

3.3.2 Number of research papers per teachers in the Journals notified on UGC website during the year							
S.NO	Title of paper	Name of the author/s	Department of the teacher	Name of journal	Year of publication	ISSN number	Link to the recognition in UGC enlistment of the Journal
1	An In-Depth Analysis of Distributed Denial-of-Service Attacks, Their Varieties, and the Countermeasures Employed in the IoT Network	S. Ramya G. Jyostna A. Saipujitha, Y.V.K. Durga Bhavani <sup>1,2</sup>	IT	International Journal for Modern Trends in Science and Technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0123.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0123.pdf</a>
2	Techniques based on machine learning that determine which path offers the best routing for data packets in a local area network	A. Pratap, Y. Sirisha, S. Ramya, D. Anusha	IT	International Journal for Modern Trends in Science and Technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0124.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0124.pdf</a>
3	Analysis of the Plant's Leaves for Signs of Disease	Ch. V. Rao, G. Jyostna, Y. Vijaya, G. Ashok	IT	International Journal for Modern Trends in Science and Technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0125.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0125.pdf</a>
4	Recognizing the Feelings Behind Someone's Voice in Practice	Y. Vijaya, Ch. V. Rao, A. Pratap, B. Saadhiya Tabassum	IT	International Journal for Modern Trends in Science and Technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0126.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0126.pdf</a>
5	The Use of Artificial Intelligence to Improve Agriculture and Crop Management	Dr. Sanjeev Kumar M. Hatture Y.V.K. Durga Bhavani, MathaKousalya Devi	IT	International Journal for Modern Trends in Science and Technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0127.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0127.pdf</a>



6	Decoder and Multiplexer Comparison with Mixed Logic and CMOS Logic with 90nm Technology	P. Kishore Babu, K. Anji Babu, Ch. V. Rao	IT	International Journal of Research Publication and Reviews	2023	2582-7421	<a href="https://ijrpr.com/uploads/V4ISSUE1/IJRPR9426.pdf">https://ijrpr.com/uploads/V4ISSUE1/IJRPR9426.pdf</a>
7	An Efficient Spam Detection On IOT Devices Using Machine Learning	CH.V.RAO Ch. Drakshayani K. Tejaswi L. Hima Gayathri L. Tejaswini	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/153_online.pdf">http://www.journal-iiie-india.com/1_apr_23/153_online.pdf</a>
8	Movie Recommendation System	Y. Vijaya M. Rishitha M. Bhavyasri O. Maheswari	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/151_online.pdf">http://www.journal-iiie-india.com/1_apr_23/151_online.pdf</a>
9	Phishing Website Detection using Machine learning models	A Prathap	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/150_online.pdf">http://www.journal-iiie-india.com/1_apr_23/150_online.pdf</a>
10	Securing Data with Block-Chain and AI	Ch. L. Sowjanya S. Chandana V. Suharshitha V. Ashmitha	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/149_online.pdf">http://www.journal-iiie-india.com/1_apr_23/149_online.pdf</a>
11	Crop Yield Prediction Using AI	P. Jyothsna D. Aruna K. Divyasri	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/194_online.pdf">http://www.journal-iiie-india.com/1_apr_23/194_online.pdf</a>
12	Fake Account detection using machine learning	Y Sireesha K. Swathi Ch. V. Navya S. Bhavani V. Yesaswi	IT	Industrial Engineering Journal	2023	0970-2555	<a href="http://www.journal-iiie-india.com/1_apr_23/152_online.pdf">http://www.journal-iiie-india.com/1_apr_23/152_online.pdf</a>
13	A Remarkable Structure To Ensure The Saffety Of Medical Documents While Allowing Adaptable Access Control	T. Shalini CILDeepika, T.Karuna Latha, P.Madhavi	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/UMTST09SI0117.pdf">http://www.ijmtst.com/volume9/si01/UMTST09SI0117.pdf</a>



14	Constructing an Image Caption Generator with the use of CNN and LSTM	Dr.V.Suma Avani, P.Madhavi, J.Himabala, Y.LAKSHMI DURGA	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="https://ijmtst.com/volume9/si01/IJMTST09SI0119.pdf">https://ijmtst.com/volume9/si01/IJMTST09SI0119.pdf</a>
15	A Method for Estimating the Likelihood of receiving a loan approval that is primarily based on the machine learning	Y. Lakshmi Durga, Dr.V.Suma Avani, M. Vijay Kumar, M. Lakshmi Prasanna	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0116.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0116.pdf</a>
16	Effective Scanners for Identifying Malware on Android Devices	J.Kannamma, D. Vijaya Kumari, J.Himabala, T.Karuna Latha	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0118.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0118.pdf</a>
17	Investigation into a Management System for Key Combinations,Centered Around Identity Authentication	P.Madhavi, CH.Deepika, J.Kannamma, Salma Samreen	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0120.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0120.pdf</a>
18	Using Random Forest and the cart Algorithm	T.Karuna Latha, J.Hymavathi, M. Lakshmi Prasanna, D. Vijaya Kumari	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0121.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0121.pdf</a>
19	An investigation on the use of Machine Learning to make predictions Regarding medical	J.Hymavathi, Dr.A.C. Priya Ranjani, Salma Samreen, J.Kannamma	CSE	International Journal of Modern Trends in science & technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0122.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0122.pdf</a>
20	Analysis Of Driver Drowsiness Detection Using Sensor Data By Machine Learning Techniques	Ms D. Anitha 1 Ms. S. Mythrika 2 Ms. S. Lavanya 3 Ms. K. Meghana 4 Ms. T. Shalini	CSE	IEJ	2023	0970-2555	<a href="http://www.journal-life-india.com/1_apr_23/229_online.pdf">http://www.journal-life-india.com/1_apr_23/229_online.pdf</a>



21	Enhanced behaviour of the adaptive Neuro-Fuzzy Interference system(ANFIS) algorithm in comparison to artificial neural networks (ANN) in the use of geo electrical resistivity data	I. k. Anitha, Y.Rama devi, J.Bhagya lakshmi.	FED	INTERNATIONAL	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0115.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0115.pdf</a>
22	Challenges and Opportunities presented by the application of Financial Mathematics to the stock Market	Y.Sri lakshmi, Dr.V. Raghava lakshmi, V.Revathi, Y.Madhavi	FED	INTERNATIONAL	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0114.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0114.pdf</a>
23	Feminist Critical theories of Virginia Woolf	G.Esther shanthi, CILSri lakshmi	FED	INTERNATIONAL	2023	2347-3150	<a href="https://dergipark.org.tr/tr/download/article-file/356890">https://dergipark.org.tr/tr/download/article-file/356890</a>
24	A study of Mutual Funds with Preference for the Banking sector (NSE)	Dr. G. Madhu Sri, Dr. P. Subbaiah, K. Swaroop, T. Leela Bhanu	MBA	IJMTST	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0103.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0103.pdf</a>
25	Sales Technology - An Undeniable Need	Dr. P. Subbaiah, T. Leela Bhanu, K. Sai Sowjanya K.Swaroop,	MBA	IJMTST	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0104.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0104.pdf</a>
26	An Examination of the Volatility of the Equity Shares of Chosen Cement Companies traded on the National Stock Exchange	K. Swaroop, Dr. G. Madhu Sri, T. Leela Bhanu, K. Sai Sowjanya	MBA	IJMTST	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0102.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0102.pdf</a>



27	A Study on the Role of Finance in Logistics Management with reference to Tamilnadu State Road Transport of India	Dr. P. Subbaiah, Dr. G. Madhu Sri, K. Sai Sowjanya, K. Swaroop	MBA	IJMTST	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0105.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0105.pdf</a>
28	Employee Welfare Measures in Bharat Heavy Electronics Limited (BHEL) with reference to Ramachandrapuram, Hyderabad.	T. Leela Bhanu, Dr. P. Subbaiah, Dr. G. Madhu Sri, K. Sai Sowjanya.	MBA	IJMTST	2023	2455-3778	<a href="https://doi.org/10.46501/IJMTST09SI0101">https://doi.org/10.46501/IJMTST09SI0101</a>
29	Automatic speaker recognition that is not based on the presence of text utilizing machine learning	P.Silpa V.Deva sahayam M.Saranya Ch.Kamala Kumari K.P.Prasanna Kumar	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0106.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0106.pdf</a>
30	Deep learning for the purpose of speech and motion recognition	Dr.G.Chenchamma P.N.V.Siva Kumar P.Silpa E.Ravi kumar	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="https://www.ijmtst.com/volume9/si01/IJMTST09SI0107.pdf">https://www.ijmtst.com/volume9/si01/IJMTST09SI0107.pdf</a>
31	Techniques for converting sign language and spoken words into text using raspberry PI	V.Deva sahayam P.Jashua Naveen Sagar G.Anusha M.syamili Md.Zaheer Fathima	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0108.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0108.pdf</a>
32	IOT based parking space detection system employing android software	V.Deva sahayam S.Ratna Spandana P.Silpa E.Ravi kumar M.Kusuma Kumari	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0109.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0109.pdf</a>



33	Machine learning-based methods for the detection and prevention of plant diseases	Dr.G.Chenchamma M.Saranya K.Raja Rajeswari N.Naveen Sagar	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0110.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0110.pdf</a>
34	Tracking Your location using your node MCU without using a GPS module	P.Jashua E.Ravi kumar G.Anusha Ch.Kamala Kumari M.Aruna Jyothi	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0111.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0111.pdf</a>
35	Cloud-based innovative agricultural service platform that makes use of LoRa	V.Deva sahayam P.Jashua M.Saranya N.Naveen Sagar Rahamatunnisa	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0112.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0112.pdf</a>
36	Micro Strip Patch Antenna of 4.4 GHz Frequency Designed for Drone Application	M.Saranya B.Jyothi K.Raja Rajeswari N.Naveen Sagar Ch.Kamala Kumari	ECE	International journal for modern trends in science and technology	2023	2455-3778	<a href="http://www.ijmtst.com/volume9/si01/IJMTST09SI0113.pdf">http://www.ijmtst.com/volume9/si01/IJMTST09SI0113.pdf</a>
37	Synthesis of Elliptical Antenna Array using Hybrid SSWOA Algorithm	S.Rathna Spandana Anusha.D Prabhakar.D Srinivas.K	ECE	Vel Tech Rangarajan Dr Sagunthala R&D Institute of Science and Technology	2023	1054-4887	<a href="https://journals.riverpublishers.com/index.php/ACES/article/view/13307#:~:text=The%20proposed%20hybrid%20algorithm%20is,a%20helper%20in%20this%20method.">https://journals.riverpublishers.com/index.php/ACES/article/view/13307#:~:text=The%20proposed%20hybrid%20algorithm%20is,a%20helper%20in%20this%20method.</a>
38	Use Of Radiation Circuits For Diagnosis Of Melanoma Skin Cancer In Images Of Skin Lesions Using Convolutional Neural Networks	G.Chenchamma Abdhulsattar	ECE	Hindawi Journal of Nanomaterials	2023	8135715	<a href="https://doi.org/10.1155/2022/8135715">https://doi.org/10.1155/2022/8135715</a>



39	Electrocardiogram signal classification in an IoT environment using an adaptive deep neural networks	K.Murali, G.Aloy Anuja Mary, B.Satya Sri	ECE	Neural Computing and Applications	2023	0941-0643	<a href="https://link.springer.com/article/10.1007/s00521-023-08534-9">https://link.springer.com/article/10.1007/s00521-023-08534-9</a>
40	Robust Image water marking using the social group optimization algorithm	K.Murali, K.Prasuna, B.Prabha	ECE	Materials Today: Proceedings	2023	2214-7853	<a href="https://www.sciencedirect.com/science/article/abs/pii/S2214785321048975">https://www.sciencedirect.com/science/article/abs/pii/S2214785321048975</a>

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# An In-Depth Analysis of Distributed Denial-of-Service Attacks, Their Varieties, and the Countermeasures Employed in the IoT Network

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## ABSTRACT

In today's internet world, the Internet of Things (IoT) has its own importance. Along with some advantages, it also has some drawbacks. Through this review paper, we will talk about Distributed Denial of Service Attack (DDoS) in major flows of IoT like how it works, different types and mitigation methods.

**KEYWORDS:** DDoS, IoT, RFID, WSN, SYN

## 1. INTRODUCTION

The term "Internet of Things" (IoT) was introduced by Ashton in 1999. The primary function of IoT is to interconnect the daily usable devices to easily do the computational task in an accurate and managed way. IoT works with sensing devices, the internet, electronics devices, etc., to make the devices smart, just like Artificial Intelligence (AI). IoT makes devices smart because it connects devices to communicate, process, and analyze the data from algorithm/computer language, then send it and show the output. The interaction between IoT objects can be human to human, machine to machine and human to machine.

IoT is presently finding its application in many fields; some of them are described as follows:

- **Agriculture Sector:** The IoT in the agriculture sector is used to check the fertility of the soil, to give information about the climate and suitable seasons for crops, use of insecticides and fertilizers, and irrigation purposes to help the farmer so a farmer can earn more profit.
- **Health Sector:** IoT makes decisions using patient data in the health sector, i.e. taking medicine and checking the body's health through smart devices. IoT control city traffic, distributes water, manages sewage and other wastes, calculates pollution level, manages light on roads and streets, parking, etc.
- **Transport Sector:** In transport, IoT uses vehicle tracking, truck/trailer weight measurement, vehicle maintenance/services, insurance etc.





# Techniques based on machine learning that determine which path offers the best routing for data packets in a local area network

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## To Cite this Article

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## ABSTRACT

The application of machine learning touches all activities related to human behavior like computer networks and routing the packets in Local Area Network (LAN). In the field of our research here, finding the best path, such as the number of nodes in the path and the congestion on each path, in addition to the cache used for each node. The goal of the neural network proposed in this study is to minimize the network time delay within the optimization of the packet paths being addressed. The shortest path is considered as the major issue in routing algorithm that can be carried out with real time of path computations. This study aims to suggest an efficient algorithm that could help in selecting the shortest path to improve the existing methods using weights derived from packet ID and to change neural network iteration simultaneously.

**KEYWORDS:** Routing, LAN, Machine Learning, Neural Network

## 1. INTRODUCTION

Despite the development in communication technology, there are still some obstacles that are basically the main elements of data transmission throughout the network. The information sent from the source takes multiple paths according to the protocols assigned to the network and the strategies drawn to transfer the data. Given the large number of data and the traffic jam of the data through the network paths, whether wired or wireless, the data takes a different path, but the destination is the same. Multipath creates a problem with data flow times, especially when processing complex real-time data. So, managing this traffic is unavoidable.

There are few methods used to solve network congestion through the LAN or within complex networks. Solutions are there where few of the, are in the form of hardware and few in the form of software. The use of machine learning algorithms is based on learning the system by means of preknown results of experimental data, in order to solve the system in later of real data. Neural network algorithm is one of the worthy for solving such problem.

To increase the accuracy of choosing the path followed in the LAN, we need an algorithm that analyzes the most probabilities and determines the best one. And because of the deep learning algorithms, these algorithms have





# Analysis of the Plant's Leaves for Signs of Disease

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The application of machine learning touches all activities related to human behavior like computer networks and routing the packets in Local Area Network (LAN). In the field of our research here, finding the best path, such as the number of nodes in the path and the congestion on each path, in addition to the cache used for each node. The goal of the neural network proposed in this study is to minimize the network time delay within the optimization of the packet paths being addressed. The shortest path is considered as the major issue in routing algorithm that can be carried out with real time of path computations. This study aims to suggest an efficient algorithm that could help in selecting the shortest path to improve the existing methods using weights derived from packet ID and to change neural network iteration simultaneously.

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use of machine learning algorithms is based on learning the system by means of preknown results of experimental data, in order to solve the system in later of real data. Neural network algorithm is one of the worthy for solving such problem.

To increase the accuracy of choosing the path followed in the LAN, we need an algorithm that analyzes the most probabilities and determines the best one. And because of the deep learning algorithms, these algorithms have taken the advantage of, and developed to fit, the features extracted from the given data. The nature of the features extracted in deep learning is computationally complex because of taking into consideration the outputs of each of the hidden layers and entering them as an input to the other layers, and it is called feed forwarding and backpropagation. The proposed method uses the perfect weights as features, and using powerful and suitable





# Recognizing the Feelings Behind Someone's Voice in Practice

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## ABSTRACT

*SPEECH EMOTION RECOGNITION is where emotions can be recognized from the speech. Speech is the most normal way to express yourself as human beings. Extending this means of communication to computer applications is only inevitable then. It describes speech emotion recognition (SER) systems as a set of methodologies that process and classify voice signals to detect the emotions embedded. It is used an MLP Classifier for this and made use of the sound file library to read the sound file, and the librosa library to extract features from it. Since emotions help us understand each other better, applying this understanding to computers is a natural outcome. Thanks to the smart mobile devices that are able to recognize and respond to voice commands with synthesized speech, speech recognition is already in our everyday lives. Recognition of speech emotions (SER) may also be used to enable them to detect our emotions.*

**KEYWORDS:** Fear, anger, sadness, joy, Disgust

## 1. INTRODUCTION

Speech Emotion Recognition is software used to recognize the emotions of humans. Attributes of human voice such as pitch, timbre, loudness and tone make human voice versatile for communication. It can be observed that humans can convey their emotions, even by changing the specified characteristics. This helps the human emotion to be defined by speech analysis. Speech Emotion Recognition recognizes the various emotions like happy, sad, anger, and many more.

➤**Fear:** emotion comes with an unpleasant situation caused from pain, Anger or feeling afraid.

➤**Anger:** involves a strong feeling of aggravation, uncomfortable situation stress, displeasure, or

hospitality.

➤**Sadness:** A feeling caused with disadvantage or loss due to anything.

➤**Joy:** feeling happy. Other words are happiness, gladness.

➤**Disgust:** A feeling with strong disapproval, nasty, dislike

➤**Surprise:** occurred with an unexpected event or shock. Picture (with "Float over text" unchecked). The tonal quality not only changes with different emotions and moods but the associated patterns of speech also shift. For example, when they are angry, people may tend to speak loudly and use shrill or high pitched voices while they are in an emotional state of fear or panic.





# The Use of Artificial Intelligence to Improve Agriculture and Crop Management

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## ABSTRACT

Rising global population and climate change realities dictate that agricultural productivity must be accelerated. Results from current traditional research approaches are difficult to extrapolate to all possible fields because they are dependent on specific soil types, weather conditions, and background management combinations that are neither applicable nor translatable to all farms. Increasing food demand will challenge the agricultural sector globally over the next decades. A sustainable solution to this challenge is to increase crop yield without massive cropland area expansion. This can be achieved by identifying and adopting best management practices. To do so requires a more detailed understanding of how crop yield is impacted by climate change and growing-season weather variability. Agriculture is considered as a backbone of economy and source of employment in the developing countries like India. Agriculture contributes 15.4% in the GDP of India. Agriculture activities are broadly categorized into three major areas: pre-harvesting, harvesting and post-harvesting. Advancement in area of machine learning has helped improving gains in agriculture. Machine learning is the current technology which is benefiting farmers to minimize the losses in the farming by providing rich recommendations and insights about the crops. This paper presents an extensive survey of latest machine learning application in agriculture to alleviate the problems in the three area so pre-harvesting, harvesting and post-harvesting. Application of machine learning in agriculture allows more efficient and precise farming with less human man power with high quality production.

**KEYWORDS:** Machine learning, soil moisture, NPK level, precision agriculture.

## 1. INTRODUCTION

Many countries like India still use the traditional way of farming, farmers are reluctant to use advanced technologies while farming because of either the lack of knowledge, heavy cost or because they are unaware about the advantages of these technologies. Lack of knowledge of soil types, yields, crops, weather, and

improper use of pesticides, problems in irrigation, erroneous harvesting and lack of information about market trend led to the loss of farmers or adds to additional cost. Lack of knowledge in each stage of agriculture leads to new problems or increases the old problems and add the cost to farming. Growth in the population day by day also increases the pressure on the





## Decoder and Multiplexer Comparison with Mixed Logic and CMOS Logic with 90nm Technology

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### Abstract:

Mixed logic designs take prioritized place in logic design approaches which will give a simplified mechanism for the analysis of digital circuits. Also, a mixed logic implementation gives clear idea with regards to the activity of a circuit. Here in this, introduced mixed logic designs like pass transistor dual value logic (DVL), transmission gate logic (TGL), static CMOS. By using CMOS technology, it requires 20 transistors to design 2:4-line decoder but by using mixed logic we can design the same 2:4-line decoder with the use of 14transistors (14T) only. Introducing mixed logic approach a 4:1 MUX was designed by using 2:4-line decoder of mixed logic design. This new approach gives the better operating speed, low power consumption compared to conventional logic design by reducing the transistors activity and simulations are carried out using tanner EDA tools.

**KEYWORDS:** Mixed logic, Low power MUX, Line decoder, Transmission gate logic (TGL), Dual value logic (DVL) & Static CMOS

### 1. INTRODUCTION

In most of the integrated circuits, we generally prefer Static CMOS because of complementary nMOS and pMOS networks which results in good performance as well as resistance to noise and device variation. But by using CMOS technology, it requires 20 transistors to design 2:4-line decoder but by using mixed logic we can design the same 2:4-line decoder with the use of 14transistors (14T) only. Pass transistor logic (PTL) was developed as an alternative to CMOS logic. The main difference between the CMOS logic and PTL design is how the inputs are applied. In the PTL inputs are applied on the gates as well as source/drain terminals. PTL can be designed using either of nMOS and pMOS. The DVL has advantages over the PTL such as full swing operation while also maintaining reduced transistor count. A pair of nMOS and pMOS connected in parallel are called TGL.

**2-4 Line Decoder:** 2-bit input line decoder has 4-bit output. In conventional static CMOS line decoder uses 2 NOT gates and 4 AND gates. Instead of using AND gates we can use NAND gates as they are universal gates. So, for this design it uses 20 transistors for 2-4-line decoder.

**4x1 Multiplexer:** It consists of 4 input lines and 1 output. The selection line decides which inputs should go to the output. The conventional CMOS design for 4x1 mux uses 2 NOT gates, 4 3-input AND gates and 1 4-input OR gate. The total transistor count for this conventional design 4x1 line multiplexer is 46 Transistors.

### 2. MIXED LOGIC


#### CMOS LOGIC:

A static CMOS circuit is composed of two networks: Pull-up network (PUN) - a set of PMOS transistors connected between  $V_{DD}$  and the output line. Pull-down network (PDN) - a set of NMOS transistors connected between GND and the output line. The main advantage of CMOS over NMOS and BIPOLAR technology is the much smaller power dissipation. Unlike NMOS or BIPOLAR circuits, a Complementary MOS circuit has almost no static power dissipation. Power is only dissipated in case the circuit actually switches. This allows integrating more CMOS gates on an IC than in NMOS or bipolar technology, resulting in much better performance. Complementary Metal Oxide Semiconductor transistor consists of P-channel MOS (PMOS) and N-channel MOS (NMOS).

#### TRANSMISSION GATE LOGIC:

The PMOS and the NMOS transistors present in the circuit are always connected in parallel which are managed via complementary signals. Combining an NMOS and PMOS back-to-back will make the resulting transmission gates to pass a good active low "0" and also a good active high "1" signal.

#### DUAL VALUE LOGIC:

  
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**AN EFFICIENT SPAM DETECTION ON IOT DEVICES USING MACHINE LEARNING**

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**ABSTRACT**

The Internet of Things (IoT) is a group of millions of devices having sensors and actuators linked over wired or wireless channel for data transmission. IoT has grown rapidly over the past decade with more than 25 billion devices are expected to be connected by 2020. The volume of data released from these devices will increase many-fold in the years to come. In addition to an increased volume, the IoT devices produces a large amount of data with a number of different modalities having varying data quality defined by its speed in terms of time and position dependency. In such an environment, machine learning algorithms can play an important role in ensuring security and authorization based on biotechnology, anomalous detection to improve the usability and security of IoT systems. On the other hand, attackers often view learning algorithms to exploit the vulnerabilities in smart IoT-based systems. Motivated from these, in this paper, we propose the security of the IoT devices by detecting spam using machine learning. To achieve this objective, Spam Detection in IoT using Machine Learning framework is proposed. In this framework, five machine learning models are evaluated using various metrics with a large collection of inputs features sets. Each model computes a spam score by considering the refined input features. This score depicts the trustworthiness of IoT device under various parameters. REFIT Smart Home dataset is used for the validation of proposed technique. The results obtained proves the effectiveness of the proposed scheme in comparison to the other existing schemes.

**Keywords:** —spam detection, IOT, websites, features, RandomForest, REFIT Smart Home dataset

**1 INTRODUCTION**

Machine learning and data mining often employ the same methods and overlap significantly, but while machine learning focuses on prediction, based on known properties learned from the training data, data mining focuses on the discovery of (previously) unknown properties in the data (this is the analysis step of knowledge discovery in databases). Data mining uses many machine learning methods, but with different goals; on the other hand, machine learning also employs data mining methods as "unsupervised learning" or as a preprocessing step to improve learner accuracy. Much of the confusion between these two research communities (which do often have separate conferences and separate journals, ECML PKDD being a major exception) comes from the basic assumptions they work with: in machine learning, performance is usually evaluated with respect to the ability to reproduce known knowledge, while in knowledge discovery and data mining (KDD) the key task is the discovery of previously unknown knowledge. Evaluated with respect to known knowledge, an uninformed (unsupervised) method will easily be outperformed by other supervised methods, while in a typical KDD task, supervised methods cannot be used due to the unavailability of training data. The difference between optimization and machine learning arises from the goal of generalization: while optimization algorithms can minimize the loss on a training set, machine learning is concerned with minimizing the loss on unseen samples. Characterizing the generalization of various learning algorithms is an active topic of current research, especially for deep learning algorithms





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## MOVIE RECOMMENDATION SYSTEM

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**Abstract:** Recommendation systems (RSs) have garnered immense interest for applications in e-commerce and digital media. Traditional approaches in RSs include such as collaborative filtering (CF) and content-based filtering (CBF) through these approaches that have certain limitations, such as the necessity of prior user history and habits for performing the task of recommendation. To minimize the effect of such limitation, this article proposes a hybrid RS for the movies that leverage the best of concepts used from CF and CBF along with sentiment analysis of tweets from microblogging sites. The purpose to use movie tweets is to understand the current trends, public sentiment, and user response of the movie. Experiments conducted on the public database have yielded promising results.

**Index Term:** - Machine Learning algorithms, Recommendation systems, content-based filtering

### 1 Introduction

Traditional approaches in RSs include such as collaborative filtering (CF) and content-based filtering (CBF) through these approaches that have certain limitations, such as the necessity of prior user history and habits for performing the task of recommendation. Users often face the problem of excessive available information. Recommendation systems (RSs) are deployed to help users cope up with the information explosion. RS is mostly used in digital entertainment, such as Netflix, Prime Video, and IMDB, and e-commerce portals such as Amazon, Flipkart, and eBay. In this article, we focus on RS for movies, which is an important source of recreation and entertainment in our life. Movie suggestions for users depend on Web-based portals. Movies can be easily differentiated through their genres, such as comedy, thriller, animation, and action. Another possible way to categorize the movies based on its metadata, such as release year, language, director, or cast. Most online video-streaming services, provide personalized user experience by utilizing the user's historical data, such as previously viewed or rated history. The purpose to use movie tweets is to understand the current trends, public sentiment, and user response of the movie. Experiments conducted on the public database have yielded promising results.

### 2 Literature survey

#### 2.1 Analyzing user modeling on Twitter for personalized news recommendations

**AUTHORS:** F. Abel, Q. Gao, G.-J. Houben, and K. Tao.

How can micro-blogging activities on Twitter be leveraged for user modeling and personalization? In this paper we investigate this question and introduce a framework for user modeling on Twitter which enriches the semantics of Twitter messages (tweets) and identifies topics and entities (e.g. persons, events, products) mentioned in tweets. We analyze how strategies for constructing hashtag-based, entity-based or topic-based user profiles benefit from semantic enrichment





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## PHISHING WEBSITE DETECTION USING MACHINE LEARNING MODELS

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### ABSTRACT


Phishing is one of the most popular and dangerous cybercrime techniques. The aim of these attacks is to steal information that people and businesses use to perform transactions. Phishing websites have a variety of clues in their content and web browser-based data. The aim of this study is to use random forest SVM and logistic regression and Gradient Boosting Machine Learning based classification to classify and predict phishing attacks for 30 features, including Data from Phishing Websites

**Keywords:** — Phishing websites, features, RandomForest, URLExtraction

### INTRODUCTION

As a result of rapidly evolving technology, internet use has become an integral part of our everyday lives. Because of the rapid advancement of technology and the widespread use of digital systems, data protection has become increasingly important. The primary goal of information technology protection is to ensure that appropriate precautions are taken against threats and dangers that users can encounter when using these technologies [1]. Phishing is described as imitating trustworthy websites in order to obtain proprietary information such as usernames, passwords, and citizenship numbers that are entered into websites every day for various purposes. Phishing websites have a variety of clues in their material and web browser-based data [2- 4]. Individuals committing the fraud give the fake website or e-mail information to the target address as though it came from a legitimate company, bank, or other trustworthy source. As the size and complexity of cyber security attacks continue to grow, social engineering techniques remain one of the easiest and most efficient ways to gain access to sensitive or confidential information. Phishing is described by the United States Computer Emergency Readiness Team (US-CERT) as a type of social engineering that involves posing as a trustworthy organization or entity and soliciting personal information from an individual or business through e-mails or malicious websites [1]. While organisations should train workers on how to spot phishing e-mails or links in order to protect themselves from the aforementioned types of attacks, Users can easily replicate entire websites for their own purposes using tools like HTTrack. As a consequence, even the most experienced users can be duped into disclosing private or confidential information by visiting a malicious website that appears to be legitimate. As a result of the aforementioned issue, computer-based solutions to protect against phishing attacks, as well as user education, are needed. A device with such a solution would be able to detect malicious websites and discourage users from communicating with them. The use of Uniform Resource Locators (URLs) is one way to identify phishing websites that aren't legitimate (URLs). A URL is a document's global address on the World Wide Web. One of the major challenges in designing machinelearning-based solutions for this issue is the scarcity of publicly accessible training data sets containing phishing URLs. As a result, studies evaluating the efficacy of machine-learning methods based on existing data sets are needed. This project aims to help meet that need. The aim of this study is to compare the output of widely used machine learning algorithms on the same phishing data set. In this study, we use a data set from which features from data URLs have already been extracted, as well as class labels. We used Random Forest to evaluate basic machine learning algorithms for classifying URLs.

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## SECURING DATA WITH BLOCK CHAIN AND ARTIFICIAL INTELLIGENCE

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### Abstract

Data is the input for various artificial intelligence (AI) algorithms to mine valuable features, yet data in Internet is scattered everywhere and controlled by different stakeholders who cannot believe in each other, and usage of the data in complex cyberspace is difficult to authorize or to validate. As a result, it is very difficult to enable data sharing in cyberspace for the real big data, as well as a real powerful AI. In this paper, we propose the **Sec-Net**, an architecture that can enable secure data storing, computing, and sharing in the large-scale Internet environment, aiming at a more secure cyberspace with real big data and thus enhanced AI with plenty of data source, by integrating three key components:

- 1) Blockchain- Based data sharing with ownership guarantee, which enables trusted data sharing in the large-scale environment to form real big data;
- 2) AI - Based secure computing platform to produce more intelligent security rules, which helps to construct a more trusted cyberspace;
- 3) Trusted Value - Exchange mechanism for purchasing security service, providing a way for participants to gain economic rewards when giving out their data or service, which promotes the data sharing and thus achieves better performance of AI. Moreover, we discuss the typical use scenario of Sec-Net as well as its potentially alternative way to deploy, as well as analyze its effectiveness from the aspect of network security and economic revenue.

**Index Terms:-** block chain, sha256,, artificial intelligence ,Trusted Value. Sec-Net

### I Introduction

With the development of information technologies, the trend of integrating cyber, physical and social (CPS) systems to a highly unified information society, rather than just a digital Internet, is becoming increasing obvious . In such an information society, data is the asset of its owner, and its usage should be under the full control of its owner, although this is not the common case . Given data is undoubtedly the oil of the information society, almost every big company want to collect data as much as possible, for their future competitiveness . An increasing amount of personal data, including location information, web-searching behaviour, user calls, user preference, is being silently collected by the built-in sensors inside the products from those big companies, which brings in huge risk on privacy leakage of data owners . Moreover, the usage of those data is out of control of their owners, since currently there is not a reliable way to record how the data is used and by who, and thus has little methods to trace or punish the violators who abuse those data [8]. That is, lack of ability to effectively manage data makes it very difficult for an individual to control the potential risks associated with the collected data . For example, once the data has been collected by a third party (e.g., a big company), the lack of access to this data hinders an individual to understand or manage the risks related to the collected data from him. Meanwhile, the lack of immutable recording for the usage of data increases the risks to abuse them . If





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## Crop yield prediction and Fertilizer Recommendation using Artificial Intelligence

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**Abstract**— India being an agriculture country, its economy predominantly depends on agriculture yield growth and agroindustry products. Data Mining is an emerging research field in crop yield analysis. Yield prediction is a very important issue in agricultural. Any farmer is interested in knowing how much yield he is about to expect and what is the crop that is suitable for the land. Analyze the various related attributes like location, pH value from which alkalinity of the soil is determined. Along with it, percentage of nutrients like Nitrogen (N), Phosphorous (P), and Potassium (K) Location is used along with the use of third-party applications like APIs for weather and temperature, type of soil, nutrient value of the soil in that region, amount of rainfall in the region, soil composition can be determined. All these attributes of data will be analyzed, train the data with various suitable machine learning algorithms like SVM, Random Forest, KNN and voting classifier for creating a model. The system comes with a model to be precise and accurate in predicting crop yield and deliver the end user with the proper recommendations about required fertilizer ratio based on atmospheric and soil parameters of the land which enhance to increase the crop yield and increase farmer revenue. Thus, the proposed system takes the data regarding the quality of soil and the weather-related information as an input. The quality of the soil such as Nitrogen, Phosphorous, Potassium and Ph value. Weather related information like Rainfall, Temperature and Humidity to predict the better crop. In our project we are taking the datasets from Kaggle website.

**Index Terms**— Crop, SVM, KNN, Random Forest, Nitrogen, Phosphorous, CNN

### I Introduction

One of the most essential occupations in our country is agriculture. It is the country's most diverse economic sector and plays a critical role in its overall development. To meet the demands of the country's 1.2 billion inhabitants, agriculture takes up around 60% of the country's land. As a result, agricultural modernisation is critical, and it will lead to profit for our country's farmers. The act of studying data collections in order to derive conclusions about the information they contain, increasingly with the use of specialised tools and software, is known as data analysis (DA).

Previously, yield prediction was done by taking into account the farmer's expertise on a specific field and crop. Farmers, on the other hand, are forced to produce more and more crops as the weather changes swiftly from day to day. Given the existing scenario, many of them lack sufficient knowledge of the new crops and are unaware of the benefits they receive from producing them. Understanding and anticipating crop performance in a variety of environmental circumstances can also boost agricultural output. As a result, the suggested system uses data on soil quality as well as weather-related information as input. The soil's quality, such as nitrogen, phosphorus, potassium, and pH. Rainfall, temperature, and humidity are examples of weather-related

information. In this project, we will Crop forecast is a common issue that arises. A farmer was curious about how much output he should expect during the rising season. Previously, this yield estimate was based on the farmer's long-term expertise with specific yields, crops, and meteorological circumstances. Instead of worrying about crop forecast, farmers go straight for yield prediction with the current technique. Unless the correct crop is forecasted, the yield will be better, and pesticides, environmental and climatic parameters related to the crop will not be considered using existing methods. One of the most important conditions for agricultural progress is to promote and soothe agricultural production at a faster rate. Any crop's production will guide the way either through domain interest or yield enhancement, or both. In India, the only way to broaden the district under any crop is to re-establish to boost cropping strength or to replace the crop. As a result, changes in crop productivity continue to be a source of concern and distress in the area. As a result, in order to solve the problem, good crop prediction techniques must be tried.

### 2 Literature survey

VIRENDRA PANPATIL ET AL It had done a tremendous amount of work for Indian ranchers by creating a framework for producing productive yield proposals. They developed a framework that included classifier models such as Decision Tree Classifier, KNN, and Naive Bayes Classifier. The proposed framework can be used to determine the ideal planting season, plant development, and plant harvesting. They used a unique classifier to get higher exactness, for example: decision trees





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### FAKE ACCOUNT DETECTION USING MACHINE LEARNING

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#### Abstract

Social Networks are gaining more momentum in businesses around the world and has become one of the most used and popular platforms of digital marketing and to check the latest trends among the public and to better understand what people wants. Fake Social Profiles are increasing rapidly that spreads fake news and information over this growing channel. This paper looks at different machine learning algorithms and how they help to solve the problems related to fake social profile detection. Python is used in Jupyter Notebook along with various ML and data analytics library like Pandas, Sklearn, Numpy etc. Machine learning algorithms i.e. ANN is used in this paper and Genuine Users are detected.

**Index Terms:** - social networks, fake account, sklearn, numpy, ANN

#### I Introduction

Spam is a real threat to usefulness of the web. Spammers mask their content as useful or relevant content and hence is delivered to the user. The legitimate users consume this spam data considering it relevant to their information needs. Clay Shirky remarked that a communication channel isn't worth its salt until the spammers descend.

Spams are not easy to stop. For several years, email services like Gmail, Microsoft and others have been successfully detecting spam emails but still spam emails are in circle on the web. These services have been reporting that email spamming has been up to 90 to 95 percent of the total email exchanges. Even after successful detection of spams, companies are unable to stop spammers which ensures about the economic benefits spammers get when they trap a user clicking on a spam link. The severity of the threat posed by spamming has increased with the emergence of online social networks and twitter is one of the most popular online social network which has been highly affected by spam. twitter spamming is more threatening because its more targeted towards the trending topics of the twitter and hence bit easier to get penetrated especially because of hash-tag operator. Another fact that makes twitter a rather easier and fruitful target for spammers is its variety of audience. twitter users span across all sectors of life i.e. it can be the teachers or students, celebrities or politicians, marketers or customers or even general public. They belong to all age groups but most widely age group that uses twitter is between 55 to 64 years. There are about 60% users that access twitter from their cell phones. Twitter has 288 million monthly active members that make it widely growing social networking site. There are around 400 million tweets posted on daily bases, the average posts on twitter is 208 tweets per users account.

Due to this continuous distribution of information, a user faces many problems with search results that shares recurring and irrelevant information. This also can be very worrying at the times since a user has to scroll through the all information in direction to get an overall view of topic. Spam detection on the twitter network is difficult due to the noticeable usage of URLs, abbreviations, informal language and modern language concepts. Old-style methods of detecting spam information fall





# A Remarkable Structure to Ensure the Safety of Medical Documents while Allowing for Adaptable Access Control

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## ABSTRACT

EMRs (electronic medical records) serve a critical purpose in healthcare systems. The EMR device must maintain patient privacy because these archives contain sensitive information about patients on a regular basis. Current policies normally allow an individual to look at another's EMR if and only if his or her role matches the criteria mentioned in the policy's entry to. The present systems, on the other hand, allow an adversary to link the identities of patients to their doctors. To prevent opponents from viewing the electronic medical records (EMRs) of patients, the classifications of their ailments are leaked. We have two unnamed schemes in place to address this issue. As a result, they've gained not only information secrecy, but also individual anonymity. The first strategy provides a decent level of security by allowing attackers to select their attack objectives prior to accessing EMR system data. After interacting with the EMR system, enemies are able to alter their attack plans based on their interactions with the EMR system. In order to demonstrate our systems' security and anonymity, we provide extensive documentation. EMR owners can use our method to find their own records in a nameless database. We use the online/offline approach to speed up record processing in order to provide a better user experience. EMR encapsulation and key technology have demonstrated experimentally that their time complexity may be reduced to milliseconds.

## 1. INTRODUCTION

The advanced data collected by businesses, open groups, and governments has made enormous open doors for information-based applications to be used in their systems. As a result of these benefits, the sharing and exchange of obtained information among multiple parties has gained popularity. The sensitive information

about clients is usually kept in the earliest records, thus releasing it without first handling it would be a misuse of the protection. In order to secure sensitive information, archive redaction is a straightforward method of doing so. When it comes to protecting proprietary information from unintended or malicious leaks, record redaction is a go-to solution for many firms. Clinical information





# Constructing an Image Caption Generator with the use of CNN and LSTM

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## ABSTRACT

Image captioning means, it is a process of creating a short description of an input image. It essentially involves writing a statement that describes the visual picture. Typically, the image may consist of many objects. Some objects are focused more than compared to others. Identifying such tasks is carried out manually. Hence, it needs a huge contribution of people and time to automate this process. The challenge is that the machine must deeply learn from the given datasets only in order to identify the objects, its actions, and their locations. The fact that people can do it readily for small sets but fail when there are more photos which makes it a challenging problem of deep learning. The image caption generation task can be shortened with the use of deep neural networks.

**KEYWORDS:** Captions, CNN, LSTM, RNN

## 1. INTRODUCTION

Image Caption Generator is a process that generates a caption about the given image in natural language like English. The traditional retrieval and template-based approaches to captioning began with the detection of the Subject, Verb, and Object independently and then joining them using a sentence template. However, the introduction of Deep Learning and significant advances in Natural Language Processing has had an equal impact on captioning.

[13] Image Caption Generator has two approaches. Bottom-up approaches means it, combines [1] [2] [3] the input from different objects which are identified in an original input image. Top-down approaches, means, it uses CNN [4] [5] [6] as encoder to extract the features

from the image that are fed into decoders such as Long Short Term Memory (LSTM) and Recurrent Neural Networks (RNN). Our approach is based on top-down using CNN as encoder and LSTM as decoder. We use a deep Convolutional Neural Network (CNN) to extract important features of an image. Xception is used for image feature extraction. It is a CNN which has 71 layers deep. LSTM network uses this information and generate suitable captions. Figure 1 provides the model of CNN and LSTM.

CNN scans the image from top to bottom and left to right and extract some important features and combine the features. It is also responsible for image classification. It has three layers [7] they are Convolutional Layer, Pooling Layer and Fully Connected





# A Method for Estimating the Likelihood of Receiving a Loan Approval that is primarily based on the Machine Learning

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## ABSTRACT

Getting a loan from a bank has become a relatively normal occurrence these days. In the form of interest, banks benefit from the loans they make to their customers. Many variables should be considered by banks when accepting a loan, including credit history and score, the person's reputation, the location of the property, and the relationship with the bank. Many people seek for loans such as home loans, automobile loans, and other types of loans. On the basis of the aforementioned criteria, no one can be accepted. There are numerous instances where loan applications are denied by various financial institutions. For banks to maximise revenues, accurate forecasts about whether or not to issue a loan to a consumer are critical. The goal of this research is to apply machine learning techniques to forecast whether or not a customer will be able to obtain a loan from a bank.

**KEYWORDS :** Outlier, Prediction, Component, Training data, and Transform are all terms that can be used to describe a loan

## 1. INTRODUCTION

This study used data from prior clients of multiple banks who had loans approved based on a set of criteria. To generate reliable results, the machine learning model is trained on that record. The primary goal of this study is to anticipate the loan's safety [1][3]. Loan safety is estimated using the logistic regression method. The data is cleansed first to avoid missing values in the data collection. Our model was trained using 1500 examples with ten numerical and eight categorical parameters.

Finance companies deals with all kinds of loans such as house loans, vehicle loans, educational loans, personal loans etc... And has a presence across areas such as cities,

towns and village areas. A customer applies for a loan first, and then the Finance Company verifies the customer's eligibility for the loan. The applicants must fill out a form that includes information such as their marital status, gender, education, and number of dependents, as well as their income, loan amount, credit history, and other information. Therefore, a robust model is built taking those details as input to verify whether an applicant is eligible to apply for loan or not. The target variable here is Applicants "Loan Status" and the other variables are predictors. After building the Machine Learning model a Web Application is to be developed for a user interface that allows <sup>Principal</sup> to see instantly if





# Effective Scanners for Identifying Malware on Android Devices

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## ABSTRACT

The rapid spread of computer networks has changed people's perceptions of network security. Because computer networks are widely accessible, they are susceptible to a variety of hacking assaults. Network threats are innumerable and can be lamentable. Researchers have developed intrusion detection systems (IDS) that can detect attacks in a variety of situations. Various abuse and abnormal detection strategies have been used. Many of the existing technologies are complementary, as certain approaches perform better in specific settings than others. This survey came up with a new intrusion detection system (IDS). The classification method comprises of two parts: the detection theory of the intrusion detection system "IDS" and the operational components. This is part of our project.

**KEYWORDS:** RF, ANN.

## 1. INTRODUCTION

### ▶ Machine Learning:

In the context of statistics, machine learning is called an application of artificial intelligence where accessible data is processed or algorithmically assisted in the processing of statistical data.

Machine learning relies on automation, but it still requires human monitoring.

Machine learning requires a high degree of generalization to create a system that works well with data samples that have not yet been encountered.

Machine learning is a new discipline of computer science that incorporates a wide range of data processing techniques.

Some of these techniques include (for instance logistic regression and principal component analysis) are based on well-established statistical methods, whereas others are not.

### Objective of Project:

- ▶ To avoid data loss.
- ▶ More throughputs.
- ▶ To reduce time consumption.
- ▶ Continuous energy check up of all data to avoid communication failure.
- ▶ To find the intruder at the early stage.

Computer Network Security will show you how to detect malware. The basic idea is to reuse system





# Investigation into a Management System for Key Combinations, Centered Around Identity Authentication

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## ABSTRACT

Because of the high volume of enormous information, Cloud Computing is powerful solution for storing huge amounts of information in the cloud, as the cloud can reserve and handle a high volume of clients. ABE is a promising way to make sure that huge amounts of information in the cloud are safe. A minor execution gives the person who owns the information a chance to get it back, freeze it under the new access rules, and then send it back to the cloud. Additionally, we propose various strategy calculations for access strategies. Also, we suggest a smart and safe way for the people who own the data to check if the cloud server has updated the figure messages correctly

## INTRODUCTION

The general and simple way of protecting cloud outsourced files is to encrypt data files before uploading them to cloud storage. Despite the fact that the data file encryption algorithms do seem to be publicly available, the data files seem to be secure since this key used only for encryption and decryption is kept under wraps. As an outcome, key generation & distribution were indeed crucial issues in cloud computing. The key should always be extremely safe so that nobody can reach the transmitted data files. Encryption of the entire cloud would also secure the data by encryption and decryption with a key. Still, it will only prevent a few limited people from access and it can't be secure if the private key is leaked to unwanted people who will lead to the disclosure of a secret file in the cloud.

[16] Cloud computing is where the owner of the data stores the large scale of data for subsequent processing. The data should be encrypted using the cryptographic method where owners need to maintain full authority over security keys. Using an encryption management tool before encrypting your data will help protect data from data loss. The encryption keys should be kept secret from cloud providers.

Key Management is in which data is encrypted and decrypted using the use of encrypted keys. Keys make sure the safe data transmission across the internet. Security requirements for key management are

1. Access: only authorized users can access encryption keys.

2. the data should be protected from swindling
3. Unintended use of keys; these keys should be used for

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# Using Random Forest and the Cart algorithm to Detect Fraudulent Use of credit Cards

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## ABSTRACT

In this research article, we emphasis on detecting credit score card theft actual conditions. In this situation, detecting credit card theft is totally dependent on fake money processing. Credit card theft will occur either virtually or physically, in general. However, internet fraud transaction activities are on the rise in today's climate. So, if you want to spot internet fraud, the present machine applies a range of strategies. In the suggested computer, we practice the RFA to locate counterfeit processings & determine their correctness. This method employs a supervised learning technique that employs decision trees for each dataset type. After categorising the dataset, a lattice of perplexity is generated. The lattice of perplexity is used to assess the Random Forest Algorithm's overall performance. The correctness of the findings obtained by processing the dataset is approximately 90%.

**KEYWORDS:** Credit Card Fraud Detection, Transactions, Organization Technique, RFA

## 1.INTRODUCTION

Credit card fraud is on the rise. Both online and physical transactions can be used to commit credit card fraud. Physical cards are necessary in offline transactions, whereas virtual cards are required in online transactions for unlawful or fraudulent activity. As a result, credit card fraud may result in a large number of fraudulent transactions without the knowledge of the genuine customers. Fraudsters are looking for sensitive information such as credit card numbers, bank account numbers, and other user information that will be used to conduct transactions. In the case of offline transactions, fraudsters must steal the person's credit card to complete the transaction, whereas in the case of online transactions, fraudsters must steal the user's identity and

online information to complete the transaction. As a result, credit card fraud has emerged as the most serious issue in today's modern world, which is plagued by problems with bank transactions. There are several ways for detecting fraud transactions based only on transaction behaviors, and these tactics can be classified as supervised mastery and unsupervised studying algorithms. As a result, credit card scam has appeared as most serious problem in today's modern creation, which is plagued by problems with bank transactions. There are several ways for sleuthing scam transactions constructed only on transaction behaviors, and these tactics can be classified as supervised mastery and unsupervised studying algorithms. Cluster Analysis, Provision Vector Machine, Nave Bayer's Classification, and other





# An Investigation on the Use of Machine Learning to Make Predictions Regarding Medical Records

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## ABSTRACT

*Critical Patient with Flexibility In developing countries like Bangladesh, caring devices are a major issue. Due to a lack of acceptable, simple, and scalable intelligent systems, most medical institutions in Bangladesh are unable to supply appropriate fitness providers. The goal of this project is to create a gadget that will allow hospitals to provide crucial patients with real-time feedback. In this study, we propose a time-tested architecture, related terminology, and a classification mannequin for monitoring critical patient fitness status using machine learning and IBM cloud computing as Platform as a Service (PaaS). The basic idea of this study is to estimate the patients' fitness using Machine Learning (ML). The platform for this query to shop and keep our information and ml models is IBM Cloud, IBM Watson Studio. We used Nave Bayes, Logistic Regression, KNeighbors Classifier, Decision Tree Classifier, Random Forest Classifier, Gradient Boosting Classifier, and MLP Classifier as Base Predictors for our ML models. The bagging strategy of ensemble getting to know was employed to improve the model's accuracy. Bagging Random Forest, Bagging Extra Trees, Bagging KNeighbors, Bagging SVC, and Bagging Ridge are the algorithms used for ensemble learning. For real-time statistics and record viewing, we created the "Critical Patient Management System - CPMS" cellular utility. The device structure is structured in such a manner that the ml models may educate and install in real-time by retrieving data from IBM Cloud, and the cloud records can also be retrieved through CPMS at a specified time period. The ml fashions will forecast a patient's situation to aid the physicians. If the prognosis based on the situation worsens, the CPMS will send an SMS to the responsible physician and nurse, requesting quick attention to the patient. The venture may also act as a smart healthcare solution when combined with the ml designs and cellular application.*

## 1. INTRODUCTION

A Critical Patient Care or Monitoring System is a technique in which a doctor may always monitor more than one patient for more than one parameter at a time at a remote location and also have control over medicinal drug dose. These systems would greatly assist the development and evaluation of ICU decision-support frameworks. Devices like as vital sign monitors, mechanical ventilators, and dialysis devices, among

others, are used to assist critical patients whose bodies require time to heal. The majority of the equipment are operated manually by monitoring the patient's condition and reviewing reports. As a result, we decided to use modern technology to automate the system and decision-making capabilities, like auto deployable computer learning trends and cloud computing. Machine learning methods can anticipate the patients' near-future situation, whether or not their situation will worsen or





## ANALYSIS OF DRIVER DROWSINESS DETECTION USING SENSOR DATA BY MACHINE LEARNING TECHNIQUES

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### ABSTRACT

Modern, sophisticated driver assistance systems gather information about the driver's condition by analysing driving performance. Such systems can, for instance, evaluate the driver's steering or lane-keeping behaviour to spot indicators of tiredness and inform them when their level of intoxication reaches a crucial point. These technologies, however, are unable to access direct cues regarding the driver's state. As a result, the objective of this work is to increase the identification of driver drowsiness in automobiles utilising signals from a driver monitoring camera. In driving simulator tests, 35 features relating to the driver's eye blinking behaviour and head motions are extracted for this reason. Using the substantial dataset, for the purpose of classifying the driver's state, we created and assessed a feature selection approach based on the k-Nearest Neighbour algorithm. The impact of tiredness on the driver's blink behaviour and head motions is shown by a concluding analysis of the highest performing feature sets. These results will aid in the future creation of trustworthy and reliable driver drowsiness monitoring systems to avoid accidents brought on by sleepiness.

### 1 INTRODUCTION

When it comes to road safety, drowsy driving is a contentious issue. Almost everyone who regularly operates a vehicle has already experienced tiredness or even micro-sleeps while operating it. However, there isn't much societal knowledge of the subject. However, the number of accidents brought on by sleepiness grew in Germany from 2008 to 2018. That suggests that there is a greater need for trustworthy sleepiness monitoring systems in automobiles. The main purposes of such a system are to help the driver estimate their level of sleepiness more accurately and to prevent serious impairments of their driving abilities. A driver drowsiness monitoring system may use a variety of factors related to the car or the driver. While the bulk of contemporary systems really rely on a combination of measurements (so-called hybrid methods), certain driver drowsiness monitoring strategies try to construct a system on a single measure. This is especially useful in challenging real-world situations where it's possible that a single metric won't adequately capture the driver's state. As a result, the detections can be verified using additional data from other domains, boosting the confidence in the drowsiness classification. However, it is essential to fully comprehend the distinctive signs that indicate the driver's level of drowsiness. This study aims to determine the driver's status using behavioural indicators, such as drowsy drivers' head movements and blink patterns, and to suggest a break if certain signs of tiredness are noticed. Gaining knowledge of certain behavioural traits will help in the future development of accurate driver state classification systems, which is another goal of this investigation. The k Nearest Neighbour (K-NN) algorithm is used to categorise the driver's level of drowsiness based on the characteristics of eye closure and head movement. The structure of this essay is as follows: A summary of the most recent methods for classifying and detecting driver drowsiness is provided in Section II. Describe the data gathering procedure, feature extraction, and feature analysis in detail. The consideration of the classification problem, the model design, and the search for an appropriate distance metric and value of k are the main components of the K-NN based driver drowsiness state classification.





# Enhanced behaviour of the Adaptive Neuro-Fuzzy Inference System (ANFIS) algorithm in comparison to Artificial Neural Networks (ANN) in the use of geoelectrical resistivity data

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## ABSTRACT

Soft computing techniques are widely used for many non-linear problems in the real world. Many Earth's nonlinear characteristics exhibit uncertainty problems that have to be interpreted with advanced soft computing tools. Ambiguity always presents in realistic processes. The efficiency of knowledge-based systems depends upon the algorithms, which are cumbersome as their implementations require extensive computational time. Here, we present a work about interpreting the subsurface parameters of the Earth from electrical resistivity data using the Artificial Neural Networks (ANN) and Adaptive Neuro-Fuzzy inference (ANFIS) techniques. We focus on the advantage of the hybrid neuro-fuzzy systems, compared with the Artificial Neural Networks (ANN), in efficiency in interpreting electrical resistivity data. Hybrid systems that fuse fuzzy systems and neural networks (NN) have been propounded for utilizing numerical data. It is expected that ANFIS can be used in many nonlinear problems. The network model is successful in training with large number of self-generated synthetic data sets. The interpretation using the ANFIS technique gave promising results with better accuracy, compared with the ANN inversion. Problems with parameter estimation can be solved more efficiently with this ANFIS geoelectrical resistivity inversion algorithm.

**KEYWORDS:** Neuro-Fuzzy Inference System, Artificial Neural Networks, subsurface parameters, electrical resistivity inversion

## 1. INTRODUCTION

The Neuro-fuzzy approach is becoming one of the major areas of interest because it gets the benefits of neural networks as well as of fuzzy logic systems and it removes the individual disadvantages by combining them on the common features. Different architectures of neuro-fuzzy system have been investigated by number of researchers. These architectures have been applied in

many applications including the interpretation of geoelectrical resistivity data. Neural Networks and fuzzy logic have some common features such as distributed representation of knowledge, model-free estimation, the ability to handle data with uncertainty and imprecision etc. Fuzzy logic has tolerance for imprecision of data, while neural networks have tolerance for noisy data. The most widely researched of all hybrid systems at the

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# Challenges and Opportunities Presented by the Application of Financial Mathematics to the Stock Market

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## ABSTRACT

Financial mathematics in share market is the merchandise of applying mathematics to portfolio choice theory and option pricing theory. With the rapid development of the profitable situation, the products and derivatives of the financial industry are continuously optimized and innovative, and new financial goods and services are gradually increasing. The operation of financial markets, the blueprint and pricing of financial derivatives, and the analysis and supervision of risk become very imperative, and the research and development of financial mathematics is fetching more and more important. Therefore, it is of realistic significance to analyze the specific application of mathematics in the monetary field.

Financial mathematics, also called investigative finance, mathematical economics and mathematical finance, is an interdisciplinary focus of mathematics and finance that arose in the late 1980s and early 90s. Financial mathematics in share markets chiefly uses the modern mathematical theory and method (such as stochastic analysis, stochastic most advantageous control, portfolio analysis, nonlinear analysis, multivariate arithmetical analysis, mathematical programming, up to date computational methods etc.) of financial (including banking, speculation, bonds, funds, stocks, futures, options and other financial instruments and markets) analysis the number of theory and put into practice. The core problem is the selection theory of the optimal outlay strategy and the asset pricing theory under the doubtful condition. Financial mathematics not only have a direct effect on the novelty of financial instruments and financial markets in the share markets, drive efficiently, but also for the company's investment decision-making and assessment of project research and development (such as real options) and menace management in financial institutions has been extensively used.

**KEYWORDS:** financial, mathematics, share, market, challenges, model

## 1. INTRODUCTION

Applying arithmetics to the financial field is based on some financial or economic assumptions, and uses abstract mathematical methods to build mathematical models of how the financial mechanism works. Financial mathematics chiefly includes the basic concepts and

methods of mathematics, the associated natural science methods and so on.[1,2]

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## Feminist critical theories of Virginia Woolf

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**Abstract.** Virginia Woolf is considered one of the maximum famous and awesome modernist literary writers of the 20<sup>th</sup> century and symbolic determine of the feminist motion. This entry goes to mirror upon her improvement as a feminist creator, her contribution to gender equality and her subject with the position of lady in society. The existing paper sought to analyse the feminist views in her novels. The paper discusses the portrayal of gender. The present paper makes a speciality of principal factor of an individual's identity thru one's personal gender. It discusses on the gender difficulty associated with the characters. The characters may be female or male however the gender topics in frame paintings of feminist take a look at.

**Keywords:** Feminist, Gender, Literature, Orlando and Theories.

### 1. INTRODUCTION

The principle cause of this essay is to present a popular feminist method of two unique works written by means of Virginia Woolf. The most important objectives expected to reach with the reading of this paper is the well-known of the world and society via which the writer become surrounded. With this purpose, the paper counts with a breath taking vision effortlessly to recognize about some very important elements that conditioned the general work of the writer: a breath taking imaginative and prescient of her profession, a general background of her position as the first promoter of the feminist movement in addition to brief and interesting clarification about the have an effect on of the Bloomsbury organization in her work and beliefs. However, the analysis of the two works of Virginia Woolf corresponds with the second part of this essay. Both evaluations address the fundamental factors of the feminist imaginative and prescient of the writer. The evaluation of both works has a clear methodical order. First of all, the paintings is opened with a gripped identify or thesis announcement. This title is accompanied by using clean explanations of the specific elements of Virginia Woolf's ideology. Those particular factors are diagnosed with some functions of the radical. This correspondence among the ideological elements of the writer and many traits of the contents is very critical. In this way, the correspondence allows the reader to apprehend higher what Virginia Woolf notion about Feminism. Those points are exemplified in this paper with a large quantity of passages taken from the unique texts.

### 2. ORLANDO

Virginia Woolf's Orlando is foundational text in realm of feminist important theories. Her writing deals with modernity and critical thinking very efficaciously. Orlando imagined being the gender reorientation of the characters in literature. Virginia Woolf has followed the plot of the textual content from real life events. It appears to be straightforward file of gender associated problems. In line with Sandra Gilbert "Woolf's Orlando is honest however excellent literary work "(Gilbert, P.XXV). Virginia Woolf has used the idea of time very





# A Study of Mutual Funds with Preference for the Banking Sector (NSE)

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## ABSTRACT

Mutual fund investment has lot of changes in the recent past, and investors mentality and their expectation are changing in the present scenario. Investors preference towards return, risk varies often. The investor should compare the risks and returns before investing in a particular fund. For this, he should get the advice from experts and consultants and distributors of mutual fund schemes. The investors can invest in the mutual fund and can be to get more benefits. Periodically checking up on how the mutual fund is doing is important, and there are lots of measures that the investor can use to perform the checking. A funds track record may be the single most important factor that an investor checks before opting for a mutual fund product. Hence evaluating funds is important before investing. But it is becoming increasingly important for investors to take note of other parameters too, while deciding between mutual funds. Of course, investors need to weigh the savings on expenses against the performance record before choosing a fund. Over the past decades mutual funds have grown intensely in popularity and have experienced a considerable growth rate. Mutual funds are popular because they make it easy for small investors to invest their money in a diversified pool of securities. As the mutual fund industry has evolved over the years, there have arisen many questions about the nature of operations and characteristics of these funds. Thus the fund evaluation process helps the investors to know more about the funds and its performance:

**KEYWORDS:** Asset Management Companies, Performance, Tax Saving Schemes.

## 1. INTRODUCTION

The National Stock Exchange of India Ltd. (NSE), set up in the year 1993, is today the largest stock exchange in India and a preferred exchange for trading in equity, debt and derivatives instruments by investors. NSE has set up a sophisticated electronic trading, clearing and settlement platform and its infrastructure serves as a role model for the securities industry. The standards set by NSE in terms of market practices; products and

technology have become industry benchmarks and are being replicated by many other market participants. NSE has four broad segments Wholesale Debt Market Segment (commenced in June 1994), Capital Market Segment (commenced in November 1994) Futures and Options Segment(commenced June 2000) and the Currency Derivatives segment (commenced in August 2008). Various products which are traded on the NSE include, equity shares, bonds, debentures, warrants, exchange traded funds, mutual fund investment

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# Sales Technology – An Undeniable Need

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## ABSTRACT

*XYN lubricants India Private Limited is a business to business chemical manufacturing and distribution company with an annual turnover of Rs.2500cr and is the largest distributors of chemicals in India and has a wide international network too. A recent slump in their sales has made this chemical giant to seek expert's advice on how to sort out an issue of lack of coordination between the sales team and the warehousing facility which currently exists in their domestic distribution process. Analyzing the issue, it is found that customized use of technology could be the answer to nullify the issues between the sales team of the company and its warehousing facility.*

**KEYWORDS-** Sales and Distribution Management, Stock awareness, Sales promises, Technology.

## 1. THE INDIAN CHEMICAL MARKET

The chemical industry is critical for the economic development of any country, providing products and enabling technical solutions in virtually all sectors of the economy.

The global chemical production growth slowed down from 4.4% p.a. in 1999-2004 to 3.6% p.a. in 2004-2009, with global chemical sales in FY10, valued at \$3.4 trillion. The industry is increasingly moving eastwards in line with the shift of its key consumer industries (e.g. automotive, electronics, etc.) to leverage greater manufacturing competitiveness of emerging Asian economies and to serve the increasing local demand. This has led to share of Asia in the global chemical industry increasing from 31% in 1999 to 45% in 2009.

With Asia's growing contribution to the global chemical industry, India emerges as one of the focus destinations

for chemical companies worldwide. With the current size of approximately \$108 billion, the Indian chemical industry accounts for 3% of the global chemical industry. Two distinct scenarios for the future emerge, based on how effectively the industry leverages its strengths and manages challenges. In the base case scenario, with current initiatives of the industry and government, the Indian chemical industry could grow at 11% p.a. to reach size of \$224 billion by 2017. However, the industry could aspire to grow much more and its growth potential is limited only by its aspirations. In such an optimistic scenario, high end-use demand based on increasing per capita consumption, improved export competitiveness and resultant growth impact for each sub-sector of the chemical industry could lead to an overall growth rate of 15% p.a. and a size of \$290 billion by 2017 (6% of global industry). This has a





# An Examination of the Volatility of the Equity Shares of chosen Cement Companies traded on the National Stock Exchange

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## ABSTRACT

Volatility Equity shares helps the investors or players in the capital market to find out the buy and sell signals about shares on the basis of quantity of risk thereon. In this paper researchers examine the volatility in equity share prices of selected units under study. To measure the volatility, the prices (for the financial year 2014-2016) of Ambuja cement Ltd. ACC cement Ltd & Ultra Tech Cement Ltd. were analyzed with the help of statistical tool like, Mean, Variance, Standard Deviation, Beta, T-Statistics. It was concluded that volatility analysis is a faithful analysis to measure the risk on financial assets and it also helpful to take short and long position in the market.

**KEYWORDS:** Short Position, Volatility, Security, Long Position, Market.

## 1. INTRODUCTION

Volatility measures the variability of changes in stock prices which helps to know the risk of a financial instrument. Prices of securities move positive and negative every day in the stock markets. Fluctuation in prices of a security comes from the unstable demand and supply of that security. If supply side is greater than its demand, the price would start to go down and if demand side of a security is greater than its supply, the price would start to go up. The relative rate of fluctuation at which price of a security moves up and down is called volatility. It means if volatility increases in the prices of a financial instrument, the risk also increases on that instrument. The volatility does not measure the direction of prices but it measures the

desperation among the prices which helps to know the risk on an instrument. On the basis of risk on an instrument, investors can analyze their capacity to bear risk and also can make decisions relating to invest their excess fund in financial assets.

Volatility can be calculated by using standard deviation or variance between returns from that same security or market index. In back, instability (image  $\sigma$ ) is the level of variety of an exchanging value arrangement after some time as measured by the standard deviation of logarithmic returns. Historic volatility is derived from time series of past market prices. An inferred instability is gotten from the market cost of a market exchanged subordinate (specifically an alternative).





# A Study on the Role of Finance in Logistics Management with reference to Tamilnadu State Road Transport of India

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## ABSTRACT

Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The results indicate that transporters are not happy with the approach of RSO officials. They are facing issues with regard to the condition of vehicles during transit, availability of the drivers and retention of the drivers. The condition of vehicles received from distant locations is found to be bad

## 1. INTRODUCTION

Logistics, as a business concept, evolved only in the 1950s. This was mainly due to the increasing complexity of supplying one's business with materials, and shipping out products in an increasingly globalized supply chain. The experts in this field are called Supply Chain Logisticians. This can be defined as having the right item in the right quantity at the right time at the right place for the right price and to the right target customers or end-users and it is the science of process and has its presence in all the sectors of an industry. Logistics is concerned with getting or transmitting the products and services where they are needed or when they are desired. It is difficult to accomplish any marketing or manufacturing operation without logistical support. Logistics involves in the integration of information, transportation, inventory, warehousing,

material handling, and packaging. The operating responsibility of logistics is the geographical repositioning of raw materials, work in process, and finished inventories where required at the lowest cost possible. Logistics management is that part of the supply chain which plans, implements and controls the efficient, effective, forward and backward (reverse) flow and storage of goods, services and information between the point of origin and the point of consumption in order to meet customers' requirements rather than the customers' delight. A professional working in the field of logistics management is called a Logistician. The primary objective of logistics management is to move effectively and efficiently, so as to extend the desired level of customer service at the least cost. Thus, logistics management starts with ascertaining customer's needs till their fulfillment through product supplies. Indian





# Employee Welfare Measures in Bharat Heavy Electronics Limited (BHEL) with reference to Ramachandrapuram, Hyderabad.

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## ABSTRACT

In this study the operation function in the human resource department are analyzed through contribution of employees and their opinion about the function performed by the employees and their opinion about the function performed by the HR department in Bharat Heavy Electricals Limited (BHEL), Ramchandrapuram, Hyderabad.

The employees in the organization are directly interviewed and related data's were collected through questionnaire. The study was conducted to know the impact of employee welfare facilities on employee work satisfaction. Welfare is the provision of a minimal level of well-being and social support for all citizens. Organization provides welfare facilities to their employees to keep their motivation levels high.

The primary objective of the study is to measure the levels of satisfaction of employees with regards to welfare facilities and to suggest some measures for improving welfare measures in organization. Researchers were supported by sampling 100 employees from various departments. Data was collected through the structured welfare measures questionnaire. The data's are analyzed through parentage analysis and correlation method.

**KEYWORDS**— Welfare measures, employee satisfaction, employee welfare facilities, organization

## 1. INTRODUCTION

Employee welfare means anything that can be done for the comfort and improvement, intellectual or social, of the employees over and above the wages paid which is not a necessity of the industry. Organization provides welfare facilities to their employees to keep their motivation levels high. The employee welfare measures are classified into two categories viz. statutory and non-statutory welfare measures. The statutory measures are those measures that are compulsory

provide by an organization as compliance to the law governing employee health and safety, these includes: canteen facilities, drinking water, proper and sufficient lighting, facilities for sitting, changing rooms, first aid appliances, latrines and urinals, washing places, spittoons and rest rooms. Non statutory welfare measures may include: personal health care, flexi-time, employee assistance programs. The non-statutory measures differ from organization to organization and from industry to industry. Some of the facilities are

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# Automatic speaker recognition that is not based on the presence of text utilizing machine learning

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### ABSTRACT

In the past decades, security is the main for everyone, and processing of security by the voice control. In this condition, security is designed by speaker voice command and speaker recognition for a short duration of text speech samples. In speaker recognition systems, the processing by Gaussian mixed models is impaired by low quality and short duration of the speech. We are proposing this project for forensic-based voice and speaker recognition and that way we are taking the voice and comparing it with the recorded voice. The voice matched and speaker recognition by preprocessing and recognized by machine learning. In this project, a large number of best material selection criteria were described, suitable for the scoring stage in forensic automatic speaker recognition systems. An application of quality-based speaker features performs outperforms forensic speaker recognition systems that assume the uniform quality of speech during model training and scoring. The speech(or)speaker recognition was described by the combination of discrete wavelet transform (DWT) and Relative Spectral Perceptual Linear Prediction (RASTA-PLP) for feature extraction. This process of speaker recognition is enhancing the performance of more features from the speech signals and applying other computation techniques to lead to the improvement of recognition rate and computational technique if noisy speech signal is present, then separating/extracting the original by DWT and Mel-frequency cepstral coefficients (MFCCs)

**Keywords:** Speaker recognition, voice comparison, Gaussian mixture model, machine learning, discrete wavelet transform (DWT), MFCC

### 1. INTRODUCTION

In past years, an increasing interest in security systems has arisen. These systems are very useful as they allow managing security in a very efficient way, reducing human resources. Most security systems were implemented by an access control system. In this way, a vast number of security resources by voice commands and speaker recognition in this process of

verifying people's identity by their voice. For security purposes, the voice

recognition systems are used as a biometric system performance that will allow the control to access in fast response way and low intrusive way and reduced collaboration of people voice samples in comparison

The voice/sound generated by humans is peculiar or different from each other. the voices are generated by

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# Deep learning for the purpose of speech and motion recognition

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## ABSTRACT

Speech emotion recognition has progressed from a specialty to a critical component of Human-Computer Interaction(HCI). These systems strive to make natural human-machine contact easier by using direct voice interaction rather than standard devices as input to understand verbal information and make it simple for human listeners to react. Dialogue systems for spoken languages, such as cell center discussions, onboard car driving systems, and the use of emotion patterns from speech in medical applications are just a few examples. Numerous strategies have been used to extract emotions from signals in the literature of speech emotion recognition (SER), including many well-established speech analysis and classification techniques. The feature extraction and feature classification phases are the most important parts of the speech emotion recognition(SER) process. Researchers have derived several features such as prosodic features, vocal traction features and other hybrid features for speech processing. The second phase includes feature classification using deep learning techniques. These techniques are recently proposed as an alternative to traditional techniques in SER.

**KEY WORDS:** Feature extraction, prosodic features, vocal traction features, Feature classification, Deep Learning techniques.

## 1. INTRODUCTION

### 1.1 Brief information about the project:

The ability to notice, interrupt and respond to social interactions, which is usually assessed through effective expressions is one of the corner stones of human communication understanding emotion expressions can increase the efficiency and complexity of human-machine interaction by improving the processing and responsiveness of automatic emotion detection system, such as robots or experted systems to natural human behavior. If a robot can recognize human emotion expressions, it can change how it interacts with its surroundings. It can increase its problem-solving abilities

by incorporating these expressions into a decision-making process. Emotional expression recognition has been a frustratingly tough topic that has drawn a lot of attention in recent years. There is no unanimity in the literature on how to define emotions, yet features, prosodic features, vocal traction factors and other hybrid features are all examples of hybrid features using linear and non-linear classifiers.

The second phase involves feature classification Bayesian networks (BN) or the maximum likelihood principle (MLP) and support vector machine (SVM) are two of the most often used linear classifiers for emotion reorganization. The voice signal is usually considered





# Techniques for Converting Sign Language and Spoken Words into Text Using Raspberry Pi

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## ABSTRACT

Every day we see many people facing illnesses like deaf, dumb, etc. They face difficulty to interact with others. Previously developed techniques are all sensors based and they didn't give a general solution. This work explains a new technique of virtual talking without sensors. Web Camera is used to take the image of different gestures and that will be used as input to the OpenCV with Python. The software will recognize the image and identifies the text output which is displayed on the screen. This work explains two-way communications between the deaf, dumb and normal people which means the proposed system is capable of converting sign language and speech into text.

**Keywords:** Raspberry pi, Sign language, Web Camera.

## 1. INTRODUCTION

With the rapid development of computer technologies, devices/techniques have become indispensable in our daily lives. Human-computer interactive (HCI) devices such as personal computers, consumer electronics, mobile devices, etc., have also dramatically altered our lifestyle. The ease with which an HCI device can be understood and operated by users has become one of the major considerations when selecting such a device. Therefore, researchers must develop advanced and user-friendly HCI technologies which can effortlessly translate users' intentions into corresponding commands without requiring users to learn or accommodate the device. Many technologies have been developed to intuitively express users' intentions, such as handwriting, human body language, and gestures to naturally control HCI devices. These technologies have many applications

in the fields of remote control, virtual reality, sign language, signature authentication, sports science, health care, and medical rehabilitation.

Deaf and Dumb people depend on sign language for communication. A real-time Sign Language Recognition system was designed and implemented to recognize 26 hand signs from the Indian Sign Language (ISL) by hand gesture/sign recognition system for text generation. The hand gestures are captured by using a webcam. These signs are processed for feature extraction using some color models. The extracted features are compared by using a pattern-matching algorithm. To calculate the sign recognition, the features are compared with the testing database. Finally, a recognized gesture is converted into text. This system provides an opportunity for deaf-dumb people to communicate with those who cannot





# IoT-Based Parking Space Detection System Employing Android Software

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## ABSTRACT

With the increase in extent of population in Urban and Metropolitan cities, the problem of parking the vehicles are increasing day by day and it has become a major task to identify the parking spaces in markets, malls and multiplex etc., which consumes the driver's time as well as fuel. If the driver is unable to find any parking space and parks the vehicle in a road side, then the problem of traffic arises. Further, the security of the vehicle is also a major issue. In order to overcome this aspect, in this study, an IOT based parking slot detection utilizing the android application is proposed and reported. Internet technology is utilized so as to connect the physical objects by using a mobile phone with Arduino UNO, sensor's, wi-fi module, cloud database to store the user data. The mobile application acts as an interface between the end user and the system. Infrared (IR) sensor is installed at the parking slot along with Arduino. The sensor is utilized to detect the occupancy or non-occupancy of the parking slot and is updated to the cloud by utilizing Wi-Fi based Internet service. The Arduino is utilized to track the number of vehicles that are parked in the parking area. With the help of this technology, the user can be able to check the availability of the parking space near to him and reserve the parking slot utilizing the mobile application.

**Keywords:** Arduino UNO, Infrared Sensor, RFID, Servomotor, Wi-Fi

## 1. INTRODUCTION

In general, every human visit certain places like cinema halls, malls, markets etc., and the one common problem for everyone is parking of vehicles. With the increase in extent of population in Urban or metropolitan cities, the problem of parking the vehicles are also increasing day by day. Identification of suitable parking space has become a tedious task for the vehicle drivers and it consumes more time and also fuel. If the driver is unable to find any parking space and parks the vehicle in a road side, then the problem of traffic arises [1]. Further, the security of the vehicle is also a major issue. In order to

solve the problem of parking in urban or metropolitan cities, a smart parking system should be developed and implemented by which the user/driver can be able to park their vehicles. In this study, an IOT based parking slot detection utilizing the android application is proposed and reported. Internet technology is utilized so as to connect the physical objects by using a mobile phone with Arduino UNO, sensor's, wi-fi module, cloud database to store the user data[2]. The mobile application acts as an interface between the end user and the system. Infrared (IR) sensor is installed at the parking slot along with Arduino. The sensor is utilized to detect the





# Machine Learning-Based Methods for the Detection and Prevention of Plant Diseases

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## ABSTRACT

Nowadays, technology is advancing at a rapid pace, and farmers are employing a variety of techniques and technologies to better their farming operations. Plants are the most significant source, and when they are infected with illnesses, it results in food shortages and economic losses. The majority of illnesses are first noticed on the plant's leaves and stems. As a result, image processing and machine learning may help to identify ailments and recommend treatments for them. Using the image extraction process, image processing includes procedures such as image acquisition, image processing, image segmentation, and classification. As a result, the man's main goal is to figure out what is causing the disease in order to save the farmers money. Machine learning is a key component of artificial intelligence that produces outcomes without the need for human intervention. This can be done with Python programming we can get the output extremely accurately and quickly using this project.

**KEYWORDS :** Agriculture,artificial intelligence,image processing,image acquistion,image segmentation,extraction,machine learning.

## 1. INTRODUCTION

Agriculture is extremely important in today's society. Plant disease is the leading cause of economic food losses in the agriculture sector around the world. Food losses are caused by a variety of plant diseases, including bacteria, viruses, and fungi. We must take some precautions to reduce the risk of other diseases. It is taking less time to identify cures for those plant ailments these days. Because technology advances at a rapid pace. The most frequent plant disease was discovered by farmers have a lot of experience in agriculture, and they simply use a few basic treatments for those ailments.Farmers, on the other hand, are unable to treat some undiscovered ailments.As a result of these

experiments, we can "identify and prevent plant disease using machine learning."Machine learning is the concept that a computer program can learn and adapt to new data without human intervention. Machine learning (ML) is the study of computer algorithms that can learn and develop on their own with experience and data. It is considered to be a component of artificial intelligence. Machine learning algorithms create a model based on training data in order to make predictions or judgments without having to actively do so.





# Tracking Your Location Using Your Node MCU Without Using A GPS Module

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## ABSTRACT

The need for location tracing is vast. GPS (Global Positioning System) is most widely used for location tracing. The Current method of tracing has some issues due to the accuracy of GPS receiver. A GPS receiver needs a clear view of sky to receive information from GPS satellites and weak signal will not provide desired results. Another problem is the size and power consumption. In addition to these issues GPS trackers produce data traffic which adds cost and consume further. This work is based on the geo location API and node MCU ESP 12E board to find the location without GPS module. We propose using serial monitor of Arduino IDE to see the coordinates.

**Key words:** GPS, geolocation API, Node MCU, location tracking

## 1. INTRODUCTION

Geolocation is the process of finding, determining and getting the exact location of a computer, networking device or equipment. It helps us to view the device location based on geographical coordinates measurements. Geolocation commonly uses Global Positioning System (GPS) and other related technologies to assess and specify geographical locations. It provides the location of a device but is generally used in variety of applications to help locate human users. Geolocation is a technology that works through a pre-built GPS in a device that propagates the devices longitudinal and latitudinal coordinates. The coordinates are identified on a map to provide a complete address that usually includes a country, city, town/colony, building name and street address. In this project we will be using Breadboard Node MCU Google location API in order to

track down the most precise geographical location of the entity. The Node MCU component makes the system extremely efficient and user-friendly to work with and implement. We can trace location any device without GPS module only using NodeMCU.

## 2. LITERATURE SURVEY

Manav Singhal<sup>1</sup>, Anupam Shukla<sup>2</sup>[1]Implementation of Location based Services in Android using GPS and Web Services published in international journal of computer science, from this paper we have learnt the location based services that are present in android through which we can get the location. This paper has working of geolocation API that is being adopted in the proposed design. It has all the location based services that are present in android.





# Cloud-based innovative agricultural service platform that makes use of LoRa

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## ABSTRACT

The expeditious growth of the Internet and Internet of Things (IOTs), a variety of useful service applications are being deployed in a variety of industries. Innovative agriculture service system is a new agricultural information and communication Technology (ICT) that was developed in recent years to meet the needs of farmers for data gathering, signal processing, data analysis, and equipment control. This paper presents an innovative agriculture service platform based on LoRa Technology and a wireless sensor network. This study uses LoRa as a network transmission interface to solve the communication challenge while also conserving energy. To assist with environmental monitoring and to improve things, an innovative agriculture service platform tool was designed.

**KEYWORDS:** LoRa, Innovative Agriculture, Cloud, Wireless Sensors.

## 1. INTRODUCTION

Many people in our modern world make extensive use of technology, and as a result, they are doing their job soon and well. But still, many rural farmers cannot use technology more people are doing so. In addition, due to an increase in the world population, the need for food is increasing. IOT (Internet of Things) tends to create specific techniques in the meantime to increase food production in agriculture field. The farmers can also get useful information regarding the Ph, moisture, water level and soil requirements. So, we are designing this innovative agriculture service system for them.

Farmers can use this method to check the temperature, humidity, and soil moisture, PH value of their farm, which is done by various IOT sensors like Humidity,

Temperature, Soil moisture, as well as control various components, like motor, etc. This system is very easy and simple to use, it works wholly on wireless technology. To use this system the farmer has to place the transmitter module in different places in his field with the assistance of this system, and the receiver is placed in his home. Now, the farmer can monitor and operate the system by the website or mobile application.

As previously said, this system is built using wireless technology, which we are already familiar with wireless protocols like Bluetooth low energy, Wi Fi, and cellular, Many people in our modern world make extensive use of technology, and as a result, they are doing their job soon and well. But still, many rural farmers cannot use technology more people are doing so. In addition, due to





# Micro strip Patch Antenna of 4.4 GHz Frequency Designed for Drone Application

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## ABSTRACT

This paper proposes design of 4.4GHz Microstrip Patch Antenna (MPA). In the design, patches are mounted on Arlon AD270 (tm) substrate having dielectric permittivity. Microstrip Patch Antenna is designed by using edge feeding technique. The VSWR measurement becomes zero at 4.4GHz resonant frequency. The Bandwidth, Quality factor and some other parameters are more efficient compared to other techniques. This project helped us to achieve 95% of efficiency.

**KEYWORDS:** Microstrip Patch Antenna, 4.4GHz, Edge Feed, HFSS Simulation Software

## 1. INTRODUCTION

Antennas are key components of any wireless system. An antenna is a device that transmits and/or receives electromagnetic waves. Most antennas are resonant devices, which operate efficiently over a relatively narrow frequency band. An antenna must be tuned to the same frequency band that the radio system to which it is connected operates in, otherwise reception and/or transmission will be impaired. The receiving antenna as a part in the system is responsible of turning the electromagnetic waves into its original form (electrical signal in wire). The properties of the transmitting and receiving antennas are fully represented by Maxwell's equations. The dipole antenna was the first type of antenna to be ever used and the simplest one to study and understand, it is a straight wire fed from the center. To tune the wire to be effective to transmit and receive electromagnetic

waves, the length of it should be half the wavelength of the operating frequency. We can say that antennas are the backbone and almost everything in the wireless communication without which the world could have not reached at this age of technology.

## 2. MICROSTRIP PATCH ANTENNA

Microstrip antenna (also known as a patch antenna) is one of the latest technologies in antennas and electromagnetic applications. It is widely used now days in the wireless communication system due to its simplicity and compatibility with printed circuit technology. Microstrip geometries which radiate electromagnetic waves were originally contemplated in the 1950s.

The concept of microstrip antenna was first proposed by Deschamps in the year 1953. Gutton and Baissinot presented a patent in on the microstrip in the year 1955.





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# Synthesis of Elliptical Antenna Array using Hybrid SSWOA Algorithm

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## Abstract

In terms of research, the elliptical antenna arrays (EAA) synthesis is relatively novel. As it does not have to be circular in construction, this novel synthesis can maneuver the primary beam in the right direction, making it easier to realize. The amplitude and angular location of the ellipse, as well as the eccentricity of the ellipse, are all taken into account in the optimization process. The proposed hybrid algorithm is the SSWOA (Salp Swarm Whale Optimization Algorithm), which combines the Salp Swarm Optimization Algorithm (SSA) with the Whale Optimization Algorithm (WOA). The SSA algorithm serves as a guide, while the WOA algorithm serves as a helper in this method. We discover that optimization has a faster convergence time and high convergence accuracy when considering the benefits of SSA and WOA and applying them to the synthesis of antenna array layouts. If Griewank,

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## Research Article

# Use of Radiation Circuits for Diagnosis of Melanoma Skin Cancer in Images of Skin Lesions Using Convolutional Neural Networks

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Melanoma skin cancer is a fatal illness. However, most melanomas can be treated with minimal surgery if found early. In this regard, the addition of image analysis techniques that automate skin cancer diagnosis would support and increase dermatologists' diagnosis accuracy. As a result, enhanced melanoma detection can benefit patients who are showing indicators of the disease. Convolutional neural networks can learn from features hierarchically. Since the implementation of a neural network requires a large volume of images to achieve high accuracy rates, an insufficient number of skin cancer images represent an additional challenge in the detection of skin lesions, the current work aims to develop an intelligent system that allows, based on the analysis of images of skin lesions and contextual information of the patient, to accurately determine if it represents a case of melanoma-type skin cancer. The *TensorFlow* library was used to execute models in the constructed app. The *Mobilenet V2* model was used with a collection of 305 pictures retrieved from the Internet. Diagnoses included melanoma, plaque and psoriatic skin conditions, and Kaposi's sarcoma and atopic dermatitis. There were two separate machines used to conduct the application tests. There was more than 75% acceptable performance in predicting Kaposi's sarcoma-like illnesses for melanoma-like lesions, as well as plaque psoriasis and atopic dermatitis, respectively. Despite the low amount of images used in training, the constructed mobile application performed well.

## 1. Introduction

Skin cancer is a disease that has been steadily spreading throughout the world's population [1], claiming hundreds of thousands of lives each year while also causing an alarming rise in treatment and preventative expenses [2]. It is, in fact, one of the most common cancer diseases with the most significant societal consequence. As a result, preventive medicine is constantly looking for new techniques and/or technologies that allow for early detection of this disease,

where operating costs are reduced without sacrificing efficiency and quality of service, both of which are critical for a health system that requires more attention and promptness in its patients' diagnosis. Based on this problem and the demands of hospital centers specializing in the treatment of nonmelanoma cancer and actinic keratosis, the development of a computer program is proposed that allows an analysis to be performed in the context of clinical imaging, using various mathematical algorithms integrated through image processing and analysis methods of vision and

  
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# Electrocardiogram signal classification in an IoT environment using an adaptive deep neural networks

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## Abstract

IoT is an emerging technology that is rapidly gaining traction throughout the world. With the incredible power and capacity of IoT, anyone may connect to any network or service at any time, from anywhere. IoT-enabled gadgets have transformed the medical industry by granting unprecedented powers such as remote patient monitoring and self-monitoring. Accurate electrocardiogram (ECG) interpretation is critical in the clinical ECG process since it is most often connected with a condition that might create serious <sup>principles in</sup> ~~principles in~~ the body. Cardiologists and medical practitioners frequently utilize ECG to evaluate heart health. The human heart has an electric transmission system that creates regular

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








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# Robust image watermarking using the social group optimization algorithm

Dilip Golda <sup>a</sup>  , Prabha B. <sup>b</sup>, Murali K. <sup>c</sup>, Prasuna K. <sup>c</sup>, Sai Sri Vatsav <sup>d</sup>, Sowmika Adepu <sup>e</sup>Show more  Share  Cite<https://doi.org/10.1016/j.matpr.2021.07.045> [Get rights and content](#) Referred to by **5 Nano 2021 – Expression OF CONCERN – PART 3**  
Materials Today: Proceedings, Volume 80, Part 3, 2023, Pages 1703 [View PDF](#)

## Abstract

Watermarking images is essential for several reasons like security, validation etc. The extracted watermark should have similar characteristics as that of the watermark image embedded during the watermarking process. Also, it is important that the watermark image should not differ the features of the host image after embedding. In order conceive this features, it is important to have a technique of watermarking. In this paper, such an attempt has been made to incorporate the novel techniques of watermarking using single value decomposition (SVD), discrete wavelet transformation (DWT) and social group optimization algorithm (SGOA). The simulation-based experiment has been carried out to evaluate the performance of the technique in terms of structural similarity index (SSI). The Matlab environment is used for the simulations.

## Introduction