

# **RESEARCH PUBLICATIONS**

**ACADEMIC YEAR  
2020 – 2021**

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

| S. No. | Register Number | Student Name | PAPER TITLE  | NAME OF THE JOURNAL  |
|--------|-----------------|--------------|--|--|
| 1      | 117011012514    | AISHWARYA S  | <ul style="list-style-type: none"> <li>Published a Research Journal titled, "A Survey on Chatbot Using Artificial Intelligence," in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.</li> </ul>   | <ul style="list-style-type: none"> <li>Wesleyan Journal of Research</li> </ul>   |
| 2      | 117011012517    | ARISHA S     | <ul style="list-style-type: none"> <li>Published a International Journal titled, "Compile and Runtime Errors in Compiler", in International Research Journal of Education and Technology. ISSN 2581-7795.</li> </ul>   | <ul style="list-style-type: none"> <li>International Research Journal of Education and Technology.</li> </ul>  |
| 3      | 117011012526    | JAYASHREE G  | <ul style="list-style-type: none"> <li>Published a International Journal titled, "Compile and Runtime Errors in Compiler", in International Research Journal of Education and Technology. ISSN 2581-7795.</li> <li>Published a Research Journal titled, "A Review on Predicting the Prices of Bitcoin Using Data Analytics," in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.</li> <li>Published a Conference</li> </ul> | <ul style="list-style-type: none"> <li>International Research Journal of Education and Technology.</li> <li>Wesleyan Journal of Research</li> <li>National Conference on Intelligent Computing and Automation - Instruvision 2021.</li> <li>Turkish Journal of Computer and Mathematics Education</li> </ul> |

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|---|--------------|---------------------|--|---|
|   |              |                     | <p>titled, “Predicting the Prices of Bitcoin Using Data Analytics,” in National Conference on Intelligent Computing and Automation - Instruvision 2021.</p> <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Predicting the Prices of Bitcoin Using Data Analytics”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1487-1501.</li> </ul>   |   |
| 4 | 117011012533 | MAHABOOB<br>ASFIA Z | <ul style="list-style-type: none"> <li>Published a Research Journal titled, “A Review on Predicting the Prices of Bitcoin Using Data Analytics,” in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.</li> <li>Published a paper in International Conference titled, “Predicting the Prices of Bitcoin Using Data Analytics,” in National Conference on Intelligent Computing and Automation - Instruvision 2021.</li> <li>Published a Research Journal titled,” Predicting</li> </ul> | <ul style="list-style-type: none"> <li>Wesleyan Journal of Research</li> <li>National Conference on Intelligent Computing and Automation - Instruvision 2021.</li> <li>Turkish Journal of Computer and Mathematics Education</li> </ul> |

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|---|--------------|-----------------|---|---|
|   |              |                 | the Prices of Bitcoin Using Data Analytics”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1487-1501.   |   |
| 5 | 117012012536 | MOHAMED ANIES M | <ul style="list-style-type: none"> <li>Published a paper in International Conference titled,” Seasonal food Recommendation Framework Using Machine Learning and Matching Algorithm”, in International Conference on Innovative Research in Power and Energy Engineering, 26<sup>th</sup> March 2020. ISBN:978-81-909853-5-2.</li> </ul> | <ul style="list-style-type: none"> <li>International Conference on Innovative Research in Power and Energy Engineering</li> </ul> |
| 6 | 117011012544 | NITHIYASREE K   | <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Face Mask Detection in Classroom using Deep Convolutional Neural Network”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1482-1401.</li> </ul>   | <ul style="list-style-type: none"> <li>Turkish Journal of Computer and Mathematics Education</li> </ul>                           |
| 7 | 117011012548 | POOJA SHARMA    | <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Support Vector Machine based a New Recommendation System for Selecting mono</li> </ul>   | <ul style="list-style-type: none"> <li>Turkish Journal of Computer and Mathematics Education</li> </ul>                           |

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|---|--------------|-----------------------|--|---|
|   |              |                       | music”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1482-1401.   |   |
| 8 | 117011012549 | RAGAVI R              | <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Object Counting using Deep Learning”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1382-1384.</li> <li>Published a Research Journal titled, “A Survey on Object Counting Using Deep Learning,” in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.</li> </ul> | <ul style="list-style-type: none"> <li>Turkish Journal of Computer and Mathematics Education</li> <li>Wesleyan Journal of Research</li> </ul>           |
| 9 | 117011012559 | SHARILY SWEETA MARY A | <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Short Term Prediction of COVID-19 cases using Ensemble Regression Models in TamilNadu Districts”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:6051-6058.</li> <li>Published a Research Journal titled, “Short Term Prediction of COVID-19</li> </ul>                                      | <ul style="list-style-type: none"> <li>Turkish Journal of Computer and Mathematics Education</li> <li>Wesleyan Journal of Research</li> <li></li> </ul> |

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|-----|--------------|-------------|--|---|
|     |              |             | cases using Ensemble Regression Models in TamilNadu Districts,” in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.   |   |
| 10. | 118011063211 | AISHWARYA E | <ul style="list-style-type: none"> <li>Published a Research Journal titled, “Survey on Smart Attendance System using Deep Learning Technique,” in Wesleyan Journal of Research, Vol. 29., No.: 1, April 2021., ISSN: 0975-1386.</li> <li>Published a Research Journal titled,” Survey on Smart Attendance System using Deep Learning Technique”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1367-1373.</li> </ul> | <ul style="list-style-type: none"> <li>Wesleyan Journal of Research</li> <li>Turkish Journal of Computer and Mathematics Education</li> </ul> |
| 11  | 118011063213 | POORNIMA S  | <ul style="list-style-type: none"> <li>Published a Research Journal titled,” Survey on Smart Attendance System using Deep Learning Technique”, in Turkish Journal of Computer and Mathematics Education, Vol.12, No.: 10(2021), ISSN:1367-1373.</li> </ul>   | <ul style="list-style-type: none"> <li>Turkish Journal of Computer and Mathematics Education</li> </ul>                                       |



## A SURVEY ON CHATBOT USING ARTIFICIAL INTELLIGENCE

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**Abstract:** Recent virtual collaborators like Siri, Google, Cortana has extraordinary energy innovations, similarly, chatbots are very popular these days which reacts shrewdly like p. Chatbot is a program that can build up a discussion or a conversation with individual causing them to feel like as though they talk with an individual however not a PC or a ma. This program can answer any broad and basic inquiries raised by a user. Since chatbots a an application that doesn't require any installations or downloads and updates they don't w burning-through more spaces in the memory which are viewed as the greatest advantage paper tends to study the different methods and implementation of a chatbot depende artificial intelligence utilizing natural language processing techniques.

**Key Words:** AIML, CHATBOT, NLTK, ARTIFICIAL INTELLIGENCE, NAT LANGUAGE PROCESSING.

### Article History

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Corresponding author: S.Aishwarya

### 1. INTRODUCTION

Nowadays, we see chatbots anywhere, Chatbots are the supply of solutions customer's questions in any precise area in which it's miles operating. The maximum example these days is Amazon's Alexa. Chatbots are at nearly every place, you can still s at each 2nd internet site they visit.

... a computer program that responds like an intelligent entity



# Compile and Runtime Errors in Compiler

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## ABSTRACT

Compiler and its error are the two fundamentals which bridges the gap between a programmer and the machine to work well on C. In this paper, we have shown about compiler and its error messages. We have also discussed about many recovery mechanisms in a compiler. As programming languages acts like an interface between a programmer and the machine, it should not be subjected to any error. If it supposed to possess error, then the code will not attain efficiency, meaning and quality. So some means of gap has to be bridged between the machine and to the user. This is where a compiler comes in. Here the task of a compiler is to compile the program or instruction which is written in a particular source language and convert it into a target language via various phases available in the compiler. Meanwhile, the tasks of error handling process are to detect each error, report it to the user, and possibly make some repair to allow processing to continue. Finally, the purpose of this paper is to provide an entire knowledge about the Compiler and its error briefly.

**Keywords:** Compilers; Errors; Target language.

## I. INTRODUCTION

Mostly computer professionals won't write any compiler. Instead, a compiler translates (or compiles) a program written in a high-level programming language that is suitable for human programmers into the low-level machine language that is required by computers. So simply, compiler is a program that is designed to convert human readable higher-level programming language into machine language, or source code. When these programs are converted from one form to another the compiler may face some error. Compilation error refers to a stage where a compiler fails to perform compilation either due to errors in the code or, due to errors in the compiler itself. An error message often helps programmers to debug source code. Different types of errors are analysed and reported to the user. The main requirement for the compiler is to stop and report a message, and cease compilation. There are some common recovery methods:

**1. Panic mode recovery:** Basically, it prevents the parser from developing infinite loops while recovering error and this is the easiest way of error recovery. The parser discards the input symbol one at a time until one of the designated (like end, semicolon) set of synchronizing





## A REVIEW ON PREDICTING THE PRICES OF BITCOIN USING DATA ANALYTICS

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**Abstract:** The foremost aim of our paper is to predict next-day and any particular month Bitcoin prices as early as possible. To obtain results at the earliest we made our implementation in Apache Spark, a big data tool. We have also utilised one of the widely used machine learning libraries namely pandas for dataset manipulation, and preferred Pyspark since it is the combination of Apache Spark and Python. For investor interactions with our system we have designed a Graphical User Interface (GUI) named 'PMIST App' with Tkinter which is a Python's GUI. The result predicted will be seen in the form of line and bar graphs along with a message prompt where right date for doing investments are suggested. By analyzing those graphs, investors can be able to get idea about the future prices and they can take decision to either invest in future or change their investment time. Also a rewarding system is designed for investors which have an offer in swiggy when a quiz is been answered correctly. On the whole, this paper is meant for predicting next day and/or any particular month Bitcoin prices along with the rewarding system for the investors.

**Key Words:** Bitcoin, GUI, Apache Spark, Pyspark, Graphs, Rewarding system.

### Article History

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Corresponding author: G. Jayashree

### I. INTRODUCTION

Cryptocurrency is a technology in which a digital asset works as a medium of exchange wherein the ownership records are stored in a ledger existing in a form of computerized database using the strong cryptographic techniques. This secures transaction records, controls the creation of additional coins, and verifies the transfer of coin ownership. It is often termed as a soft currency which doesn't available in the form of hard notes physically. Moreover



## Predicting The Prices Of Bitcoin Using Data Analytics

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**ABSTRACT:** The foremost aim of our paper is to predict next-day and any particular month Bitcoin prices with respect to the company as early as possible. To obtain results at the earliest we made our implementation in Apache Spark, a big data tool. We have also utilised one of the widely used machine learning libraries namely pandas for dataset manipulation, and preferred Pyspark since it is the combination of Apache Spark and Python. For investor interaction with our system we have designed a Graphical User Interface (GUI) and named it as 'PMIST' with Tkinter which is a Python's GUI. The result predicted will be seen in the form of line and bar graphs along with a message prompt where right date for doing investments are suggested. By analyzing those graphs, investors can be able to get idea about the future prices and they can take decision to either invest in future or change their investment time. Also a rewarding system is designed for the investors in which we will provide 50% offer in Swiggy when a quiz has been answered correctly. On the whole, this paper is meant for predicting next day and/or any particular month Bitcoin prices along with the rewarding system for the investors.

**Keywords:** Bitcoin; GUI; Apache Spark; Pyspark; Graphs; Rewarding system.

### 1. INTRODUCTION

Cryptocurrency is a technology in which a digital asset work as a medium of exchange wherein the ownership records are stored in a ledger existing in a form of computerized database using strong cryptographic techniques. This secures transaction records, controls the creation of additional coins, and verifies the transfer of coin ownership. It is often termed as a soft currency which doesn't available in the form of hard notes physically. Moreover cryptocurrencies are decentralized that without any third-party intervention all virtual currency users can get the services. Meanwhile, these services impact on international relations and trade, due to its high price volatility and fluctuations. There are several virtual currencies namely Bitcoin, ripple, ethereum, ethereum classic, lite coin, etc. Though many types of virtual currencies exist, Bitcoin has a greater acceptance from different bodies such as investors, researchers, traders, and policy-makers. Moreover this paper can make even new entrepreneurs to do investments in Bitcoin similar to gold by just analyzing our system results. Hence this paper aims at Bitcoin prices prediction.

It is one of the decentralised crypto currencies in which all can contribute their fiat currency and obtain corresponding Bitcoins in their own fashion rather than relying on government. Nevertheless, it has gained a lot of attention from social media and among public due to the fluctuation in Bitcoin prices. People who invested in those digital markets had suffered from severe loss in their businesses. That too for new entrepreneurs investing in a digital market is not preferable until they get familiar with cryptocurrencies. Now here comes the role of computationally quick prediction system with Data Analytics. It is a technique of analyzing the raw data and making decisions based on the information obtained from the data. So we feel Data Analytics as a fruitful technique to forecast the Bitcoin price fluctuations in a quicker manner so that we can prevent the investor to do investments at the wrong time.

#### 1.1 BITCOIN

Bitcoin (abbreviated as BTC) is a soft currency that was emerged in January 2009. It follows the ideas of Satoshi Nakamoto which was set in a mysterious whitepaper. Actually Bitcoin is one of the cryptocurrencies where cryptocurrency is a digital asset.

Bitcoin address consists of 26-35 letters and numbers that always begin with the number 1 or 3 for representing the destination of Bitcoin payment. The currently available two address formats are 1BvBMSEstWetqTFn5Au4m4GFg7xJaNVN2 and 3MXknxVapwv6QkMoQv99MBuXZ2XpPewHn9.

#### 1.2. DATA ANALYTICS

As the name indicates data analytics is a technology designed to analyse, process and extract from large datasets in which the traditional data processing software could never deal with. This technology is classified as operational big



## Seasonal Food Recommendation Framework Using Machine Learning and Matching Algorithm

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**Abstract** - Every season is just like the mood of our Mother Nature, sometimes hot sometimes cold, and sometimes lukewarm. She brings different foods depending on her moods. Our body also responds according to the change in seasons and requires different food and nutrients. The seasonal fruits and vegetables have all the vitamins and nutrients that our body needs in that particular season. Here are some of the main characteristics for each dosha to help you determine which type matches you best:

**Pitta** (fire + water). Intelligent, hard-working, and decisive. This dosha generally has a medium physical build, short temper, and may suffer from conditions like indigestion, heart disease, or high blood pressure.

**Vata** (air + space). Creative, energetic, and lively. People with this dosha are usually thin with light frame and may struggle with digestive issues, fatigue, or anxiety when out of balance.

**Kapha** (earth + water). Naturally calm, grounded, and loyal. Those with a kapha dosha often have a sturdier frame and may have issues with weight gain, asthma, depression, or diabetes

**Index terms**--- vata, pitta, kapha, food, body type

### INTRODUCTION

It is the field of study that gives computers the capability to learn without being explicitly programmed. ML is one of the most exciting technologies that one would have ever come across. As it is evident from the name, it gives the computer that which makes it more similar to humans: *The ability to learn*. Machine learning is actively being used today, perhaps in many more places than one would expect. In the eminent era of breakthrough in technology, the world is presented with a boon and bane. The need for machines is inevitable as they have become a part of human source. Our human vision is capable of capturing the object or image and identifies the captured

input. When a massive data set is given as input along with required GPUs and algorithm which consumes less computation time and provides output with high accuracy, the computers are skilled to detect and classify the captured input. Machine Learning is one such technique to train the machine to have a skill set. Particularly, Machine Learning plays a major role in detecting and classifying the objects using various algorithms. ML is widely used in tracking, face recognition, video surveillance, etc. The detected object's characteristics are classified as classes using algorithms. The necessity for object detection emerged when the object needs to be identified from the images and video sources. Over the



## Face Mask Detection in Classroom using Deep Convolutional Neural Network

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Article History Received: 10 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 28 April 2021

**Abstract:** Wearing a mask has become mandatory to protect ourselves from infectious diseases caused by viruses. Today, we are facing a pandemic crisis due to COVID-19 virus. It worsens the lives of living things, particularly human beings. The whole world felt stagnant from its normalcy. The educational institutions are particularly affected by this pandemic situation for not conducting the direct classes. To avoid this scenario, they are willing to conduct classes with some guidelines such as social distancing, wearing masks, and sanitizing their hands. We have considered wearing a mask is more important than the remaining two aspects. We are providing a solution with the help of the ResNet50 deep learning network to check whether the students have worn a mask in a classroom in order to prevent them from illness. Deep learning is an advancement of machine learning technique which gives more accurate results than the machine learning algorithms. The performance of our implemented deep learning based face mask detection system is discussed. The live video of the classroom is taken and analysed for recognizing the student's face with and without mask and generating the name of the students without wearing a mask.

**Keywords:** Deep Learning, Face Mask Detection, ResNet50 Model.

### 1. Introduction

The global impact of COVID-19, the disease caused by the novel coronavirus has taken many lives and the only preventive measure is to maintain physical distancing and wearing a face mask in public places. Before the pandemic, places of worship, restaurants, and shops began to close in response to the coronavirus pandemic, colleges and campuses sent students home which lasted for a year and some institutions had begun to conduct online classes and exams. But it is not as effective as compared to physical education. So, the educational institutions have been opened by taking the rules and regulations insisted by the government in which one of the important rules is wearing a face mask inside educational institutions becomes mandatory. It is not possible to monitor the students all the time whether they wear masks or not. Hence, we thought that a computer vision based solution is the best for monitoring the students. An automated face mask detection system implemented in a classroom will give a better solution for this problem.

This paper introduces a deep learning based face mask detection system using ResNet50 CNN architecture and also generates the list of students who did not wear the mask inside the classroom. The model uses the live video taken from the camera fitted in the classroom for the face mask detection which impedes the transmission of COVID19 transmission.

#### 1.1 ResNet50 Architecture

ResNet-50 is a 50 layers deep CNN. The network trained on more than a million images from the ImageNet database. The Architecture [6] consists of a convolution with a kernel size of  $7 \times 7$  and 64 distinct kernels all with a stride of size 2. Next there will be a max pooling layer with stride 2. In the next convolution, there is a  $1 \times 1$ , 64 kernel,  $3 \times 3$ , 64 kernel and finally a  $1 \times 1$ , 256 kernel. These three layers are repeated in absolute 3 times. Next there is a kernel of  $1 \times 1$ , 128,  $3 \times 3$ , 128 kernel and finally  $1 \times 1$ , 256 kernel, this progression was repeated 4. Next to that there is a kernel of  $1 \times 1$ , 256 and two additional kernels with  $3 \times 3$ , 256 and  $1 \times 1$ , 1024 and this is repeated 6 times. And then again a  $1 \times 1$ , 256 kernel with two additional kernels of  $3 \times 3$ , 256 and  $1 \times 1$ , 2048 and this was repeated 3 times. After that we do an average pool layer and end it with a fully connected layer containing 1000 nodes and toward the end the architecture has a softmax function. So adding up to these layers provides 50 layers of Deep Convolutional Network.





## A SURVEY ON OBJECT COUNTING USING DEEP LEARNING

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**Abstract:** Due to the lack of human source for handling some kind of works, we are in the need to replace machines in the place of humans in many areas which mainly includes people / object detection and counting, This methods we can imply in many areas like Facial recognition, industrial quality check, self driving cars, people counting, automatic CCTV, tracking objects, digital water marking, military, etc.. And in today's scenario the object detection is very much needed for the world. The research plans to start the object revelation and counting system using image processing. Overall works are software development of a process that requires a video format or image format. They consist of the following components: framework without any traversing objects and the sequence with traversing objects. The process is designed to find the differentiation which is the traversing objects and note the number of traversing objects from the video sequence. The object counting process consists of four major components: 1) Input module 2) Detect the object 3) Count the objects, and 4) Reporting. The demonstration has been conducted in order to access the following features: 1) Efficiency, to prove that the process can determine object counting under the specific condition format. 2) Ability, to show that the process can work with high precision.

**Key Words:** Object detection, Image processing, Video sequence, Object counting.

### Article History

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### INTRODUCTION

The idea of using the video camera to count the number of objects has been proposed as a new way of counting approach. The current counting approaches are based too much on the sensor tools. The use of sensor tool to count the number of objects has been widely spread into different kinds of industries. Even though the equipment itself provides a benefit to the user, there are also some disadvantages. The sensor apparatus is only used for real time - the user cannot insert other kinds of input such as video format to the sensor apparatus in order to count



## Short-Term Prediction Of Covid-19 Cases Using Ensemble Regression Models In Tamilnadu Districts

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**Article History:** Received: 11 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 28 April 2021

**Abstract:** The Regression based outfit learning model that requires the previous 14 days information into record to anticipate COVID-19 cases for the time being. Accurately expect the fundamental infection similarly as effectively directing meager resources. It is valuable to plan medical clinics and medical services laborers with legitimate gear like beds, ventilators and so forth ahead of time with no troubles. To this end, this structure designs a backslide based gathering learning model containing Linear backslide, Ridge, LASSO, ARIMA, and SVR that requires the previous 14 days data into record to anticipate the amount of new Corona cases briefly (Future three days). The social affair model yields the best show by thinking about the introduction of the large number of models. This framework thinks about information from Tamilnadu Districts. The outcomes regarding relative rate mistake show that the group strategy gives predominant forecast.

### 1.Introduction

As of late, there has been no wellbeing risk as the COVID-19 pandemic that profoundly affected human wellbeing around the world. This viral and irresistible sicknesses proceed to show up and represent a genuine danger to general wellbeing and prosperity. Covid is a wide group of infections which causes diseases going from regular cold and influenza to extreme respiratory issues. Each nation is confronting fierce occasions regarding guaranteeing the well-being of its residents because of the far-reaching nature of the illness and the inaccessibility of medications or immunization for it. The security estimates considered by just about 162 nations across the globe are to evade contacts and keep up friendly removing. Throughout the most recent couple of months, the illness has affected harshly and persistent expansion in the quantity of positive cases and passing's. As indicated by WHO, worldwide 14,509 individuals have passed on with an aggregate of 332,930 cases affirmed. India, the second-largest populace on the planet is likewise not an exemption for the sickness. It remains in the main five influenced nations on the planet. The lockdown estimates considered in India in two stages could diminish infection to a bigger degree. In any case, as the lockdown was free after two phases, spread of the infection. As of April 29, 2020 India, crossed the 30,000 positive case engraving and passing's of 1,000. In spite of the fact that the lockdown was powerful to give the public authority time to get ready for the fix and control of the infection, India is as yet the third among the nations after China and Iran to see positive cases crossing 30,000 in Asia. One perception that can be made by considering the manner in which the cases have developed during the lockdown is it took 12 days for China and 25 days for Iran to reach to a 30,000 imprint from the 1000th case. In India, it has taken 31 days to arrive at the 30,000th imprint from the 1,000th case and 48 days to arrive at the 1000th passing which was 30 and 28 days separately in China and Iran. The lockdown measures have shown huge outcomes by not having a tremendous flood in the cases. The lockdown has limited numerous financial exercises and it can just get serious in the April to June quarter. In non-industrial nations like India, COVID-19's impact is proposed to have affected the economy fundamentally adversely.

As the world was confronting loses, our tendency acquired something from this pandemic, the unsafe particulate matter was dispensed with from the climate and above all the biggest ever ozone opening distinguished was shut during this pandemic. Along these lines, it be truly critical to comprehend the highlights and qualities of this infection and anticipate/gauge the further spread of this sickness around the planet and what it will mean for the coming ages and the existences of individuals when things become typical. Henceforth opening the country with appropriate measures has effectively begun. The subsequent flood in contamination and resulting demise cases has made troubling strategy problem for the public authority. In this specific circumstance, anticipating precisely the future advancement of the pandemic will give the public authority expected devices to manage it. This framework making precise momentary expectation of number of coronavirus cases in basic for overhauling scant asset such a clinic beds and ventilator just as securing indispensable medications especially in





## A SURVEY ON SHORT-TERM PREDICTION OF COVID-19 CASES USING ENSEMBLE REGRESSION MODELS IN TAMILNADU DISTRICTS

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**Abstract:** Precisely the amount of infection similarly as sufficiently man-developing insufficient resources. To this end, in this paper a backslide based assembling learning model including Linear relapse, Ridge, Lasso, ARIMA, and SVR that requires the previous 14 days' data into record to anticipate the incidentally. The social occasion model yields the best show by thinking about the presentation of the general large number of models. In this investigation consider data from top 50 countries all throughout the planet that have the most noteworthy number of attested cases between January 21, 2020 and April 30, 2020. Our results the extent that overall rate screw up show that the troupe strategy gives better expectation execution than a dominant part of these nations with under 10% mistake for 5 nations and under 40% blunder for 27 nations.

**Key Words:** COVID-19, Developing Countries.

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### I. INTRODUCTION

Covid is a huge overall pandemic that has influenced the presences of people all throughout the planet. Regardless of outrageous lockdowns in countries all throughout the planet to check its spread, more than million individuals all through the planet have attempted positive in the defilement by May 15, 2020. As the sickness spreads unabated, a colossal of number of people keep getting contaminated overall reliably. For instance, in USA, beginning from an inconspicuous heap of cases around the beginning of March, the measure of affirmed cases has

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

| <b>S. No.</b> | <b>Register Number</b> | <b>Student Name</b> | <b>PAPER TITLE</b>   | <b>NAME OF THE JOURNAL</b>   |
|---------------|------------------------|---------------------|--|--|
| 1             | 117011013957           | AKSHAYA.V           | <ul style="list-style-type: none"> <li>Published a paper titled, "Implementation Of Ai And Ml In Network Security," Vol. 30., No.: 1, MAY 2021., ISSN: 0975-1386.</li> </ul>                   | <ul style="list-style-type: none"> <li>Wesleyan Journal of Research</li> </ul>                     |
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| 3             | 117011013965           | RAJASUBIKSHA R      | <ul style="list-style-type: none"> <li>Published a paper titled, End-to-End Product Management System for Manufacturing Industry – Rapide Vol 11 Issue 4 MAY 2021, ISSN:1548 7741.</li> </ul>  | <ul style="list-style-type: none"> <li>Journal of Information and Computational Science</li> </ul> |
| 4             | 117011013973           | VAISHNAVI R         | <ul style="list-style-type: none"> <li>Published a paper titled, End-to-End Product Management System for Manufacturing Industry – Rapide Vol 11 Issue 4 MAY 2021, ISSN: 1548 7741.</li> </ul> | <ul style="list-style-type: none"> <li>Journal of Information and Computational Science</li> </ul> |
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## IMPLEMENTATION OF AI AND ML IN NETWORK SECURITY

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**Abstract:** One of the most challenging but rewarding aspects of perimeter security is network file access analysis. This process involves trying to identify logs and attempts to log in by monitoring various log files and then merging events between those files. A computer-generated document has access file containing data about usage examples, tests, and activities within a framework, application, employee, or another gadget. The fringe device can be a secure border between the private and managed side of the network including border routers (Ex: Firewall, intrusion detection system, Antivirus, etc). A firewall can be an organization security gadget that unlocks nearby channels and channels with an active operating system supported by the organization's recently updated organization. In its original setting, a firewall is a barrier that resides within a personal internal network and therefore a public Internet. Here, have to propose a perimeter log analysis. By observing this perimeter log analysis appropriately, should know what is the most common and uncommon communication. Sometimes, if there is any unusual behavior, and at first couldn't know what action should be taken.

**Key Words:** Artificial Intelligence/Machine Learning, Tensor flow, Inbound and Outbound Traffic Patterns, Malicious Footprints, Python.

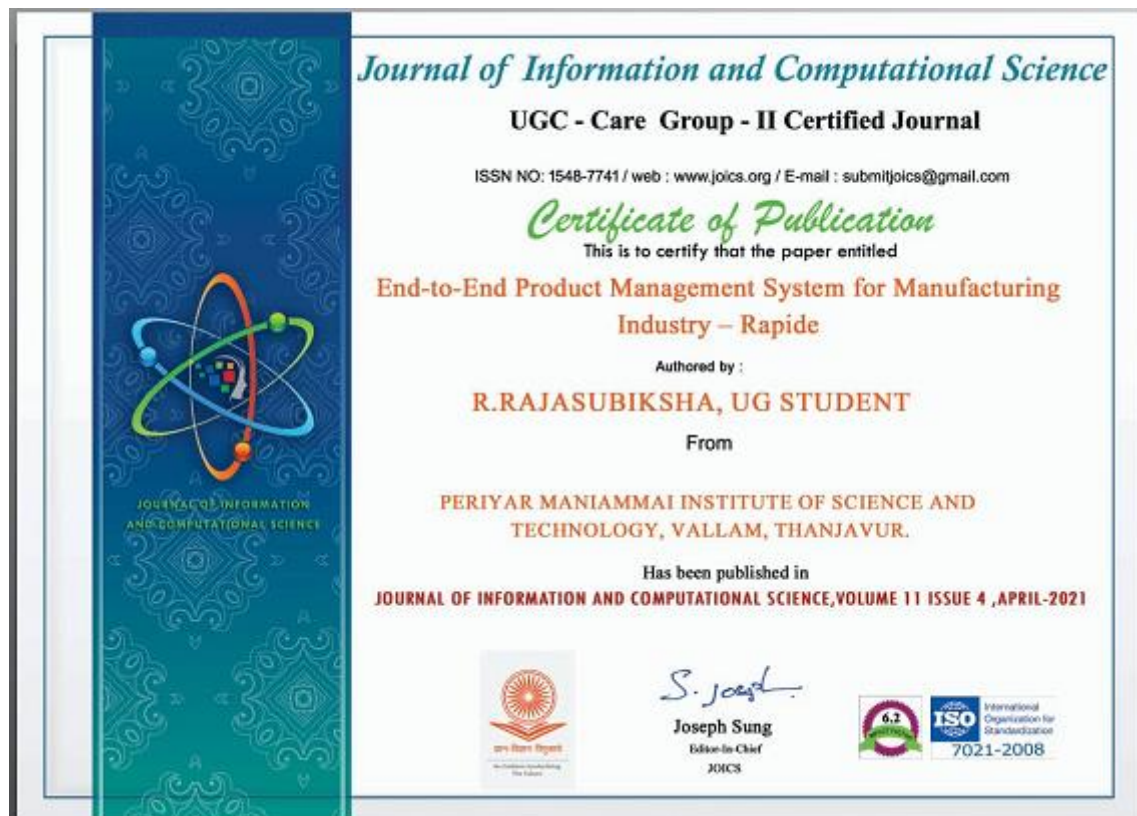
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### I. INTRODUCTION

One of the most important assets in the management and monitoring of the IT system logs. In a network, all actions will be logged, providing insight that we can identify issues that may affect performance, compliance, and security. So in any monitoring infrastructure, log management should be a part of it. Integrating our logs is the first and only accessible and easy-to-access challenge as part of setting up a login solution. However, logging together is not enough to get information from compiled logs that have to follow through log analysis. In the







**DEPARTMENT OF PHYSICS**

| <b>S. No.</b> | <b>Register Number</b> | <b>Student Name</b> | <b>PAPER TITLE</b>  | <b>NAME OF THE JOURNAL</b>  |
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| 1             | 118011763003           | V. MARY PRADEEPA    | <ul style="list-style-type: none"> <li>Published a paper titled, "Synthesis and Characterizations of Cadmium Sulphide (CdS) Thin Films by Chemical Spray Deposition Technique" ISSN: 2248 – 9622, Vol 10(01) (series-II) January 2020, PP 20-24.</li> </ul> | <ul style="list-style-type: none"> <li>Journal of Engineering Research and Application</li> </ul>               |
| 2             | 116011763002           | E.VEERAMANIPRIYA    | <ul style="list-style-type: none"> <li>Published a paper titled, "Numerical Analysis of Thin Layer Drying Kinetics of Untreated Carrot Slices using Photovoltaic Thermal Solar Dryer" ISSN : 2277 – 8616, Vol 9(06), June 2020.</li> </ul>                  | <ul style="list-style-type: none"> <li>International Journal of Scientific &amp; Technology Research</li> </ul> |
| 3             | 118011763003           | V. MARY PRADEEPA    | <ul style="list-style-type: none"> <li>Published a paper titled, "Fabrication and characterization of CuO/CdS heterostructure for optoelectronic applications" August 2020.</li> </ul>  | <ul style="list-style-type: none"> <li>Journal of Sol-Gel Science and Technology</li> </ul>                     |
| 4             | 116011763002           | E.VEERAMANIPRIYA    | <ul style="list-style-type: none"> <li>Published a paper titled, "Performance evaluation of hybrid photovoltaic thermal (PVT) solar dryer for drying of cassava", 215 (2021) 240–251.</li> </ul>  | <ul style="list-style-type: none"> <li>International Solar Energy Society,</li> </ul>                           |





# Performance evaluation of hybrid photovoltaic thermal (PVT) solar dryer for drying of cassava

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Thin layer drying  
Proximate composition

## ABSTRACT

A prototype hybrid Photovoltaic Thermal (PV – T) solar dryer aided with Evacuated Tube Collector (ETC) is presented for drying of cassava slices under the meteorological conditions of Thanjavur, Tamilnadu, India. Further the morphological, structural and physical properties of thin layer drying kinetics are studied and compared with natural sun drying. The designed dryer reduces the moisture content of cassava from 91.5% (wb) to 10.67% (wb) which is considered to be a safe level for storage in 8 h. There is a wide scope to save the conventional fuel by adopting the designed solar dryer as the air temperature inside the chamber rise is 30–40 °C than the ambient temperature. Non – linear regression analysis is performed to find out the drying kinetics of cassava using IBM SPSS 23 statistical package. Two – term model is proved to be the most suitable model for predicting thin-layer drying behaviour of cassava slices with  $R^2 = 0.982$ ,  $\chi^2 = 0.017553$  for hybrid dryer and  $R^2 = 0.998$ ,  $\chi^2 = 0.001247$  for open sun drying. XRD results exhibit 'A' type crystalline pattern that indicates semi-crystalline nature of cassava for both hybrid and sun dried cassava. Structural, morphological and proximate composition analysis reveals that the quality of hybrid dried cassava is better in terms of physical and chemical compositions than sun dried cassava. The proposed hybrid dryer is capable of producing high standard dried products for exporting and can make a good profit.

## 1. Introduction

Cassava (*Manihot Esculenta* Crantz) is a cheap, versatile root vegetable and a staple crop of the diet of more than 800 million people throughout the world. Cassava starch is a odorless, white, complex carbohydrate ( $C_6H_{10}O_5$ ), that is highly found in roots, bulbs and tubers of cassava plant. It is a rich source of starch, carbohydrate and calories. It contains niacin, thiamin, vitamin – C and minerals. It carries very small amount of proteins and fats (Gnanapavan and Kumar, 2017).

In tropics and subtropics, cassava is a significant source of nutrient and flavourful food. It is used to improve the health by regulating digestion, promoting immunity and increase the metabolism to the human body. It comprises cellulose – rich insoluble fibre that helps to prevent diverticular diseases and constipation. This fibre is used to speed up the process of glucose tolerance and also in the treatment of occasional diarrhea (Srinivasan et al., 2018).

Cassava roots contain a limited shelf life because physiological deterioration occurs at the time of harvesting that makes a very poor utilization of the root. This is due to high moisture level (60 – 75%) of cassava root (Sagade et al., 2016). The processing of cassava is

traditionally essential to detoxify the cyanogenic glycosides and to enhance its aroma (Ogbo and Olatun, 2015).

Drying is a concurrent process of heat and mass transfer between the crop surface and its circumference medium which leads to the removal of crop moisture and allows a safe storage level throughout a long period by minimizing the microbiological degradation rate of the crop (Ponnapakkam et al., 2017).

Industrial dryers are not economically or technically desirable for small scale production and more complicated with mechanical or electrical protocols which are not easy for the ordinary operators. These are also operated based on conventional fuel or electricity (Arpita et al., 2018). The continuous and wide use of fossil fuel causes CO<sub>2</sub> emission as well as air pollution. Drying of agriculture and food produce through solar dryers can reduce 27–80% of requirement and cost of fossil fuel (Sankar et al., 2019). To defeat the problems, newly designed Evacuated Tube Collector (ETC) aided solar dryer with Photovoltaic (PV) panel is developed and an attempt has been made to dry cassava.

Solar air collectors are broadly utilized for drying of agricultural produce (O. Jayaram and P. Jayaram, 2011). Solar dryers are used in the high radiation zones, particularly in rural communities (Vignani and Zamboni, 2009). For low (or) null radiation zones, hybrid dryers are

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## Current-voltage characteristics of $\text{Cu}_2\text{ZnSnS}_4$ absorber layer for energy harvesting devices

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# Numerical Analysis of Thin Layer Drying Kinetics of Untreated Carrot Slices using Photovoltaic Thermal Solar Dryer

E.Veeramanipriya, AR. Umayal Sundari, EA. Monisha

**Abstract**—The present work demonstrates the drying kinetics of untreated carrot slices using photovoltaic thermal hybrid solar dryer assisted with Evacuated Tube Collector (ETC). The moisture content of carrot is reduced from 85% to 9.3% which is considered to be a safe level in 8 hours with the designed dryer. Open sun drying takes 14 hours to reach the equilibrium moisture content. The efficiency of the designed ETC assisted solar dryer (32.26%) in drying of carrot slices is much greater than open sun drying (24.04%). Nine developed mathematical models are applied to evaluate the drying kinetics of carrot slices for both ETC assisted hybrid solar dryer and open sun drying using IBM SPSS 23 package. Results show that Midilli et al model has high value of correlation coefficient ( $R^2$ ) and least value of reduced chi-square and root mean square error (RMSE) for the designed ETC dryer and sun drying showing the more suitability of fit for drying of carrot slices. It is also observed that the quality and appearance of the solar dried carrot slices using ETC aided hybrid solar dryer is more acceptable than the open sun dried carrots.

**Index Terms**— photovoltaic, hybrid dryer, mathematical modeling, untreated carrot slices, equilibrium moisture content, drying kinetics, open sun drying

## 1 INTRODUCTION

Energy plays a very important role in day to day life and there is an expeditious need for energy. Energy in several ways runs our economy, globalization even satisfying our own needs. The world energy need is intended to be doubled by 2050 and will be tripled by the end of the century. There are numerous ways to extricate energy, on which conventional source are found to be highly contaminative and extortionate due to the burning of fossil fuel. For these reasons renewable non-conventional source of energy has gained momentum. One such clean and green source of energy is the sun. Solar energy is illimitable, affordable, and environment friendly. The easy and the most proficient way employed for transforming it into solar energy into thermal energy for heating applications by using dryers [1]. Carrot (*Daucus Carota*) is an essential root crop around the world and it carries considerable amount of the vitamins B1, B2, B6 and B12. It also has large amount of  $\beta$  Carotene content [2–6].  $\beta$  Carotene is a precursor material of vitamin A. Globally carrot is a rich source of fibre content which leads to the healthy diet and used to prevent cancer [7–8]. It is a superior source of vitamin A & C, potassium, magnesium, folic acid, thiamine and cholesterol lowering pectin. Dried carrots are used in soups and pastries in the form of powder [9]. The life time of carrot is only 2–3 days at normal surrounding temperature and for 10–14 days at 0°C. Therefore the post harvest loss becomes very high which occurs due to microbial infestation [10]. Drying extensively

used in diverse thermal applications ranging from food drying to wood drying [11]. Drying is extensively used in diverse thermal applications ranging from food drying to wood drying [11]. Drying is minimizing moisture from the products and it is commonly used in preserving agricultural products. Also, it has a great influence on the quality of the dried products [12]. The impetus of a dryer is to furnish the product with more heat than the neighboring to remove the unbound moisture. Further, these moisture reduced products could be stored for a prolonged span of time. Sun drying is the typical practice used to preserve agricultural products throughout the world. It has difficulty associated with the contaminants such as dust, soil, sand particles and insects [13]. Unexpected weather change could cause discrepancy in drying. Also, this process is very slow. To evade these demerits and the demerits of mechanical dryers, solar drying with the aid of gadgets called solar collectors are used. Solar collectors occupy a significant place among implementation of solar energy utilization.

Mathematical model acquires the potential to indicate the drying behavior of food product and find out the consequence of processing parameters, and hence reduces the cost of drying [14]. Several thin layer drying mathematical models are examined for studying the characteristics of various agricultural products such as red chili [15], potato [16], thymine and mint [17], apricot [18], tomato [19], banana blossom [20], mango and cluster beans [21] and carrot [22]. Thin layer drying characteristics of carrot has reported by various researchers, Sonmete [23], Doymaz [24], Gomez – Daz [25], Aghbashlo [26], Erenturk [27], Archana Mahapatra [28], Hosain Drvishi [29], Arivars Aboltins [30], Navneet Kumar [31], Gornicki [32], Raees – ul haq [33] and Changjiang [34]. Many research works are performed to process the carrot though sun drying [35], air drying [36], freeze drying [37], microwave heating and air or vacuum drying [38], convection microwave drying [39–40] and solar drying [41]. Moreover, to the researcher's findings, it is observed that drying of carrot

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## Fabrication and characterization of CuO/CdS heterostructure for optoelectronic applications

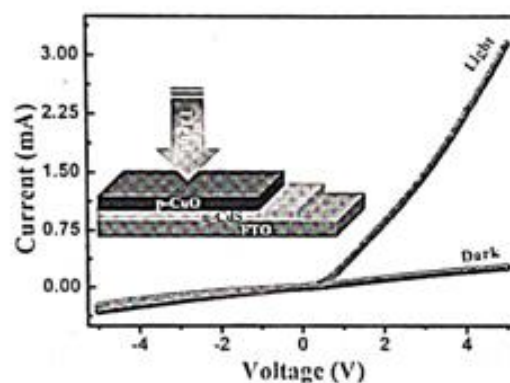
A. Kathalingam<sup>1</sup> · K. Kesavan<sup>2</sup> · V. Mary Pradeepa<sup>2</sup> · Hyun-Seok Kim<sup>3</sup>

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### Abstract

This paper reports the fabrication of a CuO/CdS heterostructure and the characterization of its properties for optical sensing. Cadmium sulfide (CdS) and cupric oxide (CuO) films were deposited by spray pyrolysis and hydrothermal techniques in order to fabricate CuO/CdS heterojunction devices. The structural, morphological, and optical properties of the CuO and CdS thin films were analyzed using X-ray diffraction (XRD), field emission scanning electron microscopy (FE-SEM), and UV-vis spectroscopy. The concentration of the sulfur precursor, thiourea, was varied over a range from 0.01 to 0.06 M in the spray coating solution for CdS films, and 0.05 M was found to yield improved structural and optical properties. The prepared p-CuO/n-CdS heterojunction exhibited good optical sensing properties with excellent response and recovery speeds. A possible photosensing mechanism for the fabricated heterostructure is detailed using energy band diagrams. In addition, heterojunction properties, including the ideality factor and conduction mechanism are reported: a fabricated heterostructure diode showed a threshold voltage of 0.036 V and an ideality factor of 1.86.

### Graphical Abstract



**Keywords** CuO/CdS heterojunction · Photodiode · Photosensor · Hydrothermal method · Spray pyrolysis technique

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# Review on Radio Frequency Micro Electro Mechanical Systems (RF-MEMS) Switch



R. Karthick and S. P. K. Babu

**Abstract** Miniaturization of mechanical or electromechanical systems has paved the way to develop Micro Electro Mechanical Systems (MEMS), and they have the potentials for application in communication systems. Radio Frequency MEMS (RF-MEMS) switches can be used as an alternative to mechanical and semiconductor devices-based switches such as PIN diodes or varactor diodes for their better isolation, reduced insertion loss, low-power consumption and higher-power handling capabilities. There are various constraints involved in designing RF-MEMS switch like finite or limited time to toggle, prone to failure, power handling capacity, RF performance, material selection, etc. Hence, it is necessary to properly select key parameters and optimize the switch to achieve desired outcome for specific applications. This paper discusses design constraints and various parameters involved in designing RF-MEMS switch. From the review, it is found that shunt-type configuration of RF-MEMS switch with electrostatic actuation, capacitive contact type and bridge structure are suitable for millimetre wave applications which are explored for future bandwidth hungry communication systems.

**Keywords** RF-MEMS · Switches

## 1 Introduction

A Micro Electro Mechanical System (MEMS) is a technology used for producing systems, devices and products with the combination of electric and mechanical components without losing their characteristics and efficiency in microscale. The size of the MEMS devices is of the order 20  $\mu\text{m}$  to a millimetre. Since it is in microscale, it requires low power, less space and low cost of production, and on the other hand more reliable, much faster can be batch processed and able to incorporate

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## Image registration based QCT characterization of the lungs of biomass cooks

A. S. Kizhakke Pulyakote, E. M. Stapleton, M. Bilas, N. Metwali, M. Jeronimo, I. M. Thornell, R. B. Manges, S. Suresh, K. Durairaj, K. Karuppusamy, K. Geetha, A. Sirajunnisa, K. Shanmugam, P. S. Thorne, T. M. Peters, A. P. Comellas, Eric A. Hoffman  
European Respiratory Journal 2020 56: 1306, DOI: 10.1183/13993003.congress-2020.1306

Article

Info &amp; Metrics

### Abstract

We sought to utilize quantitative computed tomography (QCT) to characterize lungs of women cooking with biomass and poor ventilation compared to those using liquified petroleum gas (LPG) in Thanjavur, India.

We recruited 18 biomass cooks and 5 LPG cooks. Spirometry was performed pre-/post-bronchodilation. QCT (GE Optima128) was performed at coached total lung capacity (TLC) and residual volume (RV). RV air trapping was measured using a threshold (voxels < -856HU) or a disease probability map (DPM: VIDA Diagnostics) derived from TLC-RV registration incorporating local volume change to assess air trapping (DPM-fSAD). Other DPM metrics included Jacobians, and a local anisotropic deformation index (ADI). Environmental exposure was quantified via real-time and gravimetric daily PM<sub>2.5</sub> concentrations using paired PATS+ and UPAS devices together for sediment capture.

QCT demonstrated a predominance of diffuse increase in lung density. Individuals from both groups presented with air trapping visually. Using the -856HU threshold, a mean of  $6.98 \pm 8.38\%$  of the lungs were classified as air-trapped.

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# Performance evaluation of hybrid photovoltaic thermal (PVT) solar dryer for drying of cassava

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## ARTICLE INFO

**Keywords:**  
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Proximate composition

## ABSTRACT

A prototype hybrid Photovoltaic Thermal (PV + T) solar dryer aided with Evacuated Tube Collector (ETC) is presented for drying of cassava slices under the meteorological conditions of Thanjavur, Tamilnadu, India. Further the morphological, structural and physical properties of thin layer drying kinetics are studied and compared with natural sun drying. The designed dryer reduces the moisture content of cassava from 91.5% (wb) to 10.67% (wb) which is considered to be a safe level for storage in 8 h. There is a wide scope to save the conventional fuel by adopting the designed solar dryer as the air temperature inside the chamber rise is 30–40 °C than the ambient temperature. Non-linear regression analysis is performed to find out the drying kinetics of cassava using IBM SPSS 23 statistical package. Two-term model is proved to be the most suitable model for predicting thin-layer drying behaviour of cassava slices with  $R^2 = 0.982$ ,  $\chi^2 = 0.017553$  for hybrid dryer and  $R^2 = 0.998$ ,  $\chi^2 = 0.001247$  for open sun drying. XRD results exhibit 'A' type crystalline pattern that indicates semi-crystalline nature of cassava for both hybrid and sun dried cassava. Structural, morphological and proximate composition analysis reveals that the quality of hybrid dried cassava is better in terms of physical and chemical compositions than sun dried cassava. The proposed hybrid dryer is capable of producing high standard dried products for exporting and can make a good profit.

## 1. Introduction

Cassava (*Morhnia esculenta* Crantz) is a cheap, versatile root vegetable and a staple crop of the diet of more than 800 million people throughout the world. Cassava starch is a odorless, white, complex carbohydrate ( $C_6H_{10}O_5$ ), that is highly found in roots, bulbs and tubers of cassava plant. It is a rich source of starch, carbohydrate and calories. It contains niacin, thiamin, vitamin – C and minerals. It carries very small amount of proteins and fats (Srinivasan and Rangan, 2017).

In tropics and subtropics, cassava is a significant source of nutrient and flavourful food. It is used to improve the health by regulating digestion, promoting immunity and increase the metabolism to the human body. It comprises cellulose – rich insoluble fibre that helps to prevent diverticular diseases and constipation. This fibre is used to speed up the process of glucose tolerance and also in the treatment of occasional diarrhea (Srinivasan et al., 2018).

Cassava roots contain a limited shelf life because physiological deterioration occurs at the time of harvesting that makes a very poor utilization of the root. This is due to high moisture level (60–75%) of cassava root (Srinivasan et al., 2019). The processing of cassava is

traditionally essential to detoxify the cyanogenic glycosides and to enhance its aroma (Dyble and Olesen, 2015).

Drying is a concurrent process of heat and mass transfer between the crop surface and its circumference medium which leads to the removal of crop moisture and allows a safe storage level throughout a long period by minimizing the microbiological degradation rate of the crop (Ponnapakkul et al., 2017).

Industrial dryers are not economically or technically desirable for small scale production and more complicated with mechanical or electrical protocols which are not easy for the ordinary operators. These are also operated based on conventional fuel or electricity (Arora et al., 2018). The continuous and wide use of fossil fuel causes  $CO_2$  emission as well as air pollution. Drying of agriculture and food produce through solar dryers can reduce 27–80% of requirement and cost of fossil fuel (Sankar et al., 2019). To defeat the problems, newly designed Evacuated Tube Collector (ETC) aided solar dryer with Photovoltaic (PV) panel is developed and an attempt has been made to dry cassava.

Solar air collectors are broadly utilized for drying of agricultural produce (Udayakumar and Pothanur, 2011). Solar dryers are used in the high radiation zones, particularly in rural communities (Mishra and ChandraSekhar, 2009). For low (or) null radiation zones, hybrid dryers are

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## DEPARTMENT OF SOFTWARE ENGINEERING

| ACADEMIC YEAR | NAME OF THE STUDENT       | PAPER TITLE  | NAME OF THE JOURNAL   |
|---------------|---------------------------|--|---|
| June 2021     | Mr. A.M. KARTHIK          | IOT Based Smart E-Bin Using KNN Algorithm                      | Wesleyan Journal of Research, Vol 31 No.1 (June 2021)<br>ISSN: 0975-1386            |
| June 2021     | MR. S.MOHAMED JAHID AMEER | An Automatic System for Business Accounting Management Process | Wesleyan Journal of Research, Vol 31 No 1 (June 2021)<br>ISSN: 0975-1386            |
| July 2021     | Mr. P.RAGUL               | PRODUCT PRICE AND REVIEW ANALYSIS<br>DESKTOP APPLICATION       | Wesleyan Journal of Research, UGC Care Approved, Peer Reviewed and Referred Journal |

### 1. Mr. A.M. KARTHIK

**Wesleyan Journal of Research, Vol 31 No 1 (June 2021) ISSN: 0975-1386**

IOT Based Smart E-Bin Using KNN Algorithm 1 Mr. A.M. Karthik & 2 Ms.D.Christy Sujatha 1Final Year , M.Sc ( Software Engineering ), PMIST, Thanjavur , Tamilnadu, India, Email: Karthiktj34@gmail.com 2Assistant Professor, Department Of Software Engineering, PMIST, Thanjavur , Tamilnadu, India, Email: [Christy\\_se@pmu.edu](mailto:Christy_se@pmu.edu)

#### **Abstract:**

Solid waste management is one of the major issues that the Republic of India faces irrespective of developed states. It is seen that the majority of the garbage's across the margin are over laden as a result of the waste isn't collected periodically. This leads to spreading some deadly diseases and human health problems. Most of the public dustbin are not properly maintained. In this paper, an IoT based garbage management is proposed, which monitors the precise process of garbage. The proposed system use the ultrasonic sensor, an infrared sensor for detecting the level of waste , how much percentage filled in a bin. Using microcontroller, Arduino as controlling board the proposed system uses ultrasonic sensor as they are precise and have a large range to sense the level of garbage in the bin, Gas sensor will sense the smell percentage as well as it will automatically open the door of bin and close by sensing the persons using IR sensor. CNN, Machine learning algorithm has been implemented for the prediction. For mobile (GSM) the involved person driver of garbage collection vehicle similarly as the involved authority shall learn through SMS. The officers monitoring the standing of waste bins through the online page. We can avoid the garbage spill and maintain environment clean.

**Key Words:** Raspberry pi, Ultrasonic Sensor, jumper Wires, Gas Sensor, IR sensor, ADC Converter.

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## 2. MR. S.MOHAMED JAHID AMEER

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An Automatic System for Business Accounting Management Process 1. Ms.S.Manjula & 2. Mr. S. Mohamed Jahid Ameer 1Assistant Professor, Department of Software Engineering, PMIST,India 2Final Year, Department of Software Engineering, PMIST, India

### **Abstract:**

The Accounting management software can facilitate for easy calculation of revenue by keeping business details in digital form. This accountancy software will make business operations in an easy, smooth & convenient manner. It is comprised of an accounting manual, associated accounting policies, procedures, and accounting documents. It indicates that efficiency, ease of use, and have an impact on business performances. The other three characteristics are reliability, data quality & accuracy are important for business performance.

**Key Words:** Accounting Software,Business Performance, Accounting Information, Accuracy.

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