly, discussing about Biometrics, we are concentrating on Fingerprint scanning. For this, we are using FIM 3030N high voltage module as a scanner. This module has in-built ROM, DSP and RAM. In this, we can store the fingerprints of up to 100 users. This module can operate in 2 modes i.e., Master mode and User mode. We will be using Master mode to register the fingerprints which will be stored in the ROM present on the scanner with a unique id. When a person wants to register himself in the voter list, he has to provide his complete details along with his fingerprint image. Thus, when the same person comes to poll his vote during the elections, he needs to give his fingerprint image before polling his vote. Thus, the system scans his fingerprint image, compares the image with the already stored image. If both the images are matched, the person can eligible to pole his vote.

If the fingerprint was not matched then the buzzer will give us the alert sound and that person can't be eligible to cast his vote. By this way we can avoid the rigging. After the polling was over there is switch named "results" get the final results. All this voting information was sent to the predefined web server by using the Wi-Fi module and we should provide the internet connection to that Wi-Fi module.

Index Terms - Internet of Things, Biometric, Finger print authentication, Embedded system, Voting system

I. INTRODUCTION

Electronic voting reefer's to voting using electronic means to either aid or take care of the chores of casting and counting votes depending on the particular implementation ,e-voting may use standalone electronic machine (also called EVM)or computer to the internet .This concept describe an online electoral system for Indian election is proposed for 1st time there are number of voting system develop all over the world with each of them having it's limitation's this system uses the fingerprint sensor to scan thumb of the voter's in order to provide high performance with high security to the voting counter also as we using internet of thing i.e.(IOT)to make the voting system more practical. This system used to display the data-base of the user (voter). After receiving the Instruction from the polling officer, also the voter can use the touch screen to poll his/her vote.

The internet of things (IOT) is the inter-networking of physical devices, vehicles, building and other items embedded with electronics, software, sensors, actuators and network connectivity which enables these objects to collect and exchange data. The IOT allows objects to sense or controlled remotely across existing network infrastructure, creating opportunities for more direct integration of the physical world into computer-based system, and resulting in improve efficiency, accuracy and economic benefit in addition to reduce human intervention.

In the broadest sense, the IOT encompasses everything connected to the internet, but it is increasingly being use to define objects that "talk" to each other. Simply, the Internet of things is made up of device - from simple sensors to smart phones and wearable's - connected together. For making an IOT infrastructure where we configure the hardware with software and control the devices over the internet this can be with help of raspberry pi and Arduino.The raspberry pi and arduino is platform for developing the internet of things environment. Fingerprint electronic voting system has provided a range of advantages to the voting process. It assists perform voting in much more successful and efficient way, such a minimizing the cost of the ballot's printing and employing more staff. Fingerprint Election system also can make voting tallies faster as well as much more effectively than tired polling staff; they minimize human being mistakes in voting final result as well as minimize the expenses of the election. The significant advantages of electronic election might be reviewing in the following points: much more participation, fast process, lower costs, and precision placing and better access and versatility for the disable. Essential reason fingerprint readers are widely used is, they offer a fast, simple, powerful, and secure access by means of a person with the good access rights can authenticate. The advocate of electronic voting provides that the comfort, flexibility, speed, cost effectiveness, and versatility and these are the main advantages of the electronic voting machine. Considering that this system has every one of these properties, it can be used almost everywhere, by the government authorities, organizations, courts, shopping malls even in the colleges and universities. The matching algorithm going to be designed in this project will support the system with additional advantages. The fingerprint matching algorithm combine both local and global information are used for the purpose of fingerprint feature extraction. The result of the algorithm will be finger code which is short length fixed

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Outdoor Air Filtration System

[1]Dr. Jose Alex Mathew ,[2]Mr.Mahammad Inaz Ali, [3]Mr. Mohammad Safaf , [4]Mr.Shreeshail Pentedar,[5]Mr.Yusuf Mikdad

[1]Professor ,[2]Student,[3]Student,[4]Student,[5]Student

Department of Electrical and Electronics Engineering,

[1]Srinivas Institute of Technology, Valchil, Mangalore, Karnataka,

India

Abstract: **Urbanization and industrialization increased population density in cities and consequently leads to severe indoor and outdoor air pollution. As a result of these trends, the issue of sustainable and healthy indoor and outdoor environment has received increasing attention. Various air filtration techniques have been adopted to optimize indoor and outdoor air quality. Air filtration technique can remove air pollutants and effectively alleviate the deterioration of indoor and outdoor air quality.A comprehensive review on the synergistic effect of different air purification technologies, air filtration theory, materials and standards. It evaluated different air filtration technologies by considering factors such as air quality improvement, filtering performance, energy and economic behavior, thermal comfort and acousticimpact. Current research development of air filtration technologies along with their advantages, limitations and challenges are discussed. Air pollution has become the world's single biggest environmental health risk, linked to around 7 million deaths in 2012 according to a recent World Health Organization (WHO) report. The new data further reveals a stronger link between, indoor and outdoor air pollution exposureand cardiovascular diseases, such as strokes and ischemic heart disease, as well as between air pollution and cancer. This project aims to drive the future of air filtration technology research and development in achieving sustainable and healthy building ventilation**

I. INTRODUCTION

Pollution has rocked the world with skyrocketing pollution levels. Though the long-term solution to the pollution problem lies in finding and minimizing pollution sources, we need to bring the current pollution levels under control by the time. The best way of controlling pollution is by using air purifiers. But regular indoor air purifiers are small low power devices that don't possess enough purifying capability needed for outdoor spaces. Even though indoor air purifiers help. For controlling air pollution, we need reliable, low-cost device to tackle these problems. This Air filtration system can be used to clean the air up to hundred cubic meters of its surroundings. This device can also be used for very large spaces. By using solar energy, it can be used without any external power source. Can be used in very crowded areas and educational institute and so on. This device can help maintain safe environment for people. An air purifier or air cleaner is a device which removes contaminants from the air in a room to improve indoor air quality. These devices are commonly marketed as being beneficial to allergy sufferers and asthmatics, and at reducing or eliminating second-hand tobacco smoke.The commercially graded air purifiers are manufactured as either small stand-alone units or larger units that can be affixed to an air handler unit (AHU) or to an HVAC unit found in the medical, industrial, and commercial industries. Air purifiers may also be used in industry to remove impurities from air before processing. Pressure swing adsorbers or other adsorption techniques are typically used for this. Air filters, and primarily those intended for ventilation of living and working spaces, are classified by efficiency in the CEN/EUROVENT classification, much depends, in their selection, on the degree of protection required and the volume of air to be treat. Actual requirements can range from normal room protection to the supply of sterile air for critical processes and biomedical applications. For positive protection against sub-micrometre particles and small particles of up to 5–10 μm, filters capable of an absolute cut-off are essential. This sets on specific limits.

I.SCOPE OF PROJECT

Past few decades the air pollution is getting worse and people are dying because of that. To solve this problem, we need clean air. So, by making air filtration system for large spaces and outdoor we can reduce the air pollution. This project aims to make air filtration system for large spaces and outdoor. It's the basic solution which can be done. We need to reduce the rate at which the pollution happens but immediately we need to reduce the pollution. By making use of this device, we are planning to control the pollution. It's slightly disgusting to think about, but many of the viruses that make us sick are found in the air we breathe. When someone who is sick sneezes or coughs, they expel infected droplets into the air. Those droplets remain in the air and may be inhaled by others later, causing illness. Diseases ranging from the common cold to COVID are spread via airborne transmission. Whether it's because of pet dander, seasonal pollen, or dust mites, allergies are commonly triggered by the air we breathe. Home air

Received: September 6, 2022. Revised: November 23, 2022.

INASS

International Journal of
Intelligent Engineering & Systems

http://www.inass.org/

Hybrid Statistical and Texture Features with DenseNet 121 for Breast Cancer Classification

Gurusiddayya Hiremath[1]* Jose Alex Mathew[2] Naveen Kumar Boraiah[3]

[1]*Department of Electrical & Electronics Engineering,*
Sahyadri College of Engineering & Management, Mangalore, India
[2]*Department of Electrical & Electronics Engineering, Srinivasa Institute of Technology, Valachill, India*
[3]*Department of Information Science & Engineering,*
Sahyadri College of Engineering & Management, Mangalore, India
* Corresponding author's Email: Gurusiddayya.ec@sahyadri.edu.in

Abstract: Cancers are aggressive which is coupled with higher mortality rates and remain a major life-threatening factor in humans. Thus, early detection of cancer among patients is important as it showed a great survival chance. Therefore, early detection provides the patients with greater survival chances. The diagnosis performed for the mammography images are quite expensive and also radiations produced during the process were harmful to the patients. Thermography is a cost-effective and invasive method compared to mammography images and thus has reached its popularity. The present research is aimed to create the Machine Learning (ML) models using Convolutional Neural Networks (CNN) approaches which were created based on the machine learning models. The present research work utilized the DMR-IR dataset for the results evaluation and performance evaluation of the model which has been verified with datasets. The feature extraction process utilizes a machine learning algorithm to overcome the problems. The developed models were engaged in sophisticated ways to extract the features to improve the classification of the model. The Hybrid statistical and texture feature extraction technique extracts the features better in turn improved the model training. The results showed that the proposed hybrid feature extraction with the Dense Net 121 model obtained better accuracy of 98.97 %, the precision of 99.45%, Recall of 98.35%, F-score of 96.85%, Sensitivity of 99.4%, and Specificity of 97.98 % when compared to the existing Multi-input CNN that obtained accuracy of 93.8%, precision of 94.1%, Recall of 97.7%, F-score of 91.4%, Sensitivity of 88.9%, and specificity of 96.7%.

Keywords: Breast cancer, DenseNet 121 model, DMR-IR dataset, Hybrid statistical and texture feature extraction, Thermography.

1. Introduction

The breast disease study reported by the World Health Organization (WHO) confirms that breast cancer is the most impacted cancer occurred among women [1]. The study investigates the treatments and arrangements that support to enhancement of the cancer patient's survival rate [2]. Thermography is employed to diagnose breast cancer among patients. Thermography is employed for diagnosing breast cancer by using various instruments [3]. With respect to the thermographic techniques, deep neural networks have shown unequivocal potential for detecting the thermal patterns that are heterogeneous and relate to breast cancer cases [4]. The high dimensional thermal features extracted are called deep Thermomics. The studies conducted by various researchers show a comparison with the existing deep learning and neural networks to detect breast cancer [5]. The deep learning models are utilized for recommendations which showed a higher rate of accuracy compared to the neural networks [6]. The thermal imaging throughputs were extracted from the thermal images known as thermionics that are used extensively for delivering diagnostic solutions like radionics to detect early-stage breast cancers [7]. The thermionics techniques are companies with various

International Journal of Case Studies in Business, IT, and Education (IJCSBE), ISSN: 2581-6942, Vol. 6, No. 2, October 2022

SRINIVAS PUBLICATION

Impact of Adopting Machine Learning Methods on Indian Agriculture Industry- A Case Study

Sumangala N. [1], & Shashidhar Kini [2]

[1] Research Scholar, Institute of Computer Science and Information Science, Srinivas University, Mangaluru, India,
OrcidID: 0000-0002-5985-3257; E-mail: n.sumangala@gmail.com

[2] Professor, Srinivas Institute of Technology, Valachil, Mangaluru, India,
OrcidID: 0000-0001-7581-6811; E-mail: skinipa@gmail.com

Area of the Paper: Computer Science.
Type of the Paper: Case Study.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed In: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.7254540
Google Scholar Citation: IJCSBE

How to Cite this Paper:
Sumangala, N., & Kini, S., (2022). Impact of Adopting Machine Learning Methods on Indian Agriculture Industry- A Case Study. *International Journal of Case Studies in Business, IT, and Education (IJCSBE),* 6(2), 446-458. DOI: https://doi.org/10.5281/zenodo.7254540

International Journal of Case Studies in Business, IT and Education (IJCSBE)
A Refereed International Journal of Srinivas University, India.

Crossref DOI: https://doi.org/10.47992/IJCSBE.2581.6942.0208

Paper Submission: 04/07/2022
Paper Publication: 27/10/2022

Digital Business Transformation: A Case Study of Wipro

Sumangala N. [1] & Shashidhar Kini [2]

[1] Research Scholar, Institute of Computer Science and Information Science, Srinivas University, Mangaluru, India,
Orcid-ID: 0000-0002-5985-3257; E-mail: n.sumangala@gmail.com

[2] Professor, Srinivas Institute of Technology, Valachil, Mangaluru, India,
Orcid-ID: 0000-0001-7581-6811; E-mail: skinipa@gmail.com

Area of the Paper: Computer Science.
Type of the Paper: Case Study.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed In: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.7231201
Google Scholar Citation: IJCSBE

How to Cite this Paper:
Sumangala, N., & Kini, S., (2022). Digital Business Transformation: A Case Study of Wipro. *International Journal of Case Studies in Business, IT, and Education (IJCSBE), 6*(2), 422-434. DOI: https://doi.org/10.5281/zenodo.7231201.

International Journal of Case Studies in Business, IT and Education (IJCSBE)
A Refereed International Journal of Srinivas University, India.

Crossref DOI: https://doi.org/10.47992/IJCSBE.2581.6942.0206

Paper Submission: 11/08/2022
Paper Publication: 21/10/2022

A Systematic Review of Machine Learning Applications in Land Use Land Cover Change Detection using Remote Sensing

Sumangala N. [1] & Shashidhar Kini [2]
[1] Research Scholar, Institute of Computer Science and Information Science, Srinivas University, Mangaluru, India,
OrcidID: 0000-0002-5985-3257; E-mail: sumangalan@sjec.ac.in
[2] Professor, Srinivas Institute of Technology, Valachil, Mangaluru, India,
OrcidID: 0000-0001-7581-6811; E-mail: skinipa@gmail.com

Subject Area: Computer Science.
Type of the Paper: Review Paper.
Type of Review: Peer Reviewed as per |C|O|P|E| guidance.
Indexed In: OpenAIRE.
DOI: https://doi.org/10.5281/zenodo.7495146
Google Scholar Citation: IJAEML

How to Cite this Paper:
Sumangala, N., & Kini, S., (2022). A Systematic Review of Machine Learning Applications in Land Use Land Cover Change Detection using Remote Sensing. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *6*(2), 327-350. DOI: https://doi.org/10.5281/zenodo.7495146

International Journal of Applied Engineering and Management Letters (IJAEML)
A Refereed International Journal of Srinivas University, India.

Crossref DOI: https://doi.org/10.47992/IJAEML.2581.7000.0162

Received on: 09/12/2022
Published on: 31/12/2022

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Production Of Ethanol From Jack Fruit (Artocarpus Heterophyllus)

Suryanarayana.K[#]

[#] *Department of Physics*
Srinivas Institute of Technology,
Mangalore, Karnataka, India

Abstract

The over production of jack fruit (Artocarpus heterophyllus) during harvest season and its short self-life have caused serious losses for farmers. The unused jack-fruit and its parts also produce environment pollution in the form of odd smell. Since there is high sugar content in the jack fruit pulp makes it a potential substrate for alcohol production. Basically, the fruit juice should contain at least 14% of sugar to be converted into alcohol. If the sugar content is less than 14 % , some amount sugar must be added to compensate the lack of sugar content. Since the sugar content of jack fruit is in the range of 18% without any extra sugar it is possible to convert it in to alcohol. The present work deals with the formation of ethanol from jack-fruit.

We confirmed the ethanol by few basic tests like odor, ignition test, action of sodium esterification and iodoform test. It is found that about 18% of alcohol present in the ripped jack-fruit flesh. In addition to this we extracted the alcohol from the outer part and the waste part of the jack-fruit using same method. It is found that it also contains about 13% of ethanol. We quantitatively studied the variation of ethanol quantity with the number of days needed for fermentation. The addition of yeast accelerates the fermentation process.

Key words: Esterification, Fermentation, yeast, Iodoform test

I. INTRODUCTION

The **jackfruit** (*Artocarpus heterophyllus)* also known as **jack tree**, **jakfruit**, or sometimes simply **jack** or **jak** is a species of tree in the *Artocarpus* genus of the mulberry family (*Moraceae*). It is native to parts of South and Southeast Asia, and is believed to have originated in the south-western rain forests of India, in present-day Kerala, in Tamil Nadu, coastal Karnataka and Maharashtra. The jackfruit tree is well suited to tropical lowlands, and its fruit is the largest tree-borne fruit reaching as much as 40 kg in weight, 36 inches (90 cm) in length, and 20 inches (50 cm) in diameter.

The overproduction of jackfruit (Artocarpus heterophyllus) during harvest season and its short self-life have caused serious losses for farmers. The waste product also produces environment pollution. Since there is high sugar content of the fruit pulp makes the juice a potential substrate for alcohol production. Some are carried out to find the possible sources of wine making process such as banana [2], pineapple [4], kiwi [5], apple [6], addition of sugar at 16-18% w/v to produce wine with mango [7] and other fruit juices. Basically, the fruit juice should contain at least 14% w/w of sugar to be converted into alcohol. If the sugar content is less than 14 % w/w, some amount sugar must be added to compensate the lack of sugar content. In addition to the inherent characteristics of fruit (pH values, sugar contents and nitrogen contents), other factors must be taken into account during fruit alcohol production. Since the sugar content of jack fruit is in the range of 18% [8] without any extra sugar it is possible to form alcohol from it.

ScienceDirect

Applied Surface Science
Volume 589, 1 July 2022, 152994

Full Length Article

Pt nanoflower-poly(aniline) electrode material with the synchronized concept of energy storage in supercapacitor

V.S. Sumana [a d], Y.N. Sudhakar [b], Anitha Varghese [c], G.K. Nagaraja [d]

Show more

https://doi.org/10.1016/j.apsusc.2022.152994
Get rights and content

Abstract

Electrochemically deposited porous film of poly(aniline) (PANI) on stainless steel (SS) current collector is employed as the support for electrodeposition of platinum (Pt). PANI facilitates the formation of Pt nanoflowers with an enhanced electrochemically active surface area compared with sub-micron size Pt particles deposited on the bare SS electrode. Hence, a new concept Pt nanoflower-PANI electrode materials with synchronization between redox mode in PANI and double-layer mode of charge storage in Pt nanoflower is discussed. Remarkably, Pt is distributed like a nano-flower on the surface of PANI and prevents PANI from stripping during the charge-discharge process, thereby minimizing the issue of stripping in conducting polymer-based electrodes. Owing to the highly porous surface morphology of Pt nanoflowers as observed in SEM, the Pt-PANI/SS electrode shows excellent electrochemical performance than PANI/SS electrode towards supercapacitor application. The electrode materials are characterized using X-ray and X-ray photon spectroscopy (XPS), which shows dual amorphous and crystalline properties. Dielectric studies of Pt-PANI/SS electrodes were carried out to understand electrode/electrolyte interface behavior. In the fabricated supercapacitor, the cyclic voltammetry studies showed quasi-rectangular shape characteristics at slower scan rates with a specific capacitance of 926 Fg^{-1}. Charge-discharge studies showed good cyclic stability and coulombic efficiency.

Graphical abstract

Original Contribution | Published: 21 April 2022

Evaluation of the Wear Behaviour of Thermally Aged E Glass Reinforced Epoxy Composite Filled with Wollastonite Using Taguchi L27 Technique

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam ✉, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 505–512 (2022)

Abstract

In the present study, the E glass reinforced epoxy composite filled with wollastonite was developed. Taguchi's L27 technique was selected for developing and analysing the effects of control factors on the wear behaviour of composites. The control factors considered for the present study was filler (%), time (minute) and temperature (°Celsius). The wear experiments were carried out using pin on disc arrangements for different experimental conditions. After the wear test, the microstructural analysis was carried out on the

Original Contribution | Published: 19 April 2022

Effect of Wollastonite Filler on the Experimental and Microstructural Analysis of Epoxy Composite Reinforced with E-glass Fibre

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 489–496 (2022)

Abstract

In the present study, the polymer composite was produced with epoxy, E-glass and wollastonite as the matrix, reinforcement and filler material, respectively. The present study investigates the effect of the filler material on the mechanical performance of developed composite specimens. The reinforcement material selected was woven and chopped-type fibre material. The filler material composition in the woven and chopped-type specimens was individually varied with 0%, 1%, 3%, 5% and 7%. The specimen was subject to mechanical testing, viz., tensile and flexural

ScienceDirect

Materials Today: Proceedings

Volume 52, Part 3, 2022, Pages 1841-1845

Hybridization effect on water absorption and flexural properties of E-glass/banana fibre/epoxy composites

Raghavendra Pai [a], L. Bangarappa [b], K.S. Lokesh [c], D. Shrinivasa Mayya [c], C.R. Naveen [c], Thomas Pinto [d]

Show more

https://doi.org/10.1016/j.matpr.2021.11.491

Get rights and content

Abstract

Hybrid composites occupying the area of standard materials by satisfying the necessities of various sectors like part industries, automobile industries, ship building and numerous bio-medical sectors. the most reason to substitute standard materials is that the hybrid composites giving same or additional needed properties with less weight and value than standard materials and most output in minimal consumption with higher lifespan to seek out the economical suggests that of utilizing the technology for various applications. Mats were fancied and stratified up with rosin matrix. The laminate is factory-made exploitation hand lay-up technique followed by compression moulding. Critical properties of the fancied material like flexure, enduringness, square measure through an experiment all over and results square measure recorded. The aim of the current analysis work was experimental investigation to judge numerous mechanical properties of hybrid fiber compound composite (E-glass fiber and epoxy, Banana fibres) at totally different weight percentages with epoxy. The properties of E-glass fiber and epoxy, Banana, fibres were found to be sensible large to be used as reinforcement in composite materials. The results of the experiments were per shaped on one hundred kN servo hydraulic universal testing machine (UTM) (50% E-glass, 100% of banana fiber and therefore the four-hundredth of epoxy resin) will study associate optimum results of the composite. In water absorption take a look at C-1(20% E-glass, four-hundredth of banana fiber and therefore the four-hundredth of epoxy resin) will observe the absorption of water. and at last experimental study the water absorption depends on amount of banana fiber.

Introduction

The mechanical properties of a natural fibre primarily based compound composite depends on various factors, as an example, fiber length and quality, matrix, fiber–matrix adhesion bond quality and then forth. The sturdy interface bond between fiber and matrix is preponderant to point out signs of improvement mechanical properties of composites [1]. The impact surface treatment on the chemical properties of

International Journal of Ambient Energy ›
Volume 43, 2022 - Issue 1

Research Article

Performance, emission, and exergy analysis of an IDI dual swirl combustor diesel engine with blended waste Chia seed oil as a biofuel

S. Manjunath & Ramakrishna N. Hegde

Pages 7738-7753 | Received 17 Jan 2022, Accepted 12 May 2022, Published online: 01 Jun 2022

Cite this article https://doi.org/10.1080/01430750.2022.2080266 Check for updates

Abstract

This study aims to investigate the performance characteristics of an IDI engine novel dual swirl chamber and using biodiesel from waste chia seed oil blended with diesel. To the author's best knowledge, this is the first study on waste Chia seed oil as a fuel in IDI engine. The injection pressure and CR of the test engine were increased from their recommended values. Biodiesel blends BC05 to BC25 with diesel in volumetric ratios of 5% to 25% respectively with 5% increments were used for experiment purpose. The results showed that biodiesel blends have lesser BTE (from 2.2% to 5%) and higher BSFC (from 3.5 to 5.2%) compared with diesel due to lower CV. With the increase in injection pressure and CR, the difference in BTE and BSFC got

Published: 13 July 2022

Heat transfer studies on double tube heat exchanger with combined effect of propeller insert and water-based GO and Al_2O_3 nanofluids

H M Shankara Murthy & Ramakrishna N Hegde

Sādhanā **47**, Article number: 143 (2022)

Abstract

The combined effect of water-based GO and Al_2O_3 nanofluids and Propeller Turbulator (PT) insert on enhancement in thermal performance of counter-flow double tube heat exchanger is investigated experimentally. Experiments were carried out with a hot water flowrate of Re = 2500 in the inner tube fitted with a propeller insert (N_P: 6, 8, 10) and variable flow rates ($500 \leq Re \leq 5000$) of water-based GO and Al_2O_3 nanofluid (vol.%: 0.05, 0.1, 0.15) flowing in the annulus. Experimental results show that, Nusselt number increased by 29.43% and TPF by 1.32 times for tube fitted with 10 propellers and 0.15 vol.% of Al_2O_3 nanofluid. In the conducted combinations, the extreme increase was

International Journal of Scientific Research in Computer Science, Engineering and Information Technology

Peer reviewed and Refereed International Scientific Research Journal

(index.php) ISSN : 2456-3307 UGC Journal No : 64718 | Impact Factor = 7.254 (impfactor.php)

Manuscript Number : CSEIT228113

Important Links

Submit Online Manuscript
(https://ijsrcseit.com/eJManager/index.php)
Paper Template
(https://ijsrcseit.com/format/IJSRCSEIT_Paper_Template_A4.docx)
Copyright Form
(https://ijsrcseit.com/format/Copyright_Form.docx)
IJSRCSEIT Xplore
(https://ijsrcseit.com/search_result.php)

Important Dates

Paper Submission: 30-October-2023

(https://ijsrcseit.com/archive.php?v=11&i=53&pyear=2022)

A Review on Recent Techniques For grading the Severity of Diabetic Retinopathy in Retinal Colour Fundus Images

Authors(2) :-Padmanayana, (https://ijsrcseit.com/search_result.php?search=Padmanayana) Dr. Anoop B K (https://ijsrcseit.com/search_result.php?search= Dr. Anoop B K)

(https://ijsrcseit.com/search_result.php?search= Dr. Anoop B K)
(https://ijsrcseit.com/search_result.php?search= Dr. Anoop B K)

(https://ijsrcseit.com/search_result.php?search= Dr. Anoop B K)

Abstract | Authors | Keywords

References | Details

Diabetic retinopathy (DR) is an eye disease, which is caused by the development of retinal microvascularization following diabetes. It is a problem of diabetes mellitus, which produces lesions in the surface of the retina due to which eye vision gets affected. Severe, uncontrolled cases of

ScienceDirect

Materials Today: Proceedings

Volume 58, Part 1, 2022, Pages 212-216

Binary Classification of DR-Diabetic Retinopathy using CNN with Fundus Colour Images

Padmanayana [a], Dr.Anoop B.K [b]

Show more

https://doi.org/10.1016/j.matpr.2022.01.466

Get rights and content

Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop Diabetic Retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect the blood vessels and result in leakage of fluid. Millions of working aged adults suffers from loss of sight due to diabetic retinopathy. DR cannot be treated completely but early detection of DR prevents the person from vision loss. We proposed a deep learning model for detection of Diabetic Retinopathy. Detection of DR is a slow process. Physical detection of DR involves a trained clinician to study and estimate the color fundus photo graphs of the retina. Normal process of identification takes a minimum of two days. In our paper Convolutional Neural Network architecture has been used to classify images into two classes which is no-diabetic retinopathy and with diabetic retinopathy. The performance of the network is compared with different optimizers like Adagrad, RMSPROP with momentum and Adam. APTOS-2019 Blindness Detection dataset has been used from Kaggle which contains high resolution Retinal images. Those images are used to train the model. Web based interface has been created for easy interaction with the model.

Introduction

Diabetic retinopathy is a diabetes problem that affects eyes. It is affected due to the damaged blood vessels to photo sensitive tissues in retina. Some of the symptoms are blurred vision, vision loss, dark or empty area of vision or dark strings floating in one's vision.

Timely detection of diabetic retinopathy precludes the person from vision loss [1]. Manual detection of diabetic retinopathy takes more time and requires a trained clinician for detection. Convolutional Neural

The Seybold Report

ISSN 1533-9211

DOI 10.5281/zenodo.6910993

SEGMENTATION OF NON-TEXT FROM BILINGUAL REAL-TIME OFFICE DOCUMENT IMAGES USING U-NET ARCHITECTURE

SHIVAKUMAR G[1], RAVIKUMAR M[2], SAMPATHKUMAR S[3] and SHIVAPRASAD B J[4]

[1, 2, 3] Department of Computer Science, Kuvempu University, Jnanasahyadri, Shivamogga, India.
Email: [1]g.shivakumarclk@gmail.com , [2]ravi2142@yahoo.co.in, [3]sampath1447@gmail.com

[4]Department of Computer Science and Engineering, Srinivasa Institute of Technology, Mangalore, India.
Email: shivaprasad1607@gmail.com

Abstract

In this work, we have presented an efficient approach for segmentation of non-text document information from real time office document images which are bilingual using a machine learning approach i.e., U-net architecture for experimentation purpose. We have created our own dataset containing 200 document images. Initially pre-processing is applied on the input document images proposed method is compared with other existing methods and obtained accuracy of 99% different performance measure i.e., (Specificity, Sensitivity, Precision, F1-Score) used in the experimentation.

Keywords: Document Images; Pre-Processing; Filtering; Segmentation (U-Net).

1. INTRODUCTION

The concept of document image processing, being the separation of text and non-text from scanned printed bilingual document images is a critical component of facts processing and provides inspiration for image analysis. The reliability of separation in an image-based completely digital identification system is carefully examined, with the exception of the statistics of the images. For maximal real-time record image processing, non-text portions of images must be examined promptly and properly in order to improve pooling and timing accuracy, while at the same time reducing rejection rates and increasing image first rates, by using spatial, frequency, and fuzzy filters to remove undesirable items. Document image processing has recently received the attention of researchers and strategies due to its good sized ability in possible program. A number of data extensions are used to increase the generalization capacity of the network while training it on this dataset. In addition, create a comprehensive own dataset that covers a variety of real-world conditions. A quantitative and qualitative evaluation of the proposed model must be conducted in conjunction with the previous non-learning of the basic method.

The complexity of document images is increasing, and the requested arrangements are changing among various languages, styles, font sizes, and shades, all of which make a significant difference in specific applications [1]. The scanning procedure of the text images mainly used a combination of probabilistic models, Q-tests, and PP methods [2]. Ensure that computational complexity and accuracy are balanced. One of the most crucial jobs in report picture evaluation is segmenting the numerous additives of a report image, such as text, printed

Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization ›
Volume 11, 2023 - Issue 3

Research Article

Segmentation of tumour from mammogram images using U-SegNet: a hybrid approach

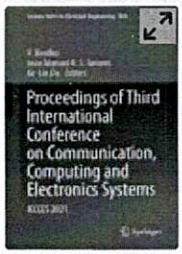
Ravikumar M, **Rachana P G** & Shivaprasad B J

Pages 387-398 | Received 28 Nov 2021, Accepted 28 Apr 2022, Published online: 10 May 2022

Cite this article https://doi.org/10.1080/21681163.2022.2072769 Check for updates

ABSTRACT

Breast cancer is the most common cancer type around the world which majorly affects women. Early detection of breast cancer helps in increasing survival rate. Segmentation helps in easy identification of abnormalities in image and draw conclusion whether the image is normal or not. So, a hybrid approach U-SegNet is proposed, which is fully convolutional neural network. It extends U-Net by integrating SegNet for improved mass detection. The proposed method is evaluated for its accuracy on publicly available Digital Database for Screening Mammography (DDSM) dataset. A comparison analysis is done on the proposed method compared with three other models such as Watershed, Fuzzy c-means and U-Net model; it is found that the proposed method gives good results.



Proceedings of Third International Conference on Communication, Computing and Electronics Systems pp 905–919

Retrospective Review of Activation Functions in Artificial Neural Networks

Manjunatha Badiger & Jose Alex Mathew

Conference paper | First Online: 20 March 2022

Part of the Lecture Notes in Electrical Engineering book series (LNEE,volume 844)

Abstract

Deep learning is a subfield of machine learning and artificial intelligence technique. It employs neural network tasks like image processing, computer vision, voice recognition, machine translation, medical information processing, self-driving vehicles, predictive forecasting, robotics and control, cybersecurity, natural language processing, bioinformatics, and countless others. The

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DEEP LEARNING TECHNIQUES FOR DIABETIC RETINOPATHY: A SURVEY

[1]Clitus Neil DSouza, [2] Dr. Jose Alex Mathew

[1]Assistant Professor, [2] Professor

[1] Department of Electronics & Communication Engineering, [2]Department of Electrical & Electronics Engineering

[1,2]Srinivas Institute of Technology, Mangaluru, India

Abstract: Diabetes is a common type of constantly recurring illness observed with various people with varying age segments resulting from low insulin generation, resulting in generating high glucose content in the body. If Diabetes is not treated in proper manner, it will lead to several diseases affecting different organs of the body. One such organ which gets affected with diabetes, if not treated properly is the Eye. Diabetes Retinopathy (DR) is one kind of Eye disease which is caused by overtime diabetes. Lots of people around the world suffer from this disease that would result in blindness if not cured on time. Many automated diagnostic systems is observed from literature that makes use of traditional extracted features. With the advent of Deep Learning, more precisely in the field of medical imaging, very specific and excellent results are obtained as the model learns to extract features by itself. Convolutional Neural Networks (CNN's) are prominent methods in deep learning in detection of DR through large datasets. In this paper, various traditional and deep learning based DR detection and classification methodologies are analyzed.

Index Terms **- Convolutional Neural Networks (CNN), NPDR, PDR, Deep Learning, DR.**

I. INTRODUCTION

Diabetes mellitus, also known as Diabetes, is caused by high blood glucose level over the prolonged duration of time. As per the epidemic estimation over 370 million people worldwide will be affected by Diabetes by the end of 2030. People suffering from the above disease has high chances of DR occurrence because of damage occurred to retinal blood vessels due to high insulin level as mentioned above. With systematic screening and medical check-up around 85% of the people can be diagnosed and future trouble can be avoided. The only trouble with DR is it is almost asymptomatic eye disease where it will not show unique symptoms until the end stage is reached. Manual inspection of retinal image features is a tedious task. Hence many automated diagnostics systems have been developed which in turn helps optomologists in examining retinal abnormalities. The structure of the paper is as follows: section 2 gives insight on Diabetic retinopathy and its classifications. Section 3 gives the insight on Deep learning and different pretrained convolutional Neural Networks (CNN) Techniques used, section 4 gives the literature review and section 5 draws the conclusion remarks and inferences.

II. INSIGHT TO DR

DR can be classified into two stages, one proliferative DR (NPDR) and proliferative DR (PDR).NPDR is early stage of DR which also has mild, moderate and severe phases.

The following table shows the different features of DR Classifications

Table 1. DR Classification Features

Stage	Observable findings	Class
I	No abnormalities	No DR
II	Micro-aneurysms only	Mild NPDR
III	Any of the following: - micro-aneurysms - retinal dot and blot haemorrhages - hard exudates	Moderate NPDR
IV	Any of the following: - > 20 intra-retinal hemorrhages in each of 4 quadrants - definite venous beading in 2 or more quadrants	Severe NPDR

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

PESTICIDE SPRAYER DRONE WITH BOMB DEFUSING ROBOT

[1]Mr. Prakhyath K R,[2]Mr. Chethan,[3]Mr. Ganapathi Sharma

[1]Student,[2]Student,[3]Assistant Professor

[1]Department of Electrical and Electronics Engineering

[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: Fertilizers and pesticides must be used in agricultural fields to increase crop yields. The biggest disadvantage of manual spraying is that it can cause a variety of health problems in the person spraying the fertilizers, such as respiratory ailments, cardiac diseases, and so on. When your skin is exposed to pesticides, dermal exposure can occur. Irritation or burns may result. We came up with the idea of an autonomous fertilizer/pesticide sprayer using a drone to prevent this risk and spray the fertilizers/pesticides consistently.

This system is designed for activities involving a high danger of human entry, such as some criminal cases, and might be particularly useful in the military for spying purposes. The system engages a robotic arm as well as a robotic vehicle to not only access a high-risk region but also to carry whatever object it desires. The system also contains a night vision camera, which allows viewing of what is captured not only during the day but also at night. The entire system is managed through an Android application. Through an android device application, the system delivers commands to the receiving circuit mounted on the vehicle.

I. LITERATURE REVIEW

The information about the project is described in a literature review. The goal of this literature review is to look at the possibilities for using a Pesticide Sprayer Quadcopter with a Bomb Defusing Robot to investigate the technology's potential uses and to come up with a design and functionality that works. The agricultural industry in India is the most important, accounting for 18 percent of India's GDP and employing 50 percent of the country's human labour. Because of faulty methods of monitoring crops, irrigation patterns, and pesticides necessary to be administered, our country is so reliant on agriculture that it has yet to realise its full potential. Over 35 drone start-ups are now operating in India. Raising the technological bar and lowering the cost of agricultural drones is a win-win situation. This project intends to construct an unmanned aerial vehicle (UAV) to solve this problem, as well as an Octocopter to spray huge volumes of pesticides in a shorter period of time. The Bomb Diffusing Robot is carried by the quadcopter and can be sent to regions where humans are unable to go. The quadcopter can fly to regions beyond human reach and safely land the Bomb Defusing Robot, which then deactivates the device.

II. INTRODUCTION

Agriculture is the backbone of the Indian economy. Agriculture production is influenced by a variety of environmental factors such as temperature, rainfall, and so on. Pests, illnesses, and other significant biological elements also have an impact. Humans can influence these biological variables with the help of pesticides, resulting in increased yield. Pesticide exposure has a variety of effects on human health, including neurological and skin problems. According to a report published by the World Health Organization, three million employees are poisoned by pesticides each year, with 18000 of them dying. This comes with the goal of reducing the negative consequence of chemicals on citizens in general, groups of individuals, and particular personalities, as well as not spraying chemicals over vast area when compared to typical spraying by an automatic aerial pesticide sprayer, a small interval of your time is required. This product is essentially a design and development of a quadcopter frame structure and spraying mechanism in order to reduce the amount of time spent by humans.

Mankind is becoming more reliant on robots, and the reason for this is that robots are capable of doing a variety of tasks with incredible speed, accuracy, and expertise, despite their complexity. Robot technology has progressed to the point where it can evaluate human behaviour patterns and act appropriately to complete tasks even when the operator is not there in the line of sight. Robots use cutting-edge programming languages, and numerous current electronic devices are in use to boost productivity Several actions performed by robotic robots rather than humans are more efficient.

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

IMPLEMENTATION OF AGROVOLTAICS

Mr.Rajanarayana T, [2]Mr.Vinodraj M B, [3]Mr. Harshith k

[1]Student ,[2] Student,,[3]Assistant Professor

Department of Electrical and electronics Engineering

Srinivas Institute of Technology,Valachil,Mangalore,Karnataka-574143

Abstract: The decline of agricultural land and the rapid development of technologies in the latest agricultural programs such as the NFT System, have presented a major challenge for farmers. The NFT system requires special attention to several parameters such as water temperature, water level, acid (pH), and nutrient concentration (PPM). Sadly, it's still controlled by mistreatment the manual manner, for example in controlling the nutrient concentrations has to be done many time in a day, so much time is wasted. To address these issues, we need a system that can be used and easily deployed and that should be affordable. We have built a hydroponic monitoring system and automation that can monitor using sensors connected to a small Arduino mega 2560 controller, Wi-Fi module and advanced features such as a web server with the Internet of Things, Web used as a visual interface system that allows the user to monitor and control Agrovoltaic farming The Agrovoltaic System is fully utilized by Solar power .So the project name is AGROVOLTAICS

Index Terms - Internet of Things; Agrovoltaics; Arduino mega 2560; ;pH sensor;PPM sensor;Temperature sensor

I. INTRODUCTION

Agricultural land area unit already reducing in country and even in the world. This happens because due to conversion of agricultural land into trade and fewer financial gain in agriculture. Currently, agricultural technologies have developed rapidly in urban areas, it is usually known as urban farming or urban farming. Urban farming or urban farming is a powerful response to cope with the decrease in agricultural land, the victimization of urban agriculture of unused or empty land in urban areas, such as roofs, balconies, terraces, even on the walls of buildings. one of the agricultural techniques used in urban agriculture is agrovoltaics. The agrovoltaics is that the system wherever agriculture is finished victimization phtovoltaic cell terribly with efficiency This year some aquaculture farming techniques have become widespread in urban farming practices. the aquaculture crop was planted using water and without using the soil as a means of planting it with stress on the nutrient needs for the plants.

II. OVERVIEW

he aim of all Agrovoltaics programs is to improve control and efficiency in crop production. In all cases, the area where the plants are grown is the limit on their production. In a typical outdoor production system, the plants are weatherproof and soil conditions. Moving crop production from ground-based systems to hydroponic systems is the first step in the process of producing a controlled environment that culminates in growing indoor systems such as those identified by direct indoor farming. Harvesting is also a major cause of change in soil-based growth, due to the need to increase producer efficiency due to increased labor costs and reduced availability and increased opportunities.

Agriculture is considered to be an important part of human life as it is a basic source of food in addition, some of the raw materials needed by man. It plays an important role in the country's economic development and improvement. It also offers great business opportunities to the general public. Development in the agricultural sector is crucial to improving the nation's financial situation. Sadly, many agricultural farmers still use conventional farming techniques that bring in lower yields and natural products. In any case, wherever robots were made and human beings were replaced using programmed tools, the yield had been improved and less diligent labor required. There is therefore a need to make it more realistic and to use modern transformation in the agricultural business sector to increase yields. A large part of the paper refers to the use of remote sensor programming that collects information from different types of sensors and then transmits it to the main server using remote connections. The information collected provides data on various environmental elements that alternately filter the framework. A look at the natural features is not enough and it eliminates the answer to improve crop yields. It requires robotization to take steps to produce a crop. There are a number of different components that influence efficiency at an astonishing rate.

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

ENERGY GENERATION USING FLYWHEEL AND MAGNETS

[1]Chirag G Poojary,[2]Vijetha K Naik,[3]Sajith[4] Karthik B,[5]Prof.Lokesh B

[1]Student ,[2]Student,[3]Student,[4]Student, [5]Hod

[1]Electrical and Electronics Engineering,

[1]Srinivas Institute of Technology, Mangalore, India

*Abstract:*Electricity has evolved as an essential source over the years. This progressive world today, has become so much dependent on electricity, such that it is impossible to live without it. In this case, generation of more and more electricity is much important to meet the needs.

Usually, electricity is produced using nonrenewable sources such as petrol, diesel, coal, etc., which unfortunately creates lot of pollution to our environment. But what is the alternative? Electricity is present everywhere in limitless quantities and can drive the world's equipment without the need of non- renewable sources. Yes. Generation of electricity using flywheel is one among them.

The aim of our project is to generate electric energy using flywheel. The main reason to develop this idea of producing electric energy using a flywheel and magnet is that it is clean and does not cause pollution.

The gravity wheel or flywheel is coupled with magnets and the gear-train in order to produce energy. Flywheel are usually manufactured by casting process with single materials with high strength. Along with flywheel, magnets are used in such a way that it delivers mechanical force for the flywheel to overcome the frictions on the flywheel. This helps the flywheel to rotate longer which in turn increases the time of generation of electric energy. The friction can be further reduced using smooth bearings.

The outcome of this project is that the power is generated and can be stored using flywheel, magnets and generator.

Index Terms **- Flywheel,Generator,Pedal,Magnet.**

I. INTRODUCTION

One of the most important gifts that science has given to humanity is electricity. Furthermore, it has become so integrated into modern life that it is difficult to imagine life without it.There are many uses for electricity in daily life. Electrical energy must be created in order for an object to be able to use it to consume the power needed for its operation. Electricity can be generated in a variety of methods, such as by burning coal, petroleum, or diesel, or by harnessing steam, for example.

These procedures are inconvenient in a variety of ways. The environment is endangered by the burning of non-renewable resources because toxic gases are produced. Hazardous materials are also employed in the production of the batteries that generate electricity. Batteries and high-pressure steam are expensive and difficult to maintain.

Consider offering an alternative to the methods indicated above.

Would it be practical to produce power by converting stored kinetic energy into electrical energy?

Yes. A flywheel attached to a generator stores the mechanical force that is applied as kinetic energy. This way of creating electricity is known as flywheel power generation. The generator, which generates power, rotates with the flywheel.

II. LITERATURESURVEY

The significance of flywheel design criteria in terms of energy storage performance. In [1], the disk-rim style flywheel was suggested for light weight. The flywheel's mass is kept to a minimum, subject to constraints such as sufficient moment of inertia and permissible stresses. Each disc is covered with revolving discs of uniform thickness and density, and the rim is not affected by the junction's suitability. Suitable centrifugal stress frontier conditions are used.

In [2], two-horsepower mains motor drives a gear-train consisting of a succession of belt and pulley drives that create over twice the rpm at the shaft of an alternator. The interesting thing about this system is that it can get more electrical output power from the alternator's output than appears to be drawn from the input motor. The gear-train is linked with the gravity wheel or flywheel to produce extra excess energy or free energy.In [3], the findings of the proposed computer-aided analysis and

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

SMART WATER AGRO-VOLTAIC

A Fully Automated Hydroponic System

[1]Mr. Harshith K, [2]K Rahul Bhat, [3]Prashantha B

[1]Assistant Professor, [2]Final Year Student, [3]Final Year Student
[1]Department of Electrical and Electronics Engineering,
[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: within the word Agro-voltaic, Agro means Agriculture and voltaic means Photovoltaic. Thus the term Agro-voltaic means Agriculture using Photovoltaic (i.e. solar). Here in Agriculture we use Hydroponic method of farming (NFT type). The meaning of Hydroponics is growing of plants in highly rich nutrient solution. The objective of the project is to create a hydroponic controller that monitors and automatically controls the environmental factors required for hydroponic farming. The main function in this type of method is controlling the TDS and pH level at required level for crops for each and every time. The implementation is done by using the Arduino Mega 2560 unit, as it has a higher processing power and more memory, and provides several ports to communicate with screens, sensors, relays and shields. The system acquires data regarding to light intensity, humidity, temperature, conductivity and acidity of the crop mixture and sends them to the Arduino. The Arduino then takes the decision to control all the parameters to be maintained in a specified range. The user via a display unit is able to monitor the above data in real time and manually or automatically can control the operation of the fan, lamp, pump and humidifier. Arduino regulates the composition of solutions containing nutrients to be circulated with a pump by the NFT system in Hydroponics. The circulation of nutrients for the NFT system is automatically and the data of different parameters can be sent to the owner's device using IoT. The main aim of Smart Water Agro-voltaic cultivation is to reduce water usage, growing more crops in less space and improving quality of crops without using chemicals and pesticides, and to save land. This type of cultivation can be in small scale or large scale and indoor or outdoor farming. This paper provides an overview about the cost-effective implementation of automated system for all farmers in India and other countries.

Index Terms – Agro-voltaic, Hydroponics, Agriculture, Farming, Automated, Nutrition, TDS, pH, crops plants, Soil less, NFT- Nutrition Film Technique, Hydroponic Farm.

I. INTRODUCTION

Agro-voltaic is basically growing plants only in water without the use of soil. It is the most efficient way to provide the required food and water to the plants. Plants does not use soil but they use the food and water that are in the soil. The function of soil is only to supply plants nutrients and provide stability to the plant roots. In an hydroponic garden, we provide our plants with complete nutrition and inert growing medium to provide stability to plant roots so they can have easy access to the food and water. The food is mixed or dissolved in water, as it receives directly from the roots. Hence plants grow faster and will be ready for harvesting. By this method, we can grow more plants in same space as we can with soil, and since no soil is used, no worry about soil borne diseases or pests and no weeding is required.

Soil is an essential source of nutrients and minerals for growing plants. Also, it is responsible for facilitating the gaseous exchange between the atmosphere and roots and helps to protect the plants against erosion and facilitates water retention.

Hydroponics is method of growing plants only in nutrient solution without soil and with or without the use of inert medium. Professor William Gericke invented the term hydroponics in the early 1930s to describe the growing of plants without soil.

Agro-voltaic has been shown to be a viable method of growing vegetables (like tomato, cabbage, cucumber, pepper, capsicum, spinach, coriander etc.) as well as ornamental plants like herbs, roses, freesia, and foliage plants. The market for hydroponic grown produce has increased rapidly in recent years as a result of the methyl bromide ban in soil culture. Agri-business Education and Research International also provide necessary information regarding Hydroponics. Plants obtain nutrients from a solution of water & minerals.

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

HAND WRITTEN DIGIT RECOGNITION USING CONVOUTION NEURAL NETWORK

[1]Ms. Punya M.P,[2]Ms. Baby,[3]Prof. Lokesh B

[1]Student,[2]Student,[3]Head of the Department

[1]Department of Electrical and Electronics Engineering

[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: Digit recognition is a suitable model issue for learning about the Neural Networks, and it will pave the way for sophisticated Deep Learning techniques.Manymethods are found in literature to recognize and classify the digits which are written by hand (handwritten digits).Thispaperexplainshowtorecognizeandclassifyhandwrittendigitsusing CNNandMATLABforenhancedperformance. A deep convolutional neural network (CNN) is a type of neural network that is used to recognise images. This method determines how important the deep layer improvements are for processingthe image byusing MATLAB, we provide the implementationof necessary for constructing and applying Convolution Neural Network to a high-quality data set known as MNIST which is a collection of more than 60,000 handwritten digits dataset for training purpose and 10,000 digitsdatasetfortesting purpose.Whentestedthedevelopedmodelforclassification, we got 99.60% accuracy and prove to be betterthanotherclassifier. Many hidden convolution layers and more hidden artificial neurons could improve the accuracy of the outcome.

Index Terms - Convolution, Padding, Stride, Softmax, Maxpooling, ReLU.

I. INTRODUCTION

Handwritten digit classification problem is standard data set which is used in vision of computer and deep learning. In this study, we show how to use MATLAB to create a convolutional neural network for handwritten digit categorization. MNIST is a dataset of 10,000 small28×28pixel images which is of grayscaleimagesofhandwrittensingledigitsbetween 0 and 9. To begin, we'll split the dataset into training and validation datasets, with each category in the training set including 750 photos and the remaining images from each classification in the validation dataset.Thedevelopedmodelcontainsthreeconvolutionlayersforfeaturesextractionand1fully connected layer for classification. Each convolution layer is followed by a max-pool layer and the ReLu activation function.RelU introduces non-linearity and the max-pooling reduces featuremapsize.ActivationfunctionSoftmaxisusedintheclassification layer. Model gives 99.60% accuracy during thevalidation process.When tested with new images, it accuratelyclassifiesthenewtestdata tocorresponding classes.

II. THEORY

A.MachineLearning

Artificial intelligence (AI), machine learning (ML), and deep learning (DL) are all different types of AI. They are, nonetheless, linked in the following way.: "Deep Learning is a kind of Machine Learning,andMachineLearningisakindofArtificialIntelligence". Machine Learning is a method of constructing a model using training data. Dependingonthetrainingmethod, machine constructing a model usingtrainingdata. Dependingonthetrainingmethod, The input data will be classified by a machine, which will determine which group it belongs to.Regression willpredict thevaluesandtakesthe value for the correct output in training data. Machine Learning's success will be determined by how well the generalisation process is implemented. We will require a significant amount of unbiased training dataset to prevent performance degradation due to the difference between the training dataset and the real input dataset.

B. ArtificialNeural Network

An artificial neural network is a node-based network that mimics the neurons in the human brain. The weighted sum of the input signals and output signals, as well as the outcome of the activation function with the weighted sum, will be calculated by the nodes. The layer of nodes is used to build the majority of neural networks. The signal enters the layered neural network from the input layer, passes through the hidden layer, and emerges out the output layer. In the case of the neural network, supervised learning will be used to change the weights and narrow the gap between the proper desired output and the neural network's output. The method which is used to adjustthe weight according to the training data is called as learningrule.The delta rule is the learningrule of the neural network. The delta rule is an iterative process that leads to a solution over time. As a result, the neural network should be trained multiple times with the training dataset until the error is as low as possible. There are two types two types of neural network. The single layer neural

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

E-Mob Suncruiser

[1]Mr. Swasthik N.S,[2]Mr. Charan Alva M,[3]Mr. Harshith K

[1]Student,[2]Student,[3]Assistant Professor

[1]Department of Electrical and Electronics Engineering

[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: Transportation-related greenhouse gas emissions are one of the most serious environmental concerns, and they are increasing at an alarming rate. As a result, solar energy for transportation may be able to alleviate this issue. The goal of the proposed effort is to offer a technology that promotes green energy; for example, assume a situation in which we might utilize solar energy to charge an electric vehicle, with solar panels built-in, but the next question is if this is practical during the rainy season. During the rainy season, charging internal solar panels is problematic. The SPEV system includes a charging wire that connects to both the car and a 230v wall outlet. A security system, drive guiding system, route detection, and other features are included into the electric car. Support for Android apps, Wi-Fi, Battery Update, and LoRa. Our research findings are thoroughly examined. Hence The use of a solar-powered electric vehicle (SPEV) results in fewer pollution. The majority of automobiles are powered by gasoline. Hazardous gases are emitted by these vehicles. This contributes to global environmental contamination. In recent years, academics have proposed the use of hybrid vehicles to minimize pollution. Many countries have chosen to reduce pollution by employing electric vehicles as one of their answers (EV). EVs have been rising in popularity in recent years. The electric vehicle's battery is a critical component. The efficient utilization of battery is a critical parameter for electric vehicles. The efficiency of electric vehicles can be improved by using renewable energy sources such as solar energy could be increased In electric vehicles, the energy management system (EMS) is crucial. Because the number of subsystems and components in electric vehicles is growing, enhancing EV efficiency through the use of EMS is desirable. Various EMS systems are explored in this research, and an energy model for effective battery use to increase EV performance is proposed.

Index Terms **- SPEV; Solar powered Electric Vehicle EV; Electric Vehicle EMS; Energy Management System**

I. LITERATURE REVIEW

When This paper, we discussed about the usage of solar energy to power up the vehicle. In order to achieve the required voltage, the Photo Voltaic (PV) Module may be connected either in parallel or series, but its costlier. Hence, to make it cost effective, power converters and batteries are being used. The electrical charge is combined from the PV panel and directed to the output terminals to produce low voltage (Direct Current). The charge controllers direct this power acquired from the solar panel to the batteries. According to the state of the battery, the charging is done, so as to avoid overcharging and deep discharge. The voltage from the solar panels is increased up to a certain level that matches the level of the load by a converter viz. MPPT or charge controller, which results in driving our load for example, charging the battery or running the motor. According to the application with respect to load, the components such as the solar panels, charge controller, battery, motor, motor controller are determined. The abovementioned components are so selected that their features are well-suited for application. When UV rays strikes the PV cells in the solar panel, there occurs a chemical reaction between the layers of solar panel (p-n junction) which results into generation of electricity. Mostly, solar panels are made of Silicon as their parent compound which gives the overall efficiency around 15-20%. [1] The future electric vehicles had the main role in transportation. Existing fuel based internal combustion an engine has been replaced by EV. More research analysis and implementation had taken place in automobile industries by means of electrical energy sources due to exhaust of oil resources [1]. In the other way EV have more efficiency, less noise and no pollution. This paper provides the information about the system of EV and need for that in the environment. Many of the car manufacturers and heavy vehicle factories were focusing on the electric based locomotive.

II. INTRODUCTION

The goal of the literature review in the subject of electric vehicles was to gain a basic understanding of prior conversations and views about the technology, including if it has been successful and, if not, what the constraints were. SEFPHV stands for Solar/Electric/Fuel Powered Hybrid Vehicle, and it is a solution that addresses the key issues of fuel and pollution. The term "hybrid vehicle" refers to a vehicle that is powered by a combination of different sources. Solar power, electric power, and a small amount of

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

FARMLAND SURVEILLANCE ANDPROTECTION WITH SMART IRRIGATION SYSTEM

[1]Mr. Vijayaraj A N,[2]Mr. Chethan, Mr.Harikrishnan K,[4]Saswath K,[5]Mr.Bheema Shastry

[1]Student,[2]Student,[3]Student,[4]Student,[5]Assistant Professor

[1]Department of Electrical and Electronics Engineering

[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: India is the agriculture-based country. Our ancient people completely depended on the agricultural harvesting. Agriculture is a source of livelihood of majority Indians and has great impact on the economy of the country. In dry areas or in case of inadequate rainfall, irrigation becomes difficult. So, it needs to be automated for proper yield and handled remotely for farmer safety. Increasing energy costs and decreasing water supplies point out the need for better water management. Irrigation management is a complex decision-making process to determine when and how much water to apply to a growing crop to meet specific management objectives. If the farmer is far from the agricultural land he will not be noticed of current conditions. So, efficient water management plays an important role in the irrigated agricultural cropping systems. A low-cost alternative solution for efficient water management currently in use is drip irrigation systems that consist of an automated controller to turn on & off the control values, which in turn helps the farmers by managing the water supply to the crop fields and further maintains the moisture levels of soil that helps in better crop production. This project probes into the design of the automated irrigation system based on Arduino. This Embedded project is to design and develop a low-cost feature which is based on embedded platform for water irrigation system. This project uses temperature and soil moisture sensors to detect the water quantity present in agriculture. The project uses Arduino micro controller which is controller to process the information. The aim of the implementation was to demonstrate that the automatic irrigation can be used to reduce water use

Index Terms **– GSM: Global system of mobile**

I. LITERATURE REVIEW

The intention of the literature survey in the field of farm land surveillance and protection with smart irrigation system was to get a brief knowledge about the previous discussions and ideas regarding the technology and whether it has been successful and if not, what were the limitations. Maanak Gupta , Mahmoud Abdelsalman , Sajad Khorsandroo,And Sudip Mittal et al: The proliferation of smart devices with communication and sensing capabilities have unleashed plethora of user services, and at the same time made tasks more convenient and effi- cient for humans. However, wide adoption of such internet connected devices and data driven applications across various domains have raised security and privacy issues, making these systems vulnerable to cyber-attacks. This paper dis- cusses such cybersecurity challenges in smart farming and elaborates open research questions. The paper first outlines a multi-layer smart farming architecture illustrating different entities pertinent to real time use-cases supported by edge and cloud environments. Based on the architecture, the paper outlines security and privacy issues and highlights different attacks scenarios in smart farms as well as scenarios affecting the entire food supply chain. Thereafter, this article sur- veys the state-of-the-art research and acknowledges impor- tant works related to cybersecurity in the domain. Finally, the paper illustrates several open challenges and research problems pertinent to security and privacy aspects in preci- sion agriculture. We envision this paper will simulate research to solve platitude of security and data privacy issues in fast growing and economically important smart farming sector. [1] Dr. J. Jegathesh Amalraj, S. Banumathi, J. Jereena John et al: worked on the paper called A Study On Smart Irrigation Systems For Agriculture Using Iot which reviewsNowadays innovations can be consolidated to let down the cost and maximize utilization of resources. Currently, farmers control irrigation method manually and irrigate their area at a systematic period. These mechanisms diminish high amount of water and the conclusion is water loss. While dry areas have less rainfall and irrigation is challenging. The smart agricultural system guarantees higher productivity with efficient use of water. Smart irrigation can be automated with the help of current technologies presented above and its main advantages are increase in productivity, reduce water consumption and reduce soil erosion.[2] A.Anitha,Nithya Sampath,M.Asha Jerlin et al: The sand and the water level are the critical parameter for the development of smart irrigation system. Generally, the soil moisture is affected by a sundry parameters such as air temperature, soil temperature, air humidity, ultra violet rays, and much more. This paper proposed an IoT based smart irrigation system utilizing sensors to record the data and store it in the cloud storage. The future work can be prediction of soil moisture using the recorded data and it may provide cost effective. The auto mode makes it a smart system and it can be further customized for application categorical scenarios.[3] Vikas Bavane, Arti Raut, Swapnil Sonune,Prof.

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

On-Road Charging Electric Vehicle

[1]Mr. K. P. Srivatsa,[2]Mr. Vilas.H,[3]Mr. Harshith K
[1]Student,[2]Student,[3]Assistant Professor
[1]Department of Electrical and Electronics Engineering
[1]Srinivas Institute of Technology, Valachil, Mangaluru, Karnataka, India

Abstract: Transportation-related greenhouse gas emissions are one of the most serious environmental concerns, and they are increasing at an alarming rate. As a result, solar energy for transportation may be able to alleviate this issue. The goal of the proposed effort is to offer a technology that promotes green energy; for example, assume a situation in which we might utilize solar energy to charge an electric vehicle, with solar panels built-in, but the next question is if this is practical during the rainy season. During the rainy season, charging internal solar panels is problematic. The SPEV system includes a charging wire that connects to both the car and a 230v wall outlet. A security system, drive guiding system, route detection, and other features are included into the electric car. Support for Android apps, Wi-Fi, Battery Update, and LoRa. Our research findings are thoroughly examined. Hence The use of a solar-powered electric vehicle (SPEV) results in fewer pollution. The majority of automobiles are powered by gasoline. Hazardous gases are emitted by these vehicles. This contributes to global environmental contamination. In recent years, academics have proposed the use of hybrid vehicles to minimize pollution. Many countries have chosen to reduce pollution by employing electric vehicles as one of their answers (EV). EVs have been rising in popularity in recent years. The electric vehicle's battery is a critical component. The efficient utilization of battery is a critical parameter for electric vehicles. The efficiency of electric vehicles can be improved by using renewable energy sources such as solar energy could be increased In electric vehicles, the energy management system (EMS) is crucial. Because the number of subsystems and components in electric vehicles is growing, enhancing EV efficiency through the use of EMS is desirable. Various EMS systems are explored in this research, and an energy model for effective battery use to increase EV performance is proposed.

Index Terms - SPEV; Solar powered Electric Vehicle EV; Electric Vehicle EMS; Energy Management System

I. LITERATURE REVIEW

When This paper, we discussed about the usage of solar energy to power up the vehicle. In order to achieve the required voltage, the Photo Voltaic (PV) Module may be connected either in parallel or series, but its costlier. Hence, to make it cost effective, power converters and batteries are being used. The electrical charge is combined from the PV panel and directed to the output terminals to produce low voltage (Direct Current). The charge controllers direct this power acquired from the solar panel to the batteries. According to the state of the battery, the charging is done, so as to avoid overcharging and deep discharge. The voltage from the solar panels is increased up to a certain level that matches the level of the load by a converter viz. MPPT or charge controller, which results in driving our load for example, charging the battery or running the motor. According to the application with respect to load, the components such as the solar panels, charge controller, battery, motor, motor controller are determined. The abovementioned components are so selected that their features are well-suited for application. When UV rays strikes the PV cells in the solar panel, there occurs a chemical reaction between the layers of solar panel (p-n junction) which results into generation of electricity. Mostly, solar panels are made of Silicon as their parent compound which gives the overall efficiency around 15-20%. [1] The future electric vehicles had the main role in transportation. Existing fuel based internal combustion an engine has been replaced by EV. More research analysis and implementation had taken place in automobile industries by means of electrical energy sources due to exhaust of oil resources [1]. In the other way EV have more efficiency, less noise and no pollution. This paper provides the information about the system of EV and need for that in the environment. Many of the car manufacturers and heavy vehicle factories were focusing on the electric based locomotive.

II. INTRODUCTION

The goal of the literature review in the subject of electric vehicles was to gain a basic understanding of prior conversations and views about the technology, including if it has been successful and, if not, what the constraints were. SEFPHV stands for Solar/Electric/Fuel Powered Hybrid Vehicle, and it is a solution that addresses the key issues of fuel and pollution. The term "hybrid vehicle" refers to a vehicle that is powered by a combination of different sources. Solar power, electric power, and a small amount of fuel will be used to power the cars [3]. The BLDC (Brushless DC) motor in the vehicle is powered by rechargeable batteries. The hybrid vehicles are powered by both solar and internal combustion engines. Solar power, plug-in electric power supply, and IC are used in the SEFPHV system. engine. The benefit of a hybrid car is that it reduces pollutants, greenhouse gas emissions, and CO2 emissions. This approach uses a very small amount of gasoline. They talked about how hybrid vehicles have three modes of functioning. Two solar panels are employed in mode 1. Each solar panel generates 230 watts of solar energy. Two-stroke IC engine in mode 2. Connect the energy source in mode 3. (with step down transformer and diode rectifier). BLDC motors and PMDC (Permanent Magnet DC) generators are the two most used systems. Hybrid powered vehicle technology solves a number of environmental issues with this strategy. The ever-increasing demand for automobiles has compelled with hybrid EV, conversion

IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
Volume 2, Issue 1, February 2022
IJARSCT
Impact Factor: 6.252

Automatic Navigation System for Ship

Sathisha K G[1], Nithin Joshuva[2], Sunil Prakash Rodrigues[3], Nelson Paul[4]
Assistant Professor, Department of Marine Engineering[1,2,3]
Student, Department of Marine Engineering[4]
Srinivas Institute of Technology, Mangaluru, Karnataka, India

Abstract: *Navigation is the science of steering a ship's movements safely and effectively from one place to another place. Researchers have shown that around 80 to 85% of all recorded maritime accidents are directly due to human error or associated with human errors. The need for auto navigation is very essential to avoid obstacles and accidents especially prototype automatic navigation system which would guide ship in its path autonomously on water and avoid obstacles in its path with no intervention of a human. This project deals with development of an obstacle detection system using IR sensors and a microcontroller unit to guarantee collision avoidance, which is a key task of automatic navigation system. Electronic navigation with GPS is very common practice nowadays, so this projects also includes the use of GPS to find the accurate position of ship on inshore water because more obstacle such as islands and other ships.*

Keywords: GPS, Navigation System, Transmitter, Receiver, IR Sensor.

I. INTRODUCTION

The navigation is a process of directing the movement of ship from one point to another the safe navigation includes the prediction of future location, route finding and collision avoidance. The task of autonomous route finding and collision avoidance are performed by the simulation program itself with no or minimum intervention of human navigator [1]. To avoid the collision a ship is equipped with radar signal receiver to analyze and receive the radar signal from other vessel within a specified range. Many accidents may result from human errors and from increase traffic densities [3]. So that they developed and algorithm for the ships to automatically avoid collision [2]. Which would detect the obstacle and give the alarm? There are some other device called ARPA systems which will gives the other information when the other ships are nearby [6] but still requires an operator to watch the situation and make the decision and control the ship. The autonomous navigation of the ship consists of various sensors to detect the navigating path and environment also ship properties to determine the safe travel [7]. The successful implementation of the autonomy of would occurs with intelligent decision at various operation condition so that we developed a prototype of auto navigation system which consists of sensors would guide the ship in its path automatically with no human intervention to avoid collision and reaches to the destination.

II. METHODOLOGY

2.1 Block Diagram of Auto Navigation System

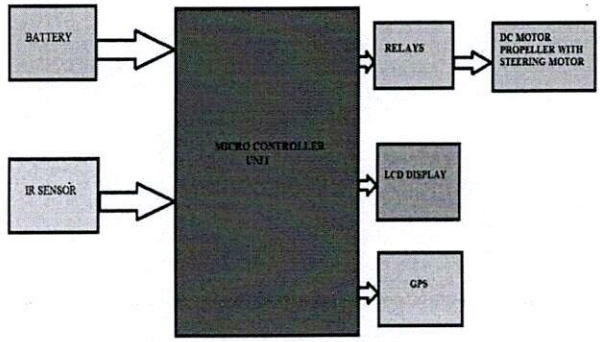


Figure 2.1: Block Diagram of Automatic Navigation System

DOI: 10.48175/IJARSCT-2559

International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 06 Issue: 03 | March - 2022 ISSN: 2582-3930

Solar Powered Desalination System for Life Boat

Sunil Prakash Rodrigues[1], Nithin Joshuva[2], Sathisha KG[3] , Chandra Jogi[4], Dinesh M[5]

[1]Assistant professor, Dept. of Marine Engineering, Srinivas Institute of Technology, Mangaluru, India
[2]Assistant professor, Dept. of Marine Engineering, Srinivas Institute of Technology, Mangaluru, India
[3]Assistant professor, Dept. of Marine Engineering, Srinivas Institute of Technology, Mangaluru, India
[4]Associate professor, Dept. of Marine Engineering, Srinivas Institute of Technology, Mangaluru, India
[5]Student, Marine Engineering, Srinivas Institute of Technology, Mangaluru, India

---

Abstract - A solar powered desalination system is developed for Life boats that can purify water from nearly any source, a system that is relatively cheap, portable, and depends only on renewable solar energy. The motivation for this project is the limited availability of clean water in Life boat. As per the SOLAS, 1.5L of water is reserved/person for 3 days, which is not sufficient. The project goal is to efficiently produce clean water from solar energy conversion inside Life boat and to add the water kept inside the life boat. Distillation requires an energy input as heat, electricity and solar radiation can be the source of energy. When solar energy is used for this purpose, it is known as solar water desalination. Solar distillation is an attractive process to produce portable water using free of cost solar energy. This energy is used directly for evaporating water inside a device usually termed as 'solar still'. The use of solar thermal energy in seawater desalination application is implemented in the Life boats where there is specific regulation on drinking water. This desalination system provides fresh water in efficient way by using only solar energy.

Keywords -Desalination, Solar still, Life boat, SOLAS.

1. INTRODUCTION

Water is a basic necessity of man along with food and air. Fresh water resources usually available are rivers, lakes and underground water reservoirs. About 71% of the planet is covered in water, yet of all of that 96.5% of the planet's water is found in oceans, only 2.5% of the Earth's water is freshwater. Less than 1% of all freshwater is in rivers, lakes and the atmosphere. Desalination is one of many processes available for water purification, and sunlight is one of several forms of heat energy that can be used to power that process. To dispel a common belief, it is not necessary to boil water to distill it, simply elevating its temperature, short of boiling, will adequately increase the evaporation rate. In fact, although vigorous boiling hastens the distillation process it also can force unwanted residue into the distillate, defeating purification. Solar Distillation is by far most reliable, least costly method of 99.9% true purification of most types of contaminated water and also sea water. Especially in developing nations where water is scarce or too expensive, solar distillation is used to produce drinking water or to produce pure water for lead acid batteries, laboratories, hospitals and in producing commercial products such as rose water. Conventional boiling distillation consumes three kilowatts of energy for every gallon of water, while solar distillation uses only the free pure power of the sun. Expensive filtration and de-ionizing systems are even more expensive to purchase and use and will not totally purify the water by removing all contaminants.

As per the SOLAS (Safety of life at Sea) the life boat should have desalinator which is operated by manually or mechanically and water is kept in life boat is about 1.5litres per person for three days, which is not sufficient. So to add water to that small sized solar still is fabricated which can produce fresh water of about 420ml within seven hours of time i.e., from 10am to 5pm, such that it can be retrofit to the life boat. The fabricated solar still model is working with only solar energy. The system contains square pyramid glass, copper pan of surface area 0.09m2, heating coil, vacuum pump, condenser, battery, solar panel, seawater and fresh tanks, submersible water pump and other pipes and valves.

II.EXPERIMENTAL SETUP

Solar stills are called stills because they distill, or purify water. A solar still operates on the same principle as rainwater: evaporation and condensation. The water from the oceans evaporates, only to cool, condense, and return to earth as rain. When the water evaporates, it removes only pure water and leaves all contaminants behind. Solar stills mimic this natural process. The solar still as shown Fig.1 consists of a top cover made of glass

ScienceDirect

Materials Today: Proceedings

Volume 58, Part 1, 2022, Pages 212-216

Binary Classification of DR-Diabetic Retinopathy using CNN with Fundus Colour Images

Padmanayana [a], Dr.Anoop B.K [b]

Show more

https://doi.org/10.1016/j.matpr.2022.01.466

Get rights and content

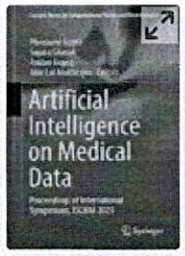
Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop Diabetic Retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect the blood vessels and result in leakage of fluid. Millions of working aged adults suffers from loss of sight due to diabetic retinopathy. DR cannot be treated completely but early detection of DR prevents the person from vision loss. We proposed a deep learning model for detection of Diabetic Retinopathy. Detection of DR is a slow process. Physical detection of DR involves a trained clinician to study and estimate the color fundus photo graphs of the retina. Normal process of identification takes a minimum of two days. In our paper Convolutional Neural Network architecture has been used to classify images into two classes which is no-diabetic retinopathy and with diabetic retinopathy. The performance of the network is compared with different optimizers like Adagrad, RMSPROP with momentum and Adam. APTOS-2019 Blindness Detection dataset has been used from Kaggle which contains high resolution Retinal images. Those images are used to train the model. Web based interface has been created for easy interaction with the model.

Introduction

Diabetic retinopathy is a diabetes problem that affects eyes. It is affected due to the damaged blood vessels to photo sensitive tissues in retina. Some of the symptoms are blurred vision, vision loss, dark or empty area of vision or dark strings floating in one's vision.

Timely detection of diabetic retinopathy precludes the person from vision loss [1]. Manual detection of diabetic retinopathy takes more time and requires a trained clinician for detection. Convolutional Neural



Artificial Intelligence on Medical Data pp 389–396

A Deep Learning Technique for Bi-Fold Grading of an Eye Disorder DR-Diabetic Retinopathy

Padmanayana & B K Anoop

Conference paper | First Online: 24 July 2022

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB,volume 37)

Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop diabetic retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect

IJSRCSEIT International Journal of Scientific Research in Computer Science, Engineering and Information Technology
ISSN : 2456-3307 (www.ijsrcseit.com)
doi : https://doi.org/10.32628/CSEIT2283124

Smart Baby Cradle Monitoring System

Anushree U R, Mamatha Salian, Bhavana K V
Computer Science and Engineering, Srinivas Institute of Technology, Valachil, Mangalore, India

Article Info
Publication Issue :
Volume 8, Issue 4
July-August-2022

Page Number : 82-84

Article History
Accepted: 05 July 2022
Published: 14 July 2022

ABSTRACT

Working mothers now make up a significant portion of the population. Baby care has consequently turned into a daily struggle for many families. As a result, most parents leave their infants at baby care facilities or at the homes of their grandparents. An effective and affordable IoT-based system for real-time monitoring is presented as a solution to this problem as a baby monitoring system. The infant cradle in the system architecture uses a motor to swing automatically whenever the baby screams. Through the Blynk app, parents can also remotely check on the health of their infants. The proposed system is created and put to the test to demonstrate its affordability and usability. The suggested method assures secure operation to make network-based baby-parenting possible from any location at any time. A baby monitoring system for a smart cradle is included in the proposed system and was created using the Arduino IDE toolbox and NodeMCU as the microcontroller.

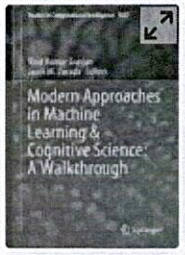
Keywords : Cradle, NodeMCU ESP8266, Blynk Application, IFTTT Application.

I. INTRODUCTION

Currently, parents are too preoccupied with their professional lives to have enough time to care for their infants. The cost of hiring a nanny can be prohibitive for the family. Today's lady must juggle her home and job obligations concurrently. They had to look after the house and the kid after a long day at work. They might not have enough time to manually swing the cradle and comfort the infant. Furthermore, given the way that people live today, it is quite challenging for even housewives to sit next to their babies and comfort them whenever they scream. Neonatal and maternity units are found in hospitals. When a baby in these units cries, the nurses must tend to them and comfort them. The system is intended to assist parents and nurses in providing for infants. The design seeks to achieve the following:

- When a baby cries, the cradle swings automatically until the baby stops.
- When the mattress gets wet, an alarm is set off, and an IFTTT message is sent to the parent to let them know.
- If a baby cries for an extended period of time, signalling that the baby requires attention, an alert sounds.

The circuit is attached to the cradle in the suggested system. The Arduino IDE, NodeMCU, and sensors are used to implement the circuit. The system is integrated using embedded C programming. The



Modern Approaches in Machine Learning & Cognitive Science: A Walkthrough pp 283–294

Signature Extraction from Bilingual Document Images Using Blobs Method

G. Shivakumar ✉, M. Ravikumar, B. J. Shivaprasad & D. S. Guru

Chapter | First Online: 21 April 2022

Part of the Studies in Computational Intelligence book series (SCI,volume 1027)

Abstract

In this paper, we present an effective method for signature extraction from bilingual (Kannada and English) printed/handwritten documents using the contour and blobs-based method. Experimentation is carried out on our own dataset containing 150 real-time documents. The performance of the proposed method is evaluated using the

International Conference on Advanced Informatics for Computing Research

ICAICR 2021: **Advanced Informatics for Computing Research** pp 30–42

Segmentation of Tumor Region from Mammogram Images Using Deep Learning Approach

M. Ravikumar, P. G. Rachana & B. J. Shivaprasad

Conference paper | First Online: 25 June 2022

Part of the Communications in Computer and Information Science book series (CCIS,volume 1575)

Abstract

Breast cancer is most common among different cancers that affect women and it is the second main cause for cancer deaths in women all over world. In order to increase the survival rate breast cancer must be detected and treated the earliest. Enhancement of mammograms is much needed in order to improve contrast of images which further helps in better segmentation. In this paper, method for segmentation using U-NET after enhancing the

Extraction of Logo from Real Time Document Images Using Masking and Median Filter Approaches

Publisher: IEEE

Shivakumar G ; Ravikumar M ; Shivaprasad B J ; Guru D. S. **All Authors**

Abstract: In this paper, we propose an efficient method for extracting the logo from real-time document images. A logo represent key perspectives and thoughts in a specific item, m... **View more**

▸ Metadata

Abstract:
In this paper, we propose an efficient method for extracting the logo from real-time document images. A logo represent key perspectives and thoughts in a specific item, making it the most important choice for brands with a lot to say. These logos can include line-drawn symbols, shapes, patterns, or illustrations that use non-literal illustrations to communicate brand awareness. Frequently combined with a logotype. The proposed method extract the logo based on median filter and masking techniques. Experimentation is conducted with two stages namely logo extraction with enhancement and logo extraction without enhancement. Experimentation is carried out on our own data set containing 500 document images and have obtained 90% accuracy for logo extraction with enhancement and 86% for without enhancement.

Published in: 2022 3rd International Conference for Emerging Technology (INCET)

Date of Conference: 27-29 May 2022

Date Added to IEEE *Xplore*: 15 July 2022

▸ ISBN Information:

INSPEC Accession Number: 21865618

DOI: 10.1109/INCET54531.2022.9824514

Publisher: IEEE

Conference Location: Belgaum, India

International Journal of Scientific Research in Computer Science, Engineering and Information Technology
ISSN : 2456-3307 (www.ijsrcseit.com)
doi : https://doi.org/10.32628/CSEIT228113

A Review on Recent Techniques For grading the Severity of Diabetic Retinopathy in Retinal Colour Fundus Images

Padmanayana*[1], Dr. Anoop B K[2]
*[1]CSE Department, Srinivas University College of Engineering and Technology, Mangalore, Karnataka,India
[2]AIML Department, Srinivas Institute of Technology, Mangalore, Karnataka, India

Article Info
Volume 8, Issue 1
Page Number : 82-87

Publication Issue :
January-February-2022

Article History
Accepted : 15 Jan 2022
Published : 23 Jan 2022

ABSTRACT

Diabetic retinopathy (DR) is an eye disease, which is caused by the development of retinal microvascularization following diabetes. It is a problem of diabetes mellitus, which produces lesions in the surface of the retina due to which eye vision gets affected. Severe, uncontrolled cases of diabetic retinopathy will result in blindness. Since DR cannot be reversed, it can lead to blindness, and only early treatment maintains vision. Early diagnosis and treatment of DR can significantly reduce The risk of losing the vision. Fundus images are manually examined for morphological changes in retinal lesions such as micro aneurysms, exudates, blood vessels, hemorrhages. They are a tedious and time-consuming job. It is often easily accomplished with the help of a computer-assisted system. The identification and classification of the severity of diabetic retinopathy requires adequate segmentation of the retinal lesions. In this article, various techniques for detecting retinal lesions are discussed for the final detection and classification of nonproliferative diabetic retinopathy. Blood vessel detection techniques for diagnosing proliferative diabetic retinopathy are also discussed. In addition, the available datasets for the fundus colored retina were also examined. This work will be useful for researchers and technicians who wish to use ongoing research in this area. Several challenging topics are also discussed that require further investigation.

Keywords : Diabetic Retinopathy, exudates, hemorrhages, micro aneurysms, Blood vessels.

I. INTRODUCTION

In the field of health, treatment is most effective for diseases that are detected in their early stages. Diabetes is a disease caused by a lack of insulin which increases the amount of glucose in the blood. Worldwide, more than 450 million adults are affected by diabetes. Diabetes affects the retina, heart, nerves and kidneys [1].

Diabetic retinopathy (DR) is a disease caused by the uncontrolled blood sugar level resulting from diabetes that causes blood vessels in the retina to swell and fluid and blood to lose. DR in its advanced stage can cause vision loss. Worldwide, DR causes 2.6% of

ScienceDirect

Materials Today: Proceedings

Volume 58, Part 1, 2022, Pages 212-216

Binary Classification of DR-Diabetic Retinopathy using CNN with Fundus Colour Images

Padmanayana [a], Dr.Anoop B.K [b]

Show more

https://doi.org/10.1016/j.matpr.2022.01.466

Get rights and content

Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop Diabetic Retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect the blood vessels and result in leakage of fluid. Millions of working aged adults suffers from loss of sight due to diabetic retinopathy. DR cannot be treated completely but early detection of DR prevents the person from vision loss. We proposed a deep learning model for detection of Diabetic Retinopathy. Detection of DR is a slow process. Physical detection of DR involves a trained clinician to study and estimate the color fundus photo graphs of the retina. Normal process of identification takes a minimum of two days. In our paper Convolutional Neural Network architecture has been used to classify images into two classes which is no-diabetic retinopathy and with diabetic retinopathy. The performance of the network is compared with different optimizers like Adagrad, RMSPROP with momentum and Adam. APTOS-2019 Blindness Detection dataset has been used from Kaggle which contains high resolution Retinal images. Those images are used to train the model. Web based interface has been created for easy interaction with the model.

Introduction

Diabetic retinopathy is a diabetes problem that affects eyes. It is affected due to the damaged blood vessels to photo sensitive tissues in retina. Some of the symptoms are blurred vision, vision loss, dark or empty area of vision or dark strings floating in one's vision.

Timely detection of diabetic retinopathy precludes the person from vision loss [1]. Manual detection of diabetic retinopathy takes more time and requires a trained clinician for detection. Convolutional Neural

A ES

ISSN: 2096-3246
Volume 54, Issue 02, October, 2022

CONVOLUTIONAL DENSE NET FOR DIABETIC RETINOPATHY LESION SEGMENTATION AND AUTOMATED GRADE CLASSIFICATION UTILIZING ENSEMBLE OF CLASSIFIERS.

Padmanayana[1], Dr.Anoop B K[2]

[1,] Research scholar, Dept. of Computer Science and Engineering, Srinivas University Institute of Engineering and Technology, Mangalore, India,574146

[2] Associate Professor Dept. of AI & ML, Srinivas Institute of Technology, Valachil, Mangalore, India 574143

Corresponding author Padmanayana(padmanayana10@sitmng.ac.in)

ABSTRACT

Diabetes is a chronic disorder, characterized by low insulin production and high blood sugar levels in people of all ages. Diabetes, if left untreated, may lead to a variety of ailments throughout the body parts. Diabetic Retinopathy (DR) is a symptomless eye disease caused due to diabetes, where vessels present in retina of the eye are destroyed and wall of the vessel becomes weak. It is very important to catch the signs of Diabetic Retinopathy before it becomes too serious. Prolonged Diabetic Retinopathy will lead to blindness if left untreated and after that it cannot be reversed.So it is verymuch crucial to detect the diabetic retinopathy in the initial stage. Many of the present automatic diagnostic approaches make use of the decesion from the clinical practitioner. So, an efficient Deep learning and Machine Learning based method to classify the grades of diabetic retinopathy by segmenting different retinal lesions is proposed in this work because Deep Learning (DL) does automated feature extraction and it produces more accurate and potentially useful findings, especially in medical imaging. The methodology used in this paper provides both multilesion segmentation and disease severity diagnosis using an ensemble framework which is fully automated and computationally efficient and hence this method can be potentially included in CAD(computer-aided diagnosis) tools used for clinical practice.

Keywords: Diabetic Retinopathy, Segmentation,Grading ,Convolutional neural networks, Deep Learning,Machine Learning.

INTRODUCTION

The biomedical imaging is a field that has been playing a big role in research fields. The main focus of this field is the processing of interior images of the body for medical analysis. Hence, this filed is considered as the backbone of researches which are based on the diagnosis. Eye is one of the sensory organs of our body and it plays a vital role in survival and evolution of our species. Thus, its health is of utmost importance. There are several diseases that can affect the eye and can cause temporary or even permanent blindness of the eye. One of the most common among them are caused due to diabetes which begins as a result of high sugar levels (glucose does not reach cells and remains in blood). As diabetes increases so does the risk of any type of eye disease. And the fact that these

A Survey on DR detection by Segmenting Blood Vessels and Lesions from Fundus Colour Images with Deep Learning Techniques

Padmanayana, Dr.Anoop B K

Keywords: Deep Learning, Blood Vessel Extraction, Segmentation, Neural Nets, Fundus Images, Classification.

Abstract

Visual sense is one of the most important senses among others for us humans. There are several numbers of diseases that could damage our eye permanently. One of the most common causes is due to diabetes. The condition is called Diabetic Retinopathy. It is caused because of damaging that occurs to the blood vessels of the light sensitive tissues at the back of retina. This disease can be identified from the fundus color images of the eye called retinal fundus images. These tasks although are challenging as it is symptomless. Many algorithms were deployed and analysed to check the abnormalities in the images. The ones that are going to be discussed in this paper are cluster-based methods, data mining techniques, binary filters, screening techniques and convolutional neural networks (CNN). The largest population of diabetic patients and unavailability of experienced ophthalmologists have produced the demand for computer-aided automatic DR diagnostic systems. The classification of DR is very difficult for ophthalmologists, especially in the presence of different small features. Increasing DR cases have adverse impact on ophthalmologists and require an efficient and accurate method for fundus image evaluation.

Published
2022-12-30

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

DESIGN OF 32-BIT ADDER USING CARRY LOOK AHEAD ADDER

Lahari G R, Lakshminayana, Nidhishree, Nireeksha, Soorya Krishna K

Electronics and Communication Engineering, Srinivas Institute of Technology, Valachil, Mangalore

Abstract: **Adders are an essentially universal component of today's integrated circuits. The constantly developing computing industry demands not just faster arithmetic units, but also smaller and less power consumption arithmetic circuits. The adder must be quick and also efficient in chip area to meet its requirements. In order to construct an adder of 32-bit using eight 4-bit adder for our project, we used the Carry look ahead adder. It is also known as fast adders because it consumes less time over other adders by propagating carry before the sum output is obtained, resulting in brilliant performance. We designed the schematic and layout of CLA using LT spice simulation programmed in Electric binary using 45nm technology.**

Index Terms **- Adder, CMOS, Electric, CLA.**

I. INTRODUCTION

Addition is the basic building block for numerous processing operations in electronics, including Arithmetic Logic Units, addresser, multiplier, and so on. The addition of a given number of bits to a digital circuit is a common operation used to reduce the complexity of the circuit and its operation. A onebit full adder design is created and simulated for transient simulation. The carry look ahead adder is a combination of ripple carry adder and carry look ahead logic unit. The carry look ahead adder (CLA) is analogous to the carry-skip adder in that it assesses both Carry generate and carry propagate signals to see if the first group creates a carry instead of waiting for a ripple from the previous adder.

In [1], the addition of a given number of bits is basic operation to reduce the difficulty of the circuits. All the types of 4-bit adders are compared that have been designed, simulated and verified using the Xilinx synthesis tool.

In [2], the adiabatic logic behind 16-bit adder using carry look ahead adder is explained. Also, it reduces the power consumption during the propagation and computation.

In [3], a 1-bit full adder cell is proposed which is less power consuming and high performance. For the simultaneous creation of XOR and XNOR functions, the Gate Diffusion Input (GDI) technique was applied.

In [4], explains that these the large family of addition structures as it shares minimum logical depth. It is possible to obtain accurate results both in area and low power/cost than other cases, as its transitional structure shows the tradeoffs amongst the amount of internal wiring and the fanout of intermediate nodes.

If the implementation was using ripple carry adder, it faces the propagation delay problem. In some technique there is more difficulties in the circuits as well as in the operation. So, we have implemented Carry look ahead adder to overcome from these problems which is having less propagation delay.

II. CARRY LOOK AHEAD ADDER

A. 4- bit Carry look ahead adder

Carry lookahead adders depends on two terms, Carry Propagate and Carry Generate, which are denoted by C_p and C_g. The propagate bit is passed on to the next stage, and the generate bit is utilized to generate the carry out bit, which is distinct to the input carry bit. The 4-bit carry look ahead adder architecture is shown Fig1:

IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

IoT BASED HEALTH MONITORING SYSTEM

Anagha haridas, Chaithra, K Shreyas kannan, Pallavi, Clitus Neil D'souza

Electronics and Communication Engineering,
Srinivas Institute of Technology, Valachil, Mangalore

Abstract: **In any pandemic situation it is very important to quarantine or to keep the patients under isolation, but during same time doctors are need to check health conditions of patients too. The major problems are, doctors are needed to check patient's physical condition regularly, and the doctors will have risk to get the information from monitoring process.In order to solve this issue we are required to design a remote IOT based health monitoring system which can be used to remotely monitoring of many patients through the internet. The system checks patient's heartbeat, temperature, oxygen proportion and blood pressure by sensors.This system used to send the data over the internet using Wi-Fi broadcast by connecting to Wi-Fi internet connection. In order to display the data remotely on thing speak platform data transmission and reception done over internet.Through nodeMCU based circuit whole system will be running, in that process if any irregularity happens in patients health, a buzzer can be used as alarm. The designed system will be kept near to the patient and sensors will be in contact with patients body and remotely data used to send. Hence for do tors it is possible to check many number of patientspatient when necessary.**

***Index Terms*–IoT,NodeMCU,Sensors.**

I. INTRODUCTION

Health is a prominent worry as humanity progresses through each era. The recent corona infection outbreak in China, which has wreaked havoc on the country's economic situation, which is an example of how the health care has become increasingly important. In areas where the disease has widespread, it's usually a wise idea to screen patients condition using remote health and fitness tracking technology. As a result, a health tracking gadget based on the Internet of Things (IOT) is the current option. Remote Person Monitoring connection promotes clients to report outside of traditional medical arrangements (ex, at house), which gives information to human survilence offices at reduced costs. The goal of installing monitoring gadgets is to save medical costs by reducing visiting hospitals, clinic, and analytic seeking out device usage. Every human bodies employs temperature also the pulse recognition to assess our health. The sensor devices are linked to a Microcontroller that is interfaced to an Liquid Crystal Dispaly , as well as having the ability to exchange informations. If it detects any unpredicted changes in human heart beat or body heat, the sensors informs the customer about the patient's health condition via IoT and also displays dispersed aspects of pulse and temperature of the customer at a time on the internet. In the same way, IoT establishes sufficient wellbeing in accordance with shape, using the internet to exhibit quiet human health aspects and extending period. The Internet of Things (IoT) was considered as a revolutionary idea that was implemented in a technical world by using energy-efficient technology.

II. LITERATURE SURVEY

[1] *OlutosinTaiwoa,, Absalsom E. Ezugwib, "Smart healthcare support for remote patient monitoring during covid-19 quarantine", Information in Medicine Unlocked, quantity.20, 2020,pp.100438.* In the paper we used ,a well developeded health monitoring system designed by author. The system facilitates doctors to monitor patients health conditions (Temperature, Heart rate, ECG). If particular patients health parameters falls down than the particular level, SMS is sent to the doctors smart phone using standard GSM module. They used Zigbee for wireless networking.

[2] *Mirzu Mansor Baig, Hamid Gholamhosseine "Smart health monitoring systems: an overview of design and modeling", j Med Syst, volume. 37, 2013, pp.9898.* Author has presented "Smart health monitoring systems an overview of design and modeling". Here they considers IOT as a worldwide network communications, that links physical and virtual things. This paper wish to show how radio frequencies are detected and IOT technologies allow patients to admit to health care services.

[3] *Prasantha G., Tzonelih H., "BSN-care: a secure IoT-based modern healthcare system using body sensor network", IEEE Sensor journal volume. 16(5),2016, pp.1368–1376.* In this paper it is a movable physiological monitoring system that is able to continuously monitoring the patients health rate using ECG. Signals produced during the muscle tightening is

Journal of Alternate Energy Sources and Technologies

Open Access Subscription or Fee Access

H2O and Sunlight as an Alternative to Petroleum Fuels; Pros and Cons

Prasad P., Shrinivasa Mayya D., Savitha M. B.

Abstract

The increased requirements of energy and the increased rate of pollution have forced us to find an alternative to petroleum fuels. The tremendous research on nonmaterials has opened new opportunities for the utilization of renewable energy. Semiconductor nanotechnologies are contributing towards their applications in hydrogen fuel production by splitting water by using solar energy. This review report gives the introduction to water-splitting, electrolysis of water, photosynthesis, photocatalytic water-splitting, photoelectrochemical water-splitting, factors influencing photocatalytic activity, and tandem cells with their advantages and limitations. The review concludes with the possible devices for the effective production of hydrogen fuel, and a system with a combined artificial photosynthesis water-splitting system with a hydrogen fuel cell as an alternative to petroleum fuels.

Full Text:

PDF

References

Manish S, Ranu G, Akhilesh A, et al. Assessment of different alternative fuels for internal combustion engine: A review. International Journal of Engineering Research & Management Technology, 2015, 2(3), 103-9p.

Jaichandar S, Annamalai K. The status of biodiesel as an alternative fuel for diesel engine–an overview. Journal of Sustainable Energy & Environment, 2013, 2(2), 71-5p.

Negurescu N, Pana C, Popa M. G, et al. Performance comparison between hydrogen and gasoline fuelled SI engine. Thermal Science, 2011, 15(4), 1155-64p.

Hauch A, Ebbesen D, Jensen H, et al. Highly efficient high temperature electrolysis. Journal of Materials Chemistry, 2008, 18 (20), 2331-40p.

Takaya O, Mizutomo T, Yuya K. Analysis of Trends and Emerging Technologies in Water Electrolysis Research Based on a Computational Method: A Comparison with Fuel Cell Research. Sustainability, 2018, 10(478), 1-24p.

Wang M, Wang Z, Gong X, et al. The intensification technologies to water electrolysis for hydrogen production - A review. Renew. Sustain. Energy Rev., 2014, 29, 573–88p.

Weber F, Dignam J. Splitting water with semiconducting photoelectrodes—Efficiency considerations. Int. J. Hydrogen Energy, 1986, 11, 225-32p,

Melis A, Neidhardt J, Benemann R. Dunaliella salina (Chlorophyta) with small chlorophyll antenna sizes exhibit higher photosynthetic productivities and photon use efficiencies than normally pigmented cells. J. appl. Phycol., 1999, 10, 515-52p.

Stress Management leading to Job Performance of Female faculties in Technical institution at Dakshina Kannada District, Karnataka

Dr.Veena Santhosh Rai
Associate Professor
Department of Management Studies
Srinivas Institute of Technology, Valachil , Mangalore ,India ,Email:veenasanthoshrai@sitmng.ac.in

Abstract- The Faculties in technical educational institution face lots of stress as they have multiple role to perform along with lots of responsibilities. An attempt is done by the researcher through this paper to see the stress management and its impact on job performance of female faculties in technical educational institution in Dakshina Knnada District. The main Objective of the research was to measure the stress and analyse the impact of stress management on Job performance of female faculties in technical educational institution .As It is very imperative for the female faculty members to have their stress in control and perform well in the technical education. Because there are host of factors that influence the stress among the female faculty members and thereby causing their job performance and satisfaction The researcher has used Judgmental sampling by choosing the respondents from technical educational institution. Sample size of 716 was chosen for the study .

Keywords: Stress Management, Job Performance, Measures

I.INTRODUCTION

Based on an extensive literature survey, it was deciphered that there are issues, which are left unaddressed in Technical Education in terms of analysing the stress among the female faculty members and its impact on their job performance and job satisfaction. However, in Indian context, only very limited studies have been conducted covering the analysis of stress and its impact on job performance. The existing literature has paved the way to understand and analyze the effect of stress level among the female faculty members teaching in select technical institutions and its impact on their job performance and job satisfaction.

Effect of Job Stress on Employee Performance– With Particular Reference to Technical Institutions in Karnataka

Dr. Veena Santhosh Rai[1]*, Dr Surekha Invalli[2]

Abstract

Throughout our modern lives, we face a great deal of stress. A drastic change has taken place in work in the last few years, which is changing every day. It has affected all professions, and people didn't realize it unless it affected their physical or mental health greatly. Working conditions that lead to mental and physical trauma have reduced the performance of the working class, which in turn has adversely impacted organizational productivity. A study of work condition stress and job performance is conducted in this paper to determine how stress can affect job performance and how stress can be managed to improve job performance. For the study, a non-probability sampling method was used and a total of 615 respondents were selected.

Keywords: Work condition, Work-related stress, Stress management, Job performance

DOI Number: 10.4704/nq.2022.20.14. NQ880135 **Neuroquantology 2022; 20(14):968-972**

I. INTRODUCTION

Work Stress is a common thing in the present lifestyle. There is a drastic change in work over the last few years. It has touched almost all professions. Consequently, Stress at work has caused physical and mental health problems for the working class. Stress at work has reduced the performance of this community; indirectly affecting the productivity of the organization. This paper attempts to evaluate the impact of managing work-related stress on job performance and the coping strategies for managing stress.

Due to the increased level of competition, the teaching profession has undergone drastic transformations and it has become a stressful profession, resulting in faculty members having to perform multiple roles and responsibilities.

The phenomenon of stress is highly individualist in nature. Recent researchers pointed out that individual responses to stress differ according to the stressor and different environmental and personal factors (Cox, Griffiths and RialGonzalez 2000). Some people manage stress and perform very well in any kind of situation affecting the environment or personnel. Conversely, some individuals are incapable of performing at their best unless they are exposed to a level of stress that activates and energizes them to achieve their highest potential (Sekaran, 2004).

Many authors have analyzed the studies related to job stress and their performance in detail. This helps in identifying the relationship between job stress among employees and their performance level. Theoretically, job stress and employee performance are negatively correlated

II.THEORITICAL BACKGROUND

2.1 Stress

Stress is one of the many reasons faculties are leaving their jobs; unfortunately, many engineering colleges cannot find sufficient replacements and currently face several faculty shortages. When a qualified educator is absent from the classroom, student achievement is negatively affected (Woods and Montagno, 1997).

***Corresponding Author:** Dr. Veena Santhosh Rai
Address: [1]*Associate Professor Department of Management Studies Srinivas Institute of Technology, Valachil, Mangalore ,India. Email: veenasanthoshrai@sitmng.ac.in
[2]Professor Department of Management Studies Graphic Era Deemed University Dehradun Email : Surekha.invalli@geu.ac.in
Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

A COMPARATIVE ANALYSIS OF DIGITAL TRANSFORMATION OF E COMMERCE ON TECHNOPHOBIC AND TECH SAVVY COMMUNITY

A COMPARATIVE ANALYSIS OF DIGITAL TRANSFORMATION OF E COMMERCE ON TECHNOPHOBIC AND TECH SAVVY COMMUNITY

Dr. Veena Santhosh Rai Associate Professor, Department of MBA, Srinivas Institute of Technology,
VTU, India
email-ID: veenasanthoshrai@sitmng.ac.in, Contact No:9620013293.

ABSTRACT

There is a tremendous growth of E Commerce business growth in India .Increasing internet users have added to its growth. It provides multiple edges to the consumer's variety of accessibility of goods or services at lower value. Knowledge of e commerce and its usage helps for faster buying process. A full-fledged usages of E commerce's help faster response to buyer/marketdemands. It has to be considered that, this keeps time starved customers satisfied and persistently adapt to their strategies according to their lifestyle and technological transformation. To facilitate best usage of the same people should be adoptable for the changes and overcome thedifficulties faced by them to use E-commerce, therefore an attempt is made in this paper to analyze the impact of digital transformation in E commerce on technophobic and tech savvy community and find out the perceived risk faced by the customers to use E commerce and give the suggestion for smart use of the technological changes for betterment of their lifestyle for a better tomorrow.

Key Word: Comparative Analysis, Consumer variety, E- Commerce, Life style Transformation, Techno Phobic, Tec savvy.

IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 24, Issue 12. Ser. V (December. 2022), PP 01-05
www.iosrjournals.org

"Social Media Impact on Online Impulse Buying – A social Commerce Perspective"

Rashmi[1], Dr. ShrinivasaMayya D[2], Dr. Ajoy S Joseph[3]
[1,2,3]*MBA Department, Srinivas Institute of Technology, Mangaluru, Karnataka, India.*

Abstract:
Background: *The internet era has brought tremendous changes in the lives of people. Without any generation gap, people are accepting the internet to ease their lives. One such notable change we see in today's life is a change in buying behavior by shifting towards online buying. The Internet is loaded with information and knowledge, and also enables ease of transactions and social networking via social media. People are connecting with the world through social media they exchange status, and content and share opinions and views, hence there are various external stimuli due to which the buyer may end up in impulse buying. This paper aims at studying the impact of social media usage on online impulse buying especially focusing on the social commerce context.*
Materials and Methods: *The study was conducted by studying extensive literature on impulse buying behavior. With the intention of finding the impact of social media on impulse buying the previous study analyzed and presented diagrammatically the impacting factors as found in previous research.*
Results: *The works of literature under study provided the result stating that social media has a high impact on the consumer's purchase behavior and led to impulse buying. The research finding shows that the impact is due to various determinants such as the attractiveness of the website, personalized ads, likes, and comments, the social media community, personalized recommendations, perceived values, etc. The results were leveraged to derive online impulse buying behavior and the effect of social media in the social commerce context. The literature result must provide the direction for further studies.*
Keyword:*Online Buying Behaviour, Online Impulse buying, Social - commerce, Social media, Social media marketing, Social media community.*

Date of Submission: 08-12-2022 Date of Acceptance: 22-12-2022

I. Introduction

The study with renewed interest presents an overall review of the understanding the impulse buying behavior with reference to social commerce. The increasing popularity of social commercein recent years, gave an immense opportunity to the researchers to study social commerce impact on buying behaviour. An increased number of researchers are keen on studying thecustomers' impulsive buying behaviour,especially in the social-commerce context[11]. In recent years, due to increased impulse buying behaviour, many companies are looking forward to studying the psychological factors which are influencing impulse buying behaviour[7]. Thanks to social media, businesses today are opportunistic because they canclosely watchtheir customer's behaviourby enormously employing social media. Social media usage has raged to such a high level that a great number of businesses are increasingly engaging with their customers viasocial media[27]. When compared with traditional communication media, socialmedia enablesbusinessesto communicateand engage withbothexistingandpotentialcustomerseffectively, thereby enabling the businessesto fit their marketing strategies usingsocial commerce. Social media has created new interaction opportunities for the business and the prospects[23]. The research on online impulse buying behaviour in the social commerce context is still in its infancy and this poses a great challenge for the researcher in developing new theories on social commerce behaviour [44].

II. Materials and Methods:

This paper has systematically studied the literature on the impact of social media usage on online impulse buying decisions in the social commerce context. This is done so because systematic literature reviews usually entail "integrating several different works on the same topic, summarising the common elements, contrasting the differences, and extending the work in some fashion[35] and to derive some meaning based on inferences drawn upon.

Social Media: Social media usage is mainly to maintain relationships and to maintain interpersonal connectivity for the reason of giving social support, friendship, and intimacy[20]. Social media has significantly impacted the

Computer Systems Science & Engineering
DOI: 10.32604/csse.2023.028117
Article

Tricube Weighted Linear Regression and Interquartile for Cloud Infrastructural Resource Optimization

Neema George[1,*], B. K. Anoop[1] and Vinodh P. Vijayan[2]

[1]Srinivas University, Mangalore, India
[2]Mangalam College of Engineering, Kottayam, India
*Corresponding Author: Neema George. Email: neemageo165@gmail.com
Received: 03 February 2022; Accepted: 08 June 2022

Abstract: Cloud infrastructural resource optimization is the process of precisely selecting the allocating the correct resources either to a workload or application. When workload execution, accuracy, and cost are accurately stabilized in opposition to the best possible framework in real-time, efficiency is attained. In addition, every workload or application required for the framework is characteristic and these essentials change over time. But, the existing method was failed to ensure the high Quality of Service (QoS). In order to address this issue, a Tricube Weighted Linear Regression-based Inter Quartile (TWLR-IQ) for Cloud Infrastructural Resource Optimization is introduced. A Tricube Weighted Linear Regression is presented in the proposed method to estimate the resources (i.e., CPU, RAM, and network bandwidth utilization) based on the usage history in each cloud server. Then, Inter Quartile Range is applied to efficiently predict the overload hosts for ensuring a smooth migration. Experimental results show that our proposed method is better than the approach in Cloudsim under various performance metrics. .The results clearly showed that the proposed method can reduce the energy consumption and provide a high level of commitment with ensuring the minimum number of Virtual Machine (VM) Migrations as compared to the state-of-the-art methods.

Keywords: Cloud infrastructure; tricube; weighted linear regression; inter quartile; CPU; RAM; network bandwidth utilization

1 Introduction

In cloud computing, resource allocation takes part in a pivotal part in deciding the performance, utilization of resources, and data center power consumption. The pertinent VM allocation in cloud data centers is also one of the main optimization issues as far as cloud computing is concerned. A load-balancing algorithm called, Priority Aware Longest Job First (PA-KJF) was proposed in [1] to enhance the VM utilization and fulfill users' requirements in cloud infrastructure. Here, the priority of tasks was first identified. VIP tasks were first executed followed by which the normal tasks were executed. Next, the heuristic-based dynamic load-balancing algorithm was employed that monitored VMs in a continuous

"Social Media Impact on Online Impulse Buying – An Instagram Perspective"

Rashmi
Research Scholar
MBA Department
Srinivas Institute of Technology, Valachil, Mangalore, Karnataka, India.
Dr. Shrinivasa Mayya D
Research Supervisor
Srinivas Institute od Technology, Valachil, Mangalore, Karnataka, India.
Dr. Ajoy S Joseph
Research Co- Supervisor
MBA Department, Srinivas Institute of Technology, Mangaluru, Karnataka, India.

Abstract:

Background: The internet era has brought tremendous changes in the lives of people. Without any generation gap, people are accepting the internet to ease their lives. One such notable change we see in today's life is a change in buying behavior by shifting toward online buying. The Internet is loaded with information andknowledge which enables ease of transactions and social networking via social media. People are connecting with the world through social media they exchange status, and content and share opinions and views, hence there are various external stimuli due to which the buyer may end up impulse buying. The Instagram is taking its space for all the online content creator as well as marketer.This paper aims at studying the impact of social media usage especially Instagram on online impulse buying.

Materials and Methods: The information used in the study was gathered through a survey, and online questionnaires. The total of 449 female Instagram browser who also had purchaseexperience in the Instagram site/ apps.

Results: The works of literature under study provided the result stating that social media(Instagram/facebook) has a high impact on the consumer's purchase behaviour and led to impulse buying. The research finding shows that the trust, Instagram browsing behaviour, Instagram browsing intensity, impulse buying tendency has postitve influence on the instagram impulse buying.

ScienceDirect

Materials Today: Proceedings

Volume 58, Part 1, 2022, Pages 212-216

Binary Classification of DR-Diabetic Retinopathy using CNN with Fundus Colour Images

Padmanayana [a], Dr.Anoop B.K [b]

Show more

https://doi.org/10.1016/j.matpr.2022.01.466

Get rights and content

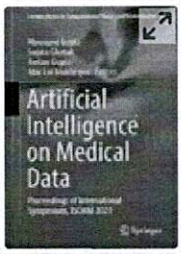
Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop Diabetic Retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect the blood vessels and result in leakage of fluid. Millions of working aged adults suffers from loss of sight due to diabetic retinopathy. DR cannot be treated completely but early detection of DR prevents the person from vision loss. We proposed a deep learning model for detection of Diabetic Retinopathy. Detection of DR is a slow process. Physical detection of DR involves a trained clinician to study and estimate the color fundus photo graphs of the retina. Normal process of identification takes a minimum of two days. In our paper Convolutional Neural Network architecture has been used to classify images into two classes which is no-diabetic retinopathy and with diabetic retinopathy. The performance of the network is compared with different optimizers like Adagrad, RMSPROP with momentum and Adam. APTOS-2019 Blindness Detection dataset has been used from Kaggle which contains high resolution Retinal images. Those images are used to train the model. Web based interface has been created for easy interaction with the model.

Introduction

Diabetic retinopathy is a diabetes problem that affects eyes. It is affected due to the damaged blood vessels to photo sensitive tissues in retina. Some of the symptoms are blurred vision, vision loss, dark or empty area of vision or dark strings floating in one's vision.

Timely detection of diabetic retinopathy precludes the person from vision loss [1]. Manual detection of diabetic retinopathy takes more time and requires a trained clinician for detection. Convolutional Neural



Artificial Intelligence on Medical Data pp 389–396

A Deep Learning Technique for Bi-Fold Grading of an Eye Disorder DR-Diabetic Retinopathy

Padmanayana ✉ & B K Anoop

Conference paper | First Online: 24 July 2022

Part of the Lecture Notes in Computational Vision and Biomechanics book series (LNCVB,volume 37)

Abstract

Nowadays, with increasing cases of diabetes, one should control the blood sugar as well as perform regular examination of eyes to prevent oneself from blindness. Any person having diabetes is likely to develop diabetic retinopathy (DR). DR is triggered by high blood sugar due to diabetes. After some time, having excessive amount of sugar in blood, can damage retina. When sugar jams the tiny blood vessels the eyes are damaged and this will affect

Original Contribution | Published: 21 April 2022

Evaluation of the Wear Behaviour of Thermally Aged E Glass Reinforced Epoxy Composite Filled with Wollastonite Using Taguchi L27 Technique

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam ✉, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 505–512 (2022)

Abstract

In the present study, the E glass reinforced epoxy composite filled with wollastonite was developed. Taguchi's L27 technique was selected for developing and analysing the effects of control factors on the wear behaviour of composites. The control factors considered for the present study was filler (%), time (minute) and temperature (°Celsius). The wear experiments were carried out using pin on disc arrangements for different experimental conditions. After the wear test, the microstructural analysis was carried out on the

Original Contribution | Published: 19 April 2022

Effect of Wollastonite Filler on the Experimental and Microstructural Analysis of Epoxy Composite Reinforced with E-glass Fibre

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 489–496 (2022)

Abstract

In the present study, the polymer composite was produced with epoxy, E-glass and wollastonite as the matrix, reinforcement and filler material, respectively. The present study investigates the effect of the filler material on the mechanical performance of developed composite specimens. The reinforcement material selected was woven and chopped-type fibre material. The filler material composition in the woven and chopped-type specimens was individually varied with 0%, 1%, 3%, 5% and 7%. The specimen was subject to mechanical testing, viz., tensile and flexural

ScienceDirect

Materials Today: Proceedings

Volume 52, Part 3, 2022, Pages 1841-1845

Hybridization effect on water absorption and flexural properties of E-glass/banana fibre/epoxy composites

Raghavendra Pai [a], L. Bangarappa [b], K.S. Lokesh [c], D. Shrinivasa Mayya [c], C.R. Naveen [c], Thomas Pinto [d]

Show more

https://doi.org/10.1016/j.matpr.2021.11.491

Get rights and content

Abstract

Hybrid composites occupying the area of standard materials by satisfying the necessities of various sectors like part industries, automobile industries, ship building and numerous bio-medical sectors. the most reason to substitute standard materials is that the hybrid composites giving same or additional needed properties with less weight and value than standard materials and most output in minimal consumption with higher lifespan to seek out the economical suggests that of utilizing the technology for various applications. Mats were fancied and stratified up with rosin matrix. The laminate is factory-made exploitation hand lay-up technique followed by compression moulding. Critical properties of the fancied material like flexure, enduringness, square measure through an experiment all over and results square measure recorded. The aim of the current analysis work was experimental investigation to judge numerous mechanical properties of hybrid fiber compound composite (E-glass fiber and epoxy, Banana fibres) at totally different weight percentages with epoxy. The properties of E-glass fiber and epoxy, Banana, fibres were found to be sensible large to be used as reinforcement in composite materials. The results of the experiments were per shaped on one hundred kN servo hydraulic universal testing machine (UTM) (50% E-glass, 100% of banana fiber and therefore the four-hundredth of epoxy resin) will study associate optimum results of the composite. In water absorption take a look at C-1(20% E-glass, four-hundredth of banana fiber and therefore the four-hundredth of epoxy resin) will observe the absorption of water. and at last experimental study the water absorption depends on amount of banana fiber.

Introduction

The mechanical properties of a natural fibre primarily based compound composite depends on various factors, as an example, fiber length and quality, matrix, fiber–matrix adhesion bond quality and then forth. The sturdy interface bond between fiber and matrix is preponderant to point out signs of improvement mechanical properties of composites [1]. The impact surface treatment on the chemical properties of

Journal of Alternate Energy Sources and Technologies

Open Access Subscription or Fee Access

H2O and Sunlight as an Alternative to Petroleum Fuels; Pros and Cons

Prasad P., Shrinivasa Mayya D., Savitha M. B.

Abstract

The increased requirements of energy and the increased rate of pollution have forced us to find an alternative to petroleum fuels. The tremendous research on nonmaterials has opened new opportunities for the utilization of renewable energy. Semiconductor nanotechnologies are contributing towards their applications in hydrogen fuel production by splitting water by using solar energy. This review report gives the introduction to water-splitting, electrolysis of water, photosynthesis, photocatalytic water-splitting, photoelectrochemical water-splitting, factors influencing photocatalytic activity, and tandem cells with their advantages and limitations. The review concludes with the possible devices for the effective production of hydrogen fuel, and a system with a combined artificial photosynthesis water-splitting system with a hydrogen fuel cell as an alternative to petroleum fuels.

Full Text:

PDF

References

Manish S, Ranu G, Akhilesh A, et al. Assessment of different alternative fuels for internal combustion engine: A review. International Journal of Engineering Research & Management Technology, 2015, 2(3), 103-9p.

Jaichandar S, Annamalai K. The status of biodiesel as an alternative fuel for diesel engine–an overview. Journal of Sustainable Energy & Environment, 2013, 2(2), 71-5p.

Negurescu N, Pana C, Popa M. G, et al. Performance comparison between hydrogen and gasoline fuelled SI engine. Thermal Science, 2011, 15(4), 1155-64p.

Hauch A, Ebbesen D, Jensen H, et al. Highly efficient high temperature electrolysis. Journal of Materials Chemistry, 2008, 18 (20), 2331-40p.

Takaya O, Mizutomo T, Yuya K. Analysis of Trends and Emerging Technologies in Water Electrolysis Research Based on a Computational Method: A Comparison with Fuel Cell Research. Sustainability, 2018, 10(478), 1-24p.

Wang M, Wang Z, Gong X, et al. The intensification technologies to water electrolysis for hydrogen production - A review. Renew. Sustain. Energy Rev., 2014, 29, 573–88p.

Weber F, Dignam J. Splitting water with semiconducting photoelectrodes—Efficiency considerations. Int. J. Hydrogen Energy, 1986, 11, 225-32p,

Melis A, Neidhardt J, Benemann R. Dunaliella salina (Chlorophyta) with small chlorophyll antenna sizes exhibit higher photosynthetic productivities and photon use efficiencies than normally pigmented cells. J. appl. Phycol., 1999, 10, 515-52p.

IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 24, Issue 12. Ser. V (December. 2022), PP 01-05
www.iosrjournals.org

"Social Media Impact on Online Impulse Buying – A social Commerce Perspective"

Rashmi[1], Dr. ShrinivasaMayya D[2], Dr. Ajoy S Joseph[3]
[1,2,3]*MBA Department, Srinivas Institute of Technology, Mangaluru, Karnataka, India.*

Abstract:
Background: *The internet era has brought tremendous changes in the lives of people. Without any generation gap, people are accepting the internet to ease their lives. One such notable change we see in today's life is a change in buying behavior by shifting towards online buying. The Internet is loaded with information and knowledge, and also enables ease of transactions and social networking via social media. People are connecting with the world through social media they exchange status, and content and share opinions and views, hence there are various external stimuli due to which the buyer may end up in impulse buying. This paper aims at studying the impact of social media usage on online impulse buying especially focusing on the social commerce context.*
Materials and Methods: *The study was conducted by studying extensive literature on impulse buying behavior. With the intention of finding the impact of social media on impulse buying the previous study analyzed and presented diagrammatically the impacting factors as found in previous research.*
Results: *The works of literature under study provided the result stating that social media has a high impact on the consumer's purchase behavior and led to impulse buying. The research finding shows that the impact is due to various determinants such as the attractiveness of the website, personalized ads, likes, and comments, the social media community, personalized recommendations, perceived values, etc. The results were leveraged to derive online impulse buying behavior and the effect of social media in the social commerce context. The literature result must provide the direction for further studies.*
Keyword:*Online Buying Behaviour, Online Impulse buying, Social - commerce, Social media, Social media marketing, Social media community.*

Date of Submission: 08-12-2022 Date of Acceptance: 22-12-2022

I. Introduction

The study with renewed interest presents an overall review of the understanding the impulse buying behavior with reference to social commerce. The increasing popularity of social commercein recent years, gave an immense opportunity to the researchers to study social commerce impact on buying behaviour. An increased number of researchers are keen on studying thecustomers' impulsive buying behaviour,especially in the social-commerce context[11]. In recent years, due to increased impulse buying behaviour, many companies are looking forward to studying the psychological factors which are influencing impulse buying behaviour[7]. Thanks to social media, businesses today are opportunistic because they canclosely watchtheir customer's behaviourby enormously employing social media. Social media usage has raged to such a high level that a great number of businesses are increasingly engaging with their customers viasocial media[27]. When compared with traditional communication media, socialmedia enablesbusinessesto communicateand engage withbothexistingandpotentialcustomerseffectively, thereby enabling the businessesto fit their marketing strategies usingsocial commerce. Social media has created new interaction opportunities for the business and the prospects[23]. The research on online impulse buying behaviour in the social commerce context is still in its infancy and this poses a great challenge for the researcher in developing new theories on social commerce behaviour [44].

II. Materials and Methods:

This paper has systematically studied the literature on the impact of social media usage on online impulse buying decisions in the social commerce context. This is done so because systematic literature reviews usually entail "integrating several different works on the same topic, summarising the common elements, contrasting the differences, and extending the work in some fashion[35] and to derive some meaning based on inferences drawn upon.

Social Media: Social media usage is mainly to maintain relationships and to maintain interpersonal connectivity for the reason of giving social support, friendship, and intimacy[20]. Social media has significantly impacted the

"Social Media Impact on Online Impulse Buying – An Instagram Perspective"

Rashmi
Research Scholar
MBA Department
Srinivas Institute of Technology, Valachil, Mangalore, Karnataka, India.
Dr. Shrinivasa Mayya D
Research Supervisor
Srinivas Institute od Technology, Valachil, Mangalore, Karnataka, India.
Dr. Ajoy S Joseph
Research Co- Supervisor
MBA Department, Srinivas Institute of Technology, Mangaluru, Karnataka, India.

Abstract:

Background: The internet era has brought tremendous changes in the lives of people. Without any generation gap, people are accepting the internet to ease their lives. One such notable change we see in today's life is a change in buying behavior by shifting toward online buying. The Internet is loaded with information andknowledge which enables ease of transactions and social networking via social media. People are connecting with the world through social media they exchange status, and content and share opinions and views, hence there are various external stimuli due to which the buyer may end up impulse buying. The Instagram is taking its space for all the online content creator as well as marketer.This paper aims at studying the impact of social media usage especially Instagram on online impulse buying.

Materials and Methods: The information used in the study was gathered through a survey, and online questionnaires. The total of 449 female Instagram browser who also had purchaseexperience in the Instagram site/ apps.

Results: The works of literature under study provided the result stating that social media(Instagram/facebook) has a high impact on the consumer's purchase behaviour and led to impulse buying. The research finding shows that the trust, Instagram browsing behaviour, Instagram browsing intensity, impulse buying tendency has postitve influence on the instagram impulse buying.

Original Contribution | Published: 21 April 2022

Evaluation of the Wear Behaviour of Thermally Aged E Glass Reinforced Epoxy Composite Filled with Wollastonite Using Taguchi L27 Technique

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam ✉, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 505–512 (2022)

Abstract

In the present study, the E glass reinforced epoxy composite filled with wollastonite was developed. Taguchi's L27 technique was selected for developing and analysing the effects of control factors on the wear behaviour of composites. The control factors considered for the present study was filler (%), time (minute) and temperature (°Celsius). The wear experiments were carried out using pin on disc arrangements for different experimental conditions. After the wear test, the microstructural analysis was carried out on the

Original Contribution | Published: 19 April 2022

Effect of Wollastonite Filler on the Experimental and Microstructural Analysis of Epoxy Composite Reinforced with E-glass Fibre

K. S. Lokesh, Thomas Pinto, D. Shrinivasa Mayya, Bharath Kumar Shanmugam ✉, B. P. Panduranga, Harish Hanumanthappa & G. T. Mohanraj

Journal of The Institution of Engineers (India): Series D
103, 489–496 (2022)

Abstract

In the present study, the polymer composite was produced with epoxy, E-glass and wollastonite as the matrix, reinforcement and filler material, respectively. The present study investigates the effect of the filler material on the mechanical performance of developed composite specimens. The reinforcement material selected was woven and chopped-type fibre material. The filler material composition in the woven and chopped-type specimens was individually varied with 0%, 1%, 3%, 5% and 7%. The specimen was subject to mechanical testing, viz., tensile and flexural

J. Inst. Eng. India Ser. D (July–December 2022) 103(2):505–512
https://doi.org/10.1007/s40033-022-00343-z

ORIGINAL CONTRIBUTION

Evaluation of the Wear Behaviour of Thermally Aged E Glass Reinforced Epoxy Composite Filled with Wollastonite Using Taguchi L27 Technique

K. S. Lokesh[1] · Thomas Pinto[2] · D. Shrinivasa Mayya[1] · Bharath Kumar Shanmugam[3] · B. P. Panduranga[4] · Harish Hanumanthappa[5] · G. T. Mohanraj[6]

Received: 8 October 2021 / Accepted: 1 March 2022 / Published online: 21 April 2022

Abstract In the present study, the E glass reinforced epoxy composite filled with wollastonite was developed. Taguchi's L27 technique was selected for developing and analysing the effects of control factors on the wear behaviour of composites. The control factors considered for the present study was filler (%), time (minute) and temperature (°Celsius). The wear experiments were carried out using pin on disc arrangements for different experimental conditions. After the wear test, the microstructural analysis was carried out on the specimens using scanning electron microscope (SEM) analysis. The regression coefficient of 98.8% and probability plot shows that the model was accurate and valid. From the optimization results, it was clear that the 7% filler percentage (high level), 5 min sliding time (low level) and 50 °C temperature (high level) will yield high wear resistance and lower material loss due to the wear of the composites. Further, a confirmation test with the optimized condition was conducted and validated using the SEM image. The results also showed that the Taguchi technique effectively studies the effects of the control factors for obtaining the maximum wear resistance of the composites.

Keywords Epoxy composite · E glass · Wollastonite · Wear · Taguchi L27

Introduction

In India, the development of composite was carried out to compensate for the processing involved in the beneficiation of low-grade materials such as iron ore, coal [1–3]. Processing these materials requires resources such as processing equipment and water for treating tailings [4–6]. The composite was developed to obtain the required properties materials, which can compensate for the requirement of high-grade materials [7–10]. In the present study, an E glass fibre reinforced epoxy composite with the wollastonite filler was developed to study the wear behaviour at different operating temperatures. The wollastonite was utilized because of its wide availability and low cost, which has application in construction activity. Wahab et al. [11] investigated the utilization of wollastonite to improve the performance of mortar mixes. The authors suggested that the wollastonite replaces the sand, which improves the strength of the mortar. The present authors were keen to investigate the wear loss of the composite with wollastonite. It was also found that wear loss is one of the major concerns of structural application. So, the present study was carried out using E glass fibre reinforced epoxy composite with the wollastonite filler for its structural application. Additionally, the statistical technique was considered to investigate the effect of each control factor,

✉ Bharath Kumar Shanmugam
shanmugabharathkumar@gmail.com

[1] Department of Mechanical Engineering, Srinivas Institute of Technology, Mangaluru 574143, India

[2] Srinivas College of Engineering and Technology, Srinivas University, Surathkal, Mukka 574146, India

[3] Department of Mining Engineering, National Institute of Technology Karnataka, Surathkal, Mangalore 575025, India

[4] Department of Mechanical Engineering, Maharaja Institute of Technology, Mysore 571477, India

[5] Department of Mechanical Engineering, Atria Institute of Technology, Bangalore 560024, India

[6] Department of Metallurgical and Materials Engineering, National Institute of Technology Karnataka, Surathkal, Mangalore 575025, India

JOURNAL OF NATURAL FIBERS
2022, VOL. 19, NO. 16, 12664–12675
https://doi.org/10.1080/15440478.2022.2073501

Taylor & Francis
Taylor & Francis Group

Experimental and Statistical Evaluation of the Mechanical Performance of (Jute and Cocopeat) Plant and (Silk) Animal-based Hybrid Fibers Reinforced with Epoxy Polymers

Lokesh Kanchugaranahally Sriramamurthy[a], Bharath Kumar Shanmugam Nagarathna[b], Thandra Paavan Kumar[a], Harish Hanumanthappa[b], Mohanraj Thimmegowda[b], Shrinivasa D. Mayya[a], Shobharani Krishnameena Yashaswini Srivatsav[c], and Aishwarya Brindha Kavitha Kumar[d]

[a]Department of Mechanical Engineering, Srinivas Institute of Technology, Mangaluru, India; [b]Department of Mechanical Engineering, National Institute of Technology Karnataka, Mangalore, Karnataka; [c]Department of Basic Studies, Bengaluru city university, India; [d]Department of Basic Studies, St. Thomas Educational Institute, Mysore, India

ABSTRACT

In India, research on the development of new composite materials is extensively increased. In the present study, composites are developed with the renewable materials of plant and animal-based natural fibers. The present study will lead to the experimental and statistical investigation of the composite produced with a combination of plant-based natural fibers, i.e., jute and coco peat powder with the animal-based natural fibers, i.e., silk. In the present study, jute and silk were utilized as reinforcement material, cocopeat powder as a filler material (5%), and epoxy resin as matrix material (35%). The composites were prepared with the varying composition of reinforcement material, and also the filler and matrix material were kept constant. Furthermore, mechanical properties such as tensile, flexural, and impact tests were performed on the developed composites. Further, a comparative study was drawn on the mechanical test results of tensile and flexural strength of the composite using power and polynomial regression model. The regression coefficient (R^2) was used to study the correlation between the experimental and predicted values. The results showed that the polynomial regression is the best suitable mathematical model than the power regression model for predicting the composites' tensile and flexural test performance.

摘要

在印度，开发新型复合材料的研究正在广泛增加。在本研究中，复合材料是以植物和动物为基础的天然纤维可再生材料开发的. 本研究将对以植物为基础的天然纤维(即黄麻和椰子泥炭粉)与以动物为基础的天然纤维(即丝绸)的组合生产的复合材料进行实验和统计研究. 在本研究中，黄麻和蚕丝被用作增强材料，椰油粉作为填充材料(5%)，环氧树脂作为基体材料(35%). 通过改变增强材料的组成，并保持填料和基体材料的恒定，制备了复合材料. 此外，还对开发的复合材料进行了拉伸、弯曲和冲击等力学性能测试. 此外，利用幂函数和多项式回归模型对复合材料的拉伸和弯曲强度的力学试验结果进行了对比研究. 回归系数(R2)用于研究实验值和预测值之间的相关性. 结果表明，多项式回归模型比幂回归模型更适合预测复合材料的拉伸和弯曲性能.

KEYWORDS

Natural fibers; composite; mechanical performance; regression; power; polynomial

关键词

天然纤维; 混合成; 机械性能; 回归; 权力; 多项式的

CONTACT Bharath Kumar Shanmugam Nagarathna shanmugabharathkumar@gmail.com Department of Mechanical Engineering, National Institute of Technology Karnataka, Mangalore 575025, Karnataka, India