

# ICACCT - 2022

**2<sup>nd</sup> International Conference on  
Advanced Computing and Communication  
Technology**

**VIRTUAL CONFERENCE**

**19<sup>th</sup> - 20<sup>th</sup> May 2022**



**Organized By**

Department of Information Technology  
**Francis Xavier Engineering College, Tirunelveli**

**In Association with**

**Institute For Engineering Research and Publication (IFERP)**



2<sup>nd</sup> International Conference on  
**Advanced Computing and  
Communication Technology**

**(ICACCT'22 )**

**Virtual Conference  
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## Rudra Bhanu Satpathy

Founder & Chief Executive Officer

Institute For Engineering Research and Publication.

On behalf of **Institute For Engineering Research and Publications (IFERP)** and in association with **Francis Xavier Engineering College, Tirunelveli, India**. I am delighted to welcome all the delegates and participants around the globe to Francis Xavier Engineering College, Tirunelveli, India In Association with for the “**2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology**” Which will take place from **19<sup>th</sup> & 20<sup>th</sup> May 2022**.

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator (IFERP & FXEC) and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants for their virtual presence.

Sincerely,



Rudra Bhanu Satpathy



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# PREFACE

The **2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology (ICACCT'2022)** is being organized by **Department of Information Technology Francis Xavier Engineering College, Tirunelveli, India** in Association with **IFERP-Institute For Engineering Research and Publication** on the 19<sup>th</sup> – 20<sup>th</sup> May, 2022.

The “**2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology**” was a notable event which brings Academia, Researchers, Engineers, Industry experts and Students together.

The purpose of this conference is to discuss applications and development in area of “**Computing and Communication Technology**” which were given International values by **Institute For Engineering Research and Publication (IFERP)**.

The International Conference attracted over 130 submissions. Through rigorous peer reviews 52 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

**ICACCT'22**



# ***2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology (ICACCT'22 )***

## **Message from Hon'ble Chairman**



**Dr.S.Cletus Babu, PhD**

Hon'ble Chairman,FXEC

I am pleased to welcome you to the International Conference on Advanced Computing and Communication Technology (ICACCT'22 ) to be held on 19<sup>th</sup> & 20<sup>th</sup> May 2022 at Francis Xavier Engineering College (Autonomous), Tirunelveli in association with Institute For Engineering Research and Publication (IFERP), Chennai.

The intent of any conference is not only to discuss lively and emerging issues of a particular domain but also dissemination of the awareness among other learned folks. Over the years, dramatic improvements have been made in the field of Advanced Computing and Communication Technologies. I hope ICACCT'22 will become surely the most important International conference dedicated to bring out latest trends in Computer Engineering and Technology.

In order to provide an outstanding technical level for the presentations at the conference, we have invited distinguished experts to participate in the Technical Programme Committee. I hope ICACCT'22 will make you aware of state-of-the art systems and provide a platform to discuss various design issues and challenges.

# *2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology (ICACCT'22 )*

## **Welcome Message from Managing Director**



**Er. C. Arun Babu**

Managing Director, FXEC

It is a great pleasure and an honor to extend to you a warm invitation to attend the International Conference on Advanced Computing and Communication Technology (ICACCT'22 ) to be held on 19<sup>th</sup> & 20<sup>th</sup> May 2022 at Francis Xavier Engineering College (Autonomous), Tirunelveli in association with Institute For Engineering Research and Publication (IFERP), Chennai.

The ICACCT'22 Conference will provide a wonderful forum for you to refresh your knowledge base and explore the innovations in Computing and Technology. The Conference will strive to offer plenty of networking opportunities, providing you with the opportunity to meet and interact with the scientists and researchers.

I feel this ICACCT'22 conference is important to reiterate the need to translate Engineering & Technology into knowledge to help overcome societal challenges.

## ***2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology (ICACCT'22 )***

### **Welcome message from General Manager**



**Dr.K.Jeyakumar**

General Manager (Development)  
SCAD Group of Institutions, Tirunelveli

The International Conference on Advanced Computing and Communication Technology -2022(ICACCT'22) aims to respond to the needs and aspirations of a rising global environmental issues with a theme Advanced Computing and Communication. ICACCT'22 provides an opportunity for the meeting of International Researchers, Engineers, Scientists, and specialists in the various research and development fields of Engineering and Technology.

This conference offers a premise for global experts to gather and interact intensively on the topics of Electronics and Communication, Computer Science and Information Technology. I am privileged to say that this conference will definitely offer suitable solutions to the global issues.

I would like to express my appreciation to the organizing committee for their dedicated efforts to materialize the conference. I hope all the participants will have a fruitful and beneficial experience. Eventually I express my special thanks and appreciation to all.

# *2<sup>nd</sup> International Conference on Advanced Computing and Communication Technology (ICACCT'22 )*

## **Welcome Message from Principal**



**Dr. V. Velmurugan**

Principal, FXEC, Tirunelveli

It is my great delight to welcome you to the International Conference on Advanced Computing and Communication Technology -2022(ICACCT'22 ) to be held on 19<sup>th</sup> -20<sup>th</sup> May, 2022 at Francis Xavier Engineering College (Autonomous), Tirunelveli in association with Institute For Engineering Research and Publication (IFERP), Chennai. The idea to host the ICACCT'22 in FXEC, Tirunelveli is to bring together Researchers, Scientists, Engineers, Scholars and Students in the areas of Information Technology, Computer Science, Electronics and Communication Engineering

The ICACCT'22 Conference will foster discussions and hopes to inspire participants from a wide array of themes to initiate Research and Development and collaborations within and across disciplines for the advancement of Technology.

The various thematic sessions will showcase important technological advances and highlight their significance and challenges in a world of fast changes. I welcome all of you to attend the plenary sessions and oral presentations and invite you to interact with the conference participants.

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**Keynote Speakers  
Biography**

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## **Prof. (Dr.) Sunil Kumar Khatri**

Director of Campus

Amity University Tashkent, Tashkent City, Uzbekistan

Tashkent City, Uzbekistan

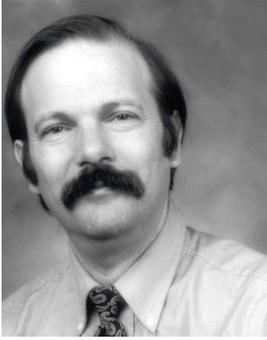
With more than two decades of experience as an Academic Leader with an International reputation, currently working as Founding Director of Campus (Campus Head) at Amity University in Tashkent, Uzbekistan. Leading its growth as one of the top University campuses focused on higher education. Established various institutions and departments over the tenure with different organizations. The University also shared responsibility for International Collaborations, Research Initiatives, Academic Policy Making, Accreditation, Instructional and Pedagogy Innovation, Learning Assessment and Instructional Funding.

Conferred with Honorary Visiting Professorship by University of Technology Sydney, Australia in Oct, 2016. Conferred “InRes Lifetime Achievement Award” in 2021, “Award of Excellence in Educational Leadership” in 2017, “IT Innovation & Excellence Award for Contribution in the field of IT and Computer Science Education” in 2012 and “Exceptional Leadership and Dedication in Research” in the year 2009.

Fellow of IETE, Sr. Life Member of CSI, IEEE, IASCSIT and Member of IAENG. Secretary in SREQOM, Past Convener, EAC, IEEE UP Section Executive Council and Past Vice-Chairman of CSI Noida Chapter.

Editor of International Journal of Systems Assurance, Engineering and Management, Springer Verlag. In Editorial Board of several Journals from the USA, Egypt, Hong Kong, Singapore and India.

Guided 10 Ph.D. Thesis, Fourteen edited books, Ten guest edited special issues of international journals, Sixteen filed patents, two international projects and more than 225 papers in international and national journals and proceedings to the credit. Areas of research include Artificial Intelligence, Software Reliability and Testing, and Data Analytics.



**Prof. Moshe Vardi**

Professor at Rice University

Bellaire

Texas, United States

Moshe Y. Vardi is a University Professor, the George Distinguished Service Professor in Computational Engineering, and Director of the Ken Kennedy Institute for Information Technology at Rice University. He is the recipient of three IBM Outstanding Innovation Awards, the ACM SIGACT Goedel Prize, the ACM Kanellakis Award, the ACM SIGMOD Codd Award, the Blaise Pascal Medal, the IEEE Computer Society Goode Award, the EATCS Distinguished Achievements Award, the Southeastern Universities Research Association's Distinguished Scientist Award, and the ACM SIGLOG Church Award. He is the author and co-author of over 600 papers, as well as two books: Reasoning about Knowledge and Finite Model Theory and Its Applications. He is a Fellow of the American Association for the Advancement of Science, the American Mathematical Society the Association for Computing Machinery, the American Association for Artificial Intelligence, the European Association for Theoretical Computer Science, the Institute for Electrical and Electronic Engineers, and the Society for Industrial and Applied Mathematics. He is a member of the US National Academy of Engineering and National Academy of Science, the American Academy of Arts and Science, the European Academy of Science, and Academia Europaea. He holds seven honorary doctorates. He is currently a Senior Editor of of the Communications of the ACM, after having served for a decade as Editor-in-Chief.



## **Prof. Dr. Abbas Fadhil Aljuboori**

College of Engineering

University of Information Technology and Communications (UoITC)

Baghdad - IRAQ.

Prof. Dr. Abbas Fadhil Aljuboori is working currently at Al Zahra College for women, Muscat, Sultanate of Oman as a faculty Staff Member. He has a Ph.D. in Computer Science from Dongguk University, SOUTH KOREA. Fulbright Visiting scholar – University of Central Oklahoma – Edmond – USA –2017. International Advisory Board Member for CT University in India. He worked as a Vice President for administrative affairs and Head of Smart Cities Center at University of Information Technology and Communications, Baghdad, Iraq, Researcher and Manager in the Advanced Institute of Convergence Information Technology (AICIT) – South Korea, Head of Computer Science Department – University of Kerbala. Vice President of Iraqi Universities Accreditation and Quality Assurance Council for Computer Science and IT. His field of Interest are in Data Mining, Web Applications, Big Data, Data Security, Information Systems and Smart Applications. He is a Member of several of Academic and Professional Societies. He is an Editor, Committee Member and Reviewer of many eminent International Journals and Conferences worldwide.



## **Dr.Sasikumar Gurumoorthy**

Professor and Head, Senior Member IEEE,  
Department of Computer Science and Engineering,  
Jerusalem Collège of Engineering

### Educational Qualification

- Ph.D., in COMPUTER SCIENCE AND ENGINEERING [Commended Work] from VIT University, Vellore, India. March 2016.
- M.E., in COMPUTER SCIENCE AND ENGINEERING [First Class 70%] from JJ College of Engineering and Technology [Anna University] Tiruchirappalli, India. April 2005.
- B.E., in COMPUTER SCIENCE AND ENGINEERING [First Class 76%] from RVS College of Engineering and Technology [Madurai Kamaraj University], Madurai, India. April 2003.
- DCT (DIPLOMA IN COMPUTER TECHNOLOGY) [First Class with Honors 89%] from Srinivasa Polytechnic [Tamil Nadu State Board, Chennai], Keeranur, Pudukottai (D.T), India. April 2000.

### 2. Professional Experience (13.3 Years)

- Working as a Professor & Head (2.3 Years) and Principal Investigator-DSR-CSRI Funded Project in “Sree Vidyanikethan Engineering College (Autonomous)”, Tirupati, AndhraPradesh,
- Having 1.7 Years of experience as Associate Professor in “Sree Vidyanikethan Engineering College (Autonomous)”, Tirupati and “Dayananda Sagar College of Engineering (Autonomous)”, Bangalore, Karnataka
- Having 4.3 years of experience as Assistant Professor (Senior) in “VIT University”, Vellore, Tamil Nadu
- Having 1.10 years of experience as Assistant Professor in “VIT University”, Vellore
- Having 2.9 years of experience as HOD (IT Department) / Assistant Professor in “Kurinji College of Engineering and Technology”, Manaparai,TN
- Having 8 months of experience as Lecturer in “JJ College of Engineering and Technology”, Trichy, Tamil Nadu

### 3. Industrial Experience (3.6 Years)

- Having 2.5 years of experience as Network Administrator in “Hardnet IT Academy”, Trichy, Tamil Nadu
- Having 1.1 years of experience as System Admin, Service Engineer and Software Project Developer in “Silicon Info Tech”, Manaparai, Tamil Nadu



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# CONTENTS

<b>1. Face Recognition System</b> Dr. T. Ganesh Kumar, Aditya Singhal, Ankit Kumar Singh.....	1
<b>2. A Machine Learning Approach to Detect Block Hole and Worm Hole Attacks in Mobile Ad Hoc Networks</b> N. Sivanesan, K.S.Archana.....	2
<b>3. Knee Osteoarthritis Prediction using Deep Learning</b> Ms. S.Theetchenya, K. Mohamed Jameer, S. Naveenram, G. Prasanth.....	3
<b>4. Developing Augmented Reality Game Based on Hand Gesture Recognition</b> Anantha Prasanth, Selva Ganesh, Dr. R. Parvathi.....	4
<b>5. Data analysis of Air Quality of India</b> Parmpreet Singh, Dr.Sonia Bhalla.....	5
<b>6. Impact of Web Assurance Mechanisms on Customer Concerns and Purchase Intention in Online Buying Environment</b> Rashmi S Chaudhry, Prof Anil Chandhok.....	6
<b>7. Hybrid Steganoflage Using Data Transformation of Embedding Entropy</b> Kirubasri G, Prasanna Perumal P, Naveen Kumar S, Poorna Vignesh G .....	7
<b>8. Improvement in Automated Diagnosis of Soft Tissues Tumor using Machine Learning</b> G. Priyanka, J.Juvitta, A.Atsaya .....	8
<b>9. Automation of Microgrids Using Machine Learning</b> Niyati N. Mehta, Dr. Manohar M.....	9
<b>10. Hiding Data Using LSB and RSA</b> Viraja Ravi, B.S Naren Aadhitiya, I. Naveen Aravind, R. Prakash.....	10
<b>11. A CNN Based Student Attendance System Using Image Processing</b> Kumar P, Kalaivani J .....	11
<b>12. Maize Plant Disease Classification Using Image Processing and SVM Techniques</b> Balajee.T.K, Priyanka.G, Sanjay.S.P, Tharun Prasaath.R.....	12
<b>13. Flood Alert System Using IoT &amp; Artificial Intelligence Using [LSTM] in Reservoirs</b> Logesswari. S, Jayanthi.S, Sunitha.S, Lakshmi Priya.G .....	13
<b>14. Review of Code Smell &amp; Code Refactoring in Android</b> Kiran K. Joshi .....	14
<b>15. Effective Predicting of Ayurveda- Based Component Using Machine Learning Algorithms</b> S. Kiruthika, V. Shiva, G. Suganth, S.M. Yesventh .....	15
<b>16. ANPRS: An Automatic Number Plate Recognition System</b> Aveeral Gaur, Niketa, Tarun Kumar .....	16
<b>17. Analysis of COVID-19 using Machine Learning Algorithms</b> Abhishek Kumar Singh, Dr. K.M. Baalamurugan, Kshitiz Chandra.....	17
<b>18. Random Interim Query and Face Recognition Based Attendance Management System</b> P. Anantha Prabha, A. Priya Mahalakshmi, V. Priya .....	18
<b>19. A Systematic Review on Fake Image Detection</b> Ajmal Hasan, Md Tabrez Nafis, Syed Shahabuddin Ashraf .....	19
<b>20. Internet of Things: Privacy and Security Challenges and Solutions</b> Pranjal Srivastava, Sakshi Jain, Dr. S.Srinivasan .....	20
<b>21. Power Saving using Motion Sensor in public Spaces</b> Dr.N.M.Mary Sindhuja, K.Shenbaga Devi, U.Rajalakshmi, N.MadhuSivani.....	21
<b>22. A Novel Stacking Approach for Accurate Detection of Fake News</b> Viraja Ravi, S.Ratish, V.Roghith Vishal , J.Surya Devrath.....	22
<b>23. Robust Texture Classification using Hybrid CNN Techniques</b> Praveen Kumar, J.Panda.....	23

# CONTENTS

<b>24. Face Authentication ATM Using Deep Learning</b>	
S. Sam Peter, G.Krithik, M. Pratheep, K.Prakash.....	24
<b>25.A Machine Learning Methodology for Diagnosing Chronic Kidney Disease</b>	
Anandaraj A, Shaffana Bibi S, Swathi S, Sharmila R, Sneka T .....	25
<b>26. Machine Learning in Cardiovascular Disease Prediction</b>	
Ranjith Kumar. S, Kishore Kumar .S ,Anandhi. G .....	26
<b>27. Quality of Service using Min-Max Data Size Scheduling in Wireless Sensor Networks</b>	
A.Revathi, Dr.S.G.Santhi .....	27
<b>28. Authentication Protocols and Token Management Schemes for Identity Management in Cloud Computing</b>	
Deep Mann, Dr. Supreet Kaur.....	28
<b>29. Health and Social Distance Monitoring System for Covid Patients Using IoT</b>	
Pradhista G, Dr.Sargunam. B, Keerthana R , Poovitha S .....	29
<b>30.Analysis of Supervised Machine Learning Algorithms for detecting cardiovascular patients</b>	
Dr. Prashant Johri, Fahad Ahmed Siddiqui .....	30
<b>31.Real time criminal face recognition using Machine Learning Approach</b>	
R Parvathi, S Aparna, R Jenifer, V Nandhini.....	31
<b>32.A Research Paper on Development of Encoder &amp; Decoder for Compression</b>	
Rohini Sharma.....	32
<b>33.AI Virtual Mouse Using Hand Gestures</b>	
Jaidev Bhardwaj, Raghav Kumar jha .....	33
<b>34.EVENTERZ: Event Management System</b>	
Harsh Jaiswal, Shivam Garg .....	34
<b>35.Integrated Web Resource of Alphasapillomavirus 9</b>	
Akriti Verma, Vasu Goel, Sparsh Goel, Akanksha Kulshreshtha .....	35
<b>36.Averaged Multi-Technique Discrete Wavelet Transform Based Medical Image Enhancement</b>	
Rishab Binoy Das, Rhythm Kaushal .....	36
<b>37.EEG Signal Processing using ADT-SVM &amp; Random Forest</b>	
D. Darling Jemima, P. Santhosh, R. Santhosh .....	37
<b>38.An Effective Agricultural Crop Yield Recommendation System Using Deep Learning Algorithm</b>	
Theetchenya S, Dhivya Shree S, Kaviya S, Ramya R .....	38
<b>39.Comparative Study of Various Machine Learning Based Approach for Sentiment Analysis</b>	
Ms.Tanvi Desai ,Dr.Divyakant Meva .....	39
<b>40. E - Voting Using Face Recognition</b>	
Dr. R. Suganya, S. Swanth, S. Sindhu, D. Sivakumar .....	40
<b>41. Data Security Using Data Encryption</b>	
Anchal Jaiswal, Saumya Singh, Mr. Dhruv Kumar .....	41
<b>42. Virtual Boundary Recognition Carries Sensitive Information</b>	
Divya P, Ravikumar S, Sathya Prakash D .....	42
<b>43. Develop a Mobile Application to Monitor the Presence of Employees in the Office by Tracking their Mobile Phone Location using GPS with Face Recognition</b>	
Selvi A , Gokulvasan T , Karthikeyan S , Saravanan S , Vignesh E .....	43
<b>44. A Review on Applications of Blockchain Technology in Various Sectors</b>	
S.Banupriya, Dr.P.Sharmila.....	44
<b>45. Enhanced Secure Transaction Based on Biometric, Multifactor Authentication</b>	
M.M.Noor Fasla.....	45

# CONTENTS

<b>46. Breast Cancer Prediction using Machine Learning</b>	
Dr. Kasiselvanathan M, Kaviya K, Keerthi G, Sofiya K.....	46
<b>47. Eye Gaze Communication System</b>	
Thangameena P.....	47
<b>48. Secured E-Voting System Using Iris and Fingerprint Recognition</b>	
Ajay Kumar .A, Josiah Samuel Raj .J .....	48
<b>49. Automatic classification of Multi-Sleep Stages Using Two Stage Recurrent Neural Network</b>	
Jeyabharathi.D, Anandha murugeswaran.B, Akash.T .....	49
<b>50. Predicting the Disease Outcome in COVID-19 Positive Patients through Naive Bayes (NB)</b>	
Dr. G. N. R. Prasad .....	50
<b>51. A Study On Static Program Analysis Techniques and Tools</b>	
Rahul P Nampoothiri, M G Thushara, Sreelesh P S .....	51
<b>52. Aqua Communication using Modem</b>	
E.Padma Sundari .....	52



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# **ABSTRACTS**

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## Face Recognition System

<sup>[1]</sup>Dr. T. Ganesh Kumar, <sup>[2]</sup>Aditya Singhal, <sup>[3]</sup>Ankit Kumar Singh

<sup>[1]</sup>Associate Professor, Department of Computer Science and Engineering

<sup>[2][3]</sup>School of Computing Science and Engineering Department of Computer Science and Engineering Galgotias University, Greater Noida, India

**Abstract:** Face recognition system is a machine learning project to identify any living creature's activity addition to this it will also can identify any object using google server to identify what is the object or who is the person and give information about the object. It has an interface to interact with user to give a good desirable user experience to optimize it on it's optimum level in a right direction. User has one more choice like image to identify and clustering of different category to set up a rule to learn and categories different this on their respective communities. It will take help of google server while running some activity because activities which are mentioned above require a huge database which is not possible through computer storage and an interactive graphical user interface through an user can interact. In the interface, a button will be there to upload photo or image or camera connection to take photo after it will verify through google server or database.



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# A Machine Learning Approach to Detect Block Hole and Worm Hole Attacks in Mobile Ad Hoc Networks

<sup>[1]</sup>N. Sivanesan, <sup>[2]</sup>K.S.Archana

<sup>[1]</sup>Research Scholar, Dept. of CSE, Vels Institute of Science, Technology & Advanced Studies, Chennai, India

<sup>[2]</sup>Asst. Professors, Dept. of CSE, Vels Institute of Science, Technology & Advanced Studies, Chennai, India

**Abstract:** For the past few years, Mobile Ad hoc Networks (MANET) have an improbable progression and fast reputation due to the accessibility of in-expensive mobile devices and its capability to afford prompt wireless networking. The MANET forms are created without the use of any stand-supporting devices, dynamically allotted topology, loosely coupled etc. Additionally, it is an energetic system and nearby no eternal arrangement and similarly no essential organization. For these networks, security is the utmost and important facility to deliver safety to avoid malicious attacks happening in the nodes. The topology and atmosphere of MANET creates attention to several categories of attackers and ensure more or less redundant actions by means of mobile nodes. In recent trends, Machine learning (ML) approaches afford the system with learning competence and inspire variation into the atmosphere which depends on numerous rational and arithmetical procedures. Till now, several kinds of ML approaches are executed for the MANETs security. Because, MANETs with the infrastructure-less surroundings pretends an excessive task in execution of security arrangements. The security methodologies in MANETs essentially concentrate on eliminating malicious attacks, selfish/misbehavior nodes and providing secure routing. This research paper presents an exclusive research for several types of network layer attacks of typical holes, (gray, worm, black) and flooding attack occurring in the MANET and using the ML approaches for increasing security in MANETs

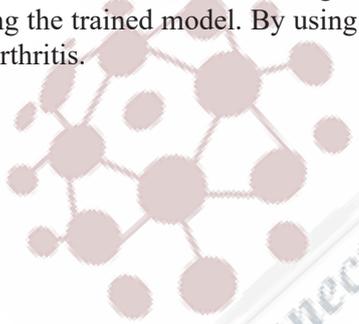


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# Knee Osteoarthritis Prediction using Deep Learning

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**Abstract:** Osteoarthritis is a musculoskeletal disorder. It occurs when the cartilages at the joints which support the bones break down. It mainly affects the joints at spine, hip, fingers, foot and knee. It is also called “Degenerative Joint Disease”. It mainly affects middle-aged and older people. Osteoarthritis are caused because of obesity, heredity, age, gender (female > male), and bone deformities. The joint damage in osteoarthritis is irreversible. The treatment for osteoarthritis involves Total Knee Replacement, which is more cost and encompasses a short anticipation particularly for the older age people. Also, early recognition of knee osteoarthritis is significantly notable. Manual diagnosis, segmentation, and annotations of knee joints are the common methods that involve diagnosing Osteoarthritis in clinical practices, although they’re difficult and greatly subject to user variation. Therefore, to overcome the restrictions of the commonly used method as mentioned above, numerous deep learning approaches, especially the convolutional neural network (CNN), are developed to enhance the clinical workflow efficiency. within the field of medical imaging classification tasks, assessing imaging biomarkers via end-to-end deep neural networks can support the clinicians to produce a more precise diagnosis like predicting the incident, severity, or progression of a disease or maybe a clinical outcome. the utilization of deep learning, especially with convolutional neural networks, is prevalent because it has shown validated results as compared to human practitioners’ manual methods or classical methods. Deep learning methods like CNN learn complex features by extracting visual features automatically using combinations of series of transformations within the model architecture. Our aim is to spot and diagnose this knee osteoarthritis by training the model using X-ray images of knee osteoarthritis dataset and save the trained data in an exceedingly Hierarchical information. We upload the x-ray image as input within the flask web frame and if we click the predict button, it’ll start the method of classification within the kind of Kellgren and Lawrence grading system (i.e. normal, doubtful, mild, moderate, severe) using the trained model. By using the CNN trained model, we are ready to get the accurate stage of the knee osteoarthritis.



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# Developing Augmented Reality Game Based on Hand Gesture Recognition

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**Abstract :** The concept of augmented reality (AR) gaming refers to the combination of visual and Sound effects with the user's surroundings in real time. Virtual reality Gaming needs a confined area or separate room to create a truly immersive environment, Whereas, Augmented Reality Doesn't Requires separate room / Large Space. Normal games don't create a huge impact. But the games which uses technology like AR, VR creates a huge impact on response. On the topic of Augmented reality game based on Hand Gesture, Zombie Survival Shooter AR game is implemented to work on the android devices. More than making fun, AR Games are used for rehabilitation purposes. The performance of the game is smooth and very less amount of bugs to be found. When it comes to accuracy, it never fails to detect our hand gesture unless and until our hands are not shown in the camera properly.

**Keywords:** Augmented Reality, Augmented Reality Game, Hand Gesture game, Rehabilitation



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## Data analysis of Air Quality of India

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**Abstract:** In this paper, the data analysis, and its visualization related to air quality of India is studied. For data visualization and analysis, multifarious languages are available such as Python, R, etc. Most of the researchers utilized the R programming language as it has better-inbuilt tools as compared to the python language. So, here we have also considered the R language for the data analysis and data visualization process. Further, the Dataset “Air Quality Data in India (2015 - 2020)” has been used for the analysis and visualization of air quality. Mainly four parameters are focused for the discussion of the air quality of cities in India. The first parameter is Particulate Matter 2.5(PM 2.5). It has a diameter less than 2.5 micrometres. The second parameter is AQI (Air Quality Index). The third parameter is Particulate Matter-10(PM 10) having diameter less than ten micrometres. The last one is O<sub>3</sub>(Ozone gas). Some major causes and its constructive measures are also discussed.

**Keywords:** Data visualization; R language; Particulate Matter 2.5; AQI; Particulate Matter-10; ozone gas



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# Impact of Web Assurance Mechanisms on Customer Concerns and Purchase Intention in Online Buying Environment

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**Abstract:** Present paper is an empirical study that attempts to identify the impact of quality assurance tools (website quality and online reviews) on online customers' purchase intent. It also studies the role of customer security concerns as moderating variable between web assurance mechanisms and customer purchase intent. The two assurance mechanisms (policy statements and online reviews) selected for the study represent two different origins. While former is essentially framed and designed by online sellers to define the contact or agreement between the sellers and the buyers, latter is mainly dependent on the past experience of users. The findings of this paper are formulated on the basis of data collected from respondents of two cities of North India. The proposed model has been tested with the help of PLS sequential equation model (SEM). Confirmatory factor analysis, reliability and consistency tests are conducted to examine the reliability of proposed research model. The study supplements the existing research framework by highlighting the role of moderating variables (information security concerns) in explaining the relationship between independent variable (web assurance mechanisms) and dependent variable (purchase intention).

**Keywords:** Policy Statements, Online Reviews, Purchase Intention, Trust, Product quality concerns, transaction security concerns.



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# Hybrid Steganoflage Using Data Transformation of Embedding Entropy

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**Abstract:** Steganography is the sector of hiding messages in apparently harmless snap shots, and steganalysis is the sphere of detecting these covert messages. But, as compared to steganography, steganalysis remains in its infancy. Our aim is to set up a strong framework for steganalysis, and design systems to locate cutting-edge hiding structures. The empirical security of block boundaries with that of blocks interiors with in the spatial area and demonstrated the distribution of changed pixels inside the blocks. A new filtering algorithm is also developed which will used to extract the JPG images, video format and audio files in this paper can also give a clear picture of the current trends in Steganography in order that we will expand and improvise suitable steganalysis algorithms. This framework manages concealing text in a picture document utilizing Least Significant Bit (LSB) strategy. The LSB algorithm is applied in spatial in which the payload bits are embedded into the least big bits of cover image. To develop an application that uses LSB insertion in order to encode data into a cover image Strategy Can limit changes at the spatial block barriers and hence reap a high-security level whilst resisting current JPEG steganalysis. We also used Ciphertext policy for encryption and decryption technique do to easy. Sender choose the quality photo with the name of the textual content or textual content file and cover it in to the image with the bit replacement desire, it assist to generate the soild stego photograph. The stego photo is despatched to the destination with the assist of personal or public conversation network. On the alternative aspect i.E. Receiver. Receiver download the stego photo and the use of the software retrieve the secret textual content hidden within the stego image.



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# Improvement in Automated Diagnosis of Soft Tissues Tumor using Machine Learning

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**Abstract:** Soft Tissue Tumor (STT) is a sarcoma that develops in the tissues that surround bodily structures. When viewed by Magnetic Resonance Imaging, they appear to be heterogeneous due to their shallow recurrence throughout the body (MRI). They are frequently misdiagnosed as illnesses such as fibroadenoma mammae, lymphadenopathy, and struma, and these errors have a significant negative influence on patients' clinical treatment cycles. The goal of this study is to use the Naive Bayes classification to identify the location of gastrointestinal stromal growths and to predict whether they are hazardous or non-malignant. The gastrointestinal stromal image is classified using a combination of Naïve Bayes classifier (NB) and Gray-Level Co-event Matrix (GLCM) in our proposed method. Dark scale and important properties will be used to finish the highlight extraction from Gastrointestinal tumor images. Using Naive Bayes, this strategy reduces the error rate of Gastrointestinal tumor detection.

**Keywords:** Gastrointestinal stromal tumor, machine learning, naïve Bayes, wavelet transformation, benign, malignant



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## Automation of Microgrids Using Machine Learning

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**Abstract:** In this paper, we propose an automated distribution management system (control center) with a machine learning approach, to limit the power wasted and provide a locality with just the right amount of power that we predict through our model. Most times when a number of micro grids are connected to provide a locality or a facility, the micro grids are often switched from Grid-connected to Islanded modes, based on the usage by the consumers. The proposed model delivers a system of connected micro grids which are controlled by the distributed management system, the DMS has the output of the machine learning model and thus knows the predicted power consumption of the consumers for the day, using this data the DMS controls how many micro grids must be grid-connected at each point of the day.

**Index Terms:** Distribution Management System (DMS), Grid-Connected mode (GC), Islanded Mode (IS), Microgrid Control Center (MGCC), Microgrid (MG)



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## Hiding Data Using LSB and RSA

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**Abstract:** To encode and unscramble the double message, it is common to use the identifiable proof of clinical images. For the secure encryption process, we use the RSA model and the stego picture model. The most well-known and widely used cryptosystem is RSA, whose security is based on the difficulty of finding the private key in a reasonable amount of time rather than the calculation's complexities. To ensure the highest level of security, RSA requires the most prominent type of depiction in the field of image encryption



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## A CNN Based Student Attendance System Using Image Processing

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**Abstract:** In an era where current technologies are advancing at a breakneck pace, there is no reason why crucial educational event like as attendance should be conducted in the old, tedious, traditional manner. The traditional approach of calling each student's name is time intensive, and there is always the possibility of proxy attendance. Since skipping classes or providing substitutes for absentees has become a game and a fantasy for the present generation of students. Manually recording attendance in attendance books becomes a time-consuming activity that is readily manipulated. As a result, this project will develop a facial detection- based automatic attendance system. This technology recognizes pupils automatically and was built by collecting real-time human faces in the classroom. Faces are discovered and compared to reference photographs. Attendees were identified by their faces in the dataset and their attendance was noted. The accuracy is determined by the distance and angle between students.

**Index Terms:** cnn model, face detection, face recognition



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# Maize Plant Disease Classification Using Image Processing and SVM Techniques

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**Abstract:** This project is represented to identify maize leaves diseases and an approach is to detect the diseases of maize plant careful manner. The proposed work is to detect the diseases of maize leaf using techniques such as image processing and Support Vector Machine (SVM). The diseases on the leaf are serious issue that makes drastic decrease in the maize production. The study of importance is the maize leaf instead of taking whole maize leaf plant because 85-95 % of diseases occurred on the leaf of the maize, the methodology to detect disease in this work includes K mean's clustering algorithm for segmentation and Support Vector Machine.

The proposed model based very effective in detecting maize leaf diseases by using various technologies like image processing, k-means clustering for feature extraction, image segmentation, Support Vector Machine (SVM) for classification. By using these technologies, the model will be trained with data and the disease will be identified with the real time datasets.

**Keywords:** Machine Learning, SVM, K-Means Clustering, Image processing.



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## Flood Alert System Using IoT & Artificial Intelligence Using [LSTM] in Reservoirs

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**Abstract:**“Water is the elixir of life”. It is an indispensable resource for economic and social development. It is our responsibility to safeguard water supplies like dams and reservoirs. If we fail to do so, it would lead to a flood disaster. Flood disasters have a great impact on millions of people’s lives and cause tremendous destruction to property. Water flow and water levels in the reservoir should be consistently monitored. Due to lack of a contemporary monitoring system, flood disasters happen very often. In this paper, we have planned to implement [LSTM] (Long Short Term Flood Prediction) using IoT and ANN. However, the prediction is done on a low-powered edge computing device which minimizes power consumption.

**Key Words:** Flood Prediction, ANN, ReLu, LSTM.



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# Review of Code Smell & Code Refactoring in Android

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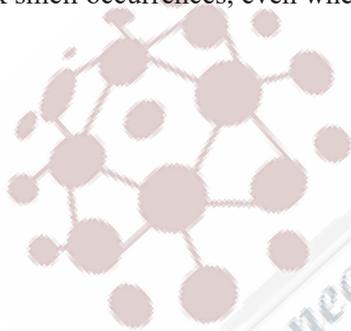
**Abstract:** With large-scale deployments, mobile apps are becoming mainstream software platforms. They have effectively infiltrated the software industry & maintained end-user attention throughout the previous several years. Due to the rise of mobile applications, the research community has uncovered new classes of code smells known as mobile-specific code smells. These code smells serve as indicators of major performance issues or bottlenecks. Despite various empirical studies on these unique code smells, it is uncertain how widespread they are or how they change over time. Various researchers worked on code smell and code refactoring techniques.

Code smell incidences in Android & iOS apps were quantified by various researchers that proposed code smell detection techniques. However, none of these researches looked at & compared the diffusivity of various kinds of code smells. This comparison is essential for finding most common code smells & prioritizing their refactoring & detection in the upcoming studies. To accurately determine the presence of code smells, a diffuseness analysis is required.

Object-specific code smells are common software engineering notions that relate to typical software system design and development errors. Due to the rise of mobile applications, the research community has uncovered new classes of code smells known as mobile-specific code smells. Despite various empirical studies on these unique code smells, it is uncertain how widespread they are or how they change over time [1].

For developing efficient and sustainable Android Apps, it is very important to identify the various code smells that may creep into the App during development.

A large-scale empirical examination into the emergence, development, and elimination of Android code smells is discussed in this research. Removing code smells is frequently a result of maintenance efforts, because developers rarely rework smell occurrences, even when they are aware of them.



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## Effective Predicting of Ayurveda-Based Component Using Machine Learning Algorithms

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**Abstract:** Ayurveda-dosha reads up have been used for a really long time, but the quantitative reliability assessment of these suggestive methods truly waits behind. Human Body constitution (prakriti) portrays what is in compatibility with human intuition and what will make it move out of balance and experience disorder. Tridosha characterizes have been used for a surprisingly long time, but the quantitative reliability assessment of these suggestive strategies really waits behind. Human Body constitution (prakriti) portrays what is in compatibility with human sense and what will make it move out of harmony and experience affliction. The three energies are known as VATT, PITT and KAPH. Every individual has a novel equilibrium of each of the three of these energies. Certain individuals will be overwhelming in one, while others will be a combination of at least two. Ayurveda-dosha reads up have been utilized for quite a while, however the quantitative dependability estimation of these demonstrative techniques actually lingers behind.

A cautious and fitting investigation prompts a powerful treatment. To gather a significant informational collection, a survey with attributes is approved by Ayurveda specialists. Creators ascertain Cronbach alpha of VATA-Dosha, PITT-Dosha and KAPHA-Dosha as 0.94, 0.98 and 0.98, individually to really look at the unwavering quality of the survey.. Model is prepared involving conventional AI methods for order investigation as Artificial Neural Network (ANN), K-Nearest Neighbor (KNN), Support Vector Machine (SVM), Naive Bayes (NB) and Decision Tree (DT). Framework is additionally carried out utilizing a gathering of a few AI techniques for constitution acknowledgment.. The outcomes presume that advances in helping calculations could give AI a main future.



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# ANPRS: An Automatic Number Plate Recognition System

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**Abstract:** India's developing wealth of urban sector has made vehicles the basic need. This has brought about a surprising public hassle - visitors manage and automobile identification. Parking areas at the moment are tight due to the increase in traffic congestion these days. Automatic Number Plate Recognition system allows the user to identify the vehicle using number plates of the vehicle using an image processing technology.

The ANPRS shows a vital work in indicating those problems, because application levels get right from entry of vehicles to parking lots to monitoring city traffic and monitoring vehicle theft. There are many ANPRS packages to be had nowadays primarily based on distinct techniques. This paper, cross check many techniques and their mechanisms related to ANPRS. The ANPRS turned into applied the usage of fit templates and its accuracy become discovered at 82.7% on Indian quantity plates. ANPRS is therefore a basic technology used to obtain a car registration code variety and, in turn, presents these facts inside the next segment of computer processing wherein facts may be translated, stored or matched to create an ANPRS-based software.

**Keywords:** Educational Institution, Automatic Number Plate Recognition System, Layout Comparison, Artificial Networks.



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## Analysis of COVID-19 using Machine Learning Algorithms

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**Abstract:** The epidemic of novel coronavirus (COVID19), which has occurred in many parts of the world, has affected the world and caused millions of deaths. This is a gruesome public health warning and will be remembered as one of the greatest epidemics in history. The goal of this article is to give you a better idea of how to implement various machine learning models in real-world scenarios. Apart from global figures, this study examines the current trend or transmission pattern of Covid-19 in India. This study uses statistics from the Indian Ministry of Health and Family Welfare to present numerous trends and patterns observed in different parts of the world. Data for the study were collected for 154 days from January 22, 2020 to June 24, 2020. The data can be further explored for further use.

**Keywords:** COVID-19, Machine Learning, Data Analysis, Trend Analysis



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# Random Interim Query and Face Recognition Based Attendance Management System

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**Abstract:** The COVID-19 pandemic has mandated millions of human to move their communication online. In the case of the educational sector, direct learning in classrooms wanted a substitute in this crisis, leading to the virtual learning concept. Online meeting platforms are an alternative to face-to-face interaction in physical classrooms. In general, attendance is a measure of a student's engagement in a course. However, keeping track of attendance in a virtual classroom is exceptionally challenging. Thus, the online meeting platforms in the COVID-19 pandemic needs a system for looking out the attendance in the classrooms. In this paper, an attendance management system is introduced to handle the attendance and disengagement of the students in the classroom. To ensure the engagement of students in the virtual classroom, the students' face matching module is used along with CAPTCHA and subject-based questions at a random interval of time. This system can be extensively deployed in an online learning platform.

**Keywords:** Virtual learning, Attendance Management, Face Recognition.



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## A Systematic Review on Fake Image Detection

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**Abstract:** In this era of technological advancement, authenticity and integrity of images, image manipulation has always been a major issue. Fabricated images are a major threat to the society and national security. Security and authenticity have been the major issues right from the initial days of photographic images. The supersonic development in the digital world helps even a layman to process digital images in a convenient way to challenge the authenticity. Now images are processed using several tools like Adobe Photoshop, GIMP and Corel Paint Shop leading to a threat for the authenticity of digital images. So, an image forgery detection tool to prove the genuineness and trustworthiness of digital images is need of the hour. This review paper focusses on various types of image forgery and detection techniques. Different forgery attacks have been categorized and summary of passive approach is discussed.

**Keywords:** Image forgery detection, fake colorized image detection, ECP, forgery detection, copy-move, image splicing, retouching, adhoc algorithm, convolutional neural network, deep learning, error level analysis, image forensic, image forgery, Deepfakes.



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# Internet of Things: Privacy and Security Challenges and Solutions

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**Abstract:** As a result of globalisation, new technologies are reshaping virtually every aspect of the landscape at the moment. This is especially true in the case of agriculture. Consequently, we are frequently entangled in a web of logic by a variety of seemingly sensible devices, which in turn causes us to become entangled in the web itself. Because they make our lives more convenient, these useful gadgets make our lives less stressful and more manageable as a result of their convenience. Although these developments are reassuring, the passage of this landmark amendment brings with it a slew of new challenges that pose a threat to the data technology industry, particularly in the areas of security and privacy. When it comes to the information technology industry, there are a lot of grey areas to be discovered. One of the most serious of these issues is the inability of various facilities to detect, measure, and monitor key components, which makes it difficult to ensure that policies and procedures are being followed. First and foremost, you must gain a thorough understanding of the problems that exist today and the approaches that will be used to resolve them in the future before you can fully exploit your capacity for innovation.

**Keywords:** IOT, Sensors, RFID, WSN, Security, Privacy, Internet Introduction



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## Power Saving using Motion Sensor in public Spaces

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**Abstract :** The man made light source have only two modes of operation that is switching ON and switching OFF and there is no intermediate level that can be set. So, everything need to be controlled manually . This leads to the wastage of electricity and this type of manual control is not effective in public spaces in this era. In this paper advanced control system which can replace the old version of the light control system is replaced using Arduino. The project mainly aims in designing Motion Sensor Based Light Control by using Arduino and PIR sensor where the lights in the room will automatically turn ON and OFF by detecting the presence of object .The system is implemented on an embedded platform and is equipped with the passive infrared (PIR) sensor which is used to detect human beings or surrounding objects as passive radiations. It can detect a person up to approximately 30 feet away .This type of Automatic Room Lights can be implemented in garages, public staircases, bathrooms, etc. In these spaces continuous light is not required but only when there is human intervention the lights need to be in ON state. This automatic room light control system, helps us not to worry about electricity as the lights get automatically off when there is no person.

**Keywords:** PIR sensor, Arduino, Light control system.



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# A Novel Stacking Approach for Accurate Detection of Fake News

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**Abstract:** The collaborative multi-Trends sentiment category technique to teach sentiment classifiers for a couple of datasets simultaneously. In our technique, the sentiment data in the distinct dataset is shared to teach greater correct and sturdy sentiment classifiers for every trend whilst labeled records are limited. Particularly what we did is to remove the sentiment classifier of every trend in parts, a worldwide Trends-particular part. Numerous purchaser evaluations of subjects are actually to be had on the Internet. Automatically identifies the critical elements of subjects from online purchaser evaluations. The critical product elements are recognized primarily based totally on observations.

With the purpose of categorizing tendencies early on. This might permit offering a filtered subset of tendencies to stop users. We examine and test with a fixed of sincere language-unbiased capabilities primarily based totally on the social unfold of tendencies to categorize them into the delivered typology. The worldwide version can seize the overall sentiment know-how and is shared through numerous datasets.

The Trends-particular Buzz feed truth checking Algorithms version can seize the particular expressions provided by every Trend. Trends-particular sentiments know-how by each labeled and unlabelled sample in every Trend and use it to beautify gaining knowledge of Credbank and PHEME dataset. Besides, we comprise the similarities among datasets into our technique as regularization over the Credbank and PHEME dataset to inspire the sharing of sentiment data among comparable datasets. Two styles of Trends similarities measures and are found, primarily totally on text, alternative one primarily totally on sentiments expressions. And what we did is we introduced green algorithms for remedying version of our technique. Experimental outcomes on our important datasets display that this technique will correctly enhance overall performances of our multi-Trends sentiments category considerably surpass the previous baseline method.

**Keywords:** Buzz feed factchecking, News, Twitter, Cred and PHEME

## Robust Texture Classification using Hybrid CNN Techniques

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**Abstract:** The texture is an important characteristic for many computer vision applications, and texture image categorization has been a topic of importance in recent years. Convolutional neural networks (CNN) have recently emerged as the state-of-the-art: CNN-based features outperform earlier handmade features significantly. CNN needs massive computational costs for deployment and training. In our paper, we have proposed an improved hybrid Texture classification approach for Texture by merging the computational capability of CNNs (using a powerful architecture called Resnet) to extract features and a feature selection algorithm to select the most relevant features. The proposed approach was evaluated on two texture datasets which achieve both high performance and reduction of computational complexity. In our research, the two datasets we have considered are Kth-tips2a & Kylberg datasets. The results are the best achieved on these datasets compared to a set of recent feature selection algorithms. By achieving classification accuracy and F-score, the proposed work outperforms all recent Texture Classification work.



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# Face Authentication ATM Using Deep Learning

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**Abstract:** Nowadays, ATM scams are increasing in many countries. In India, nearly 2000 scams were recorded last year(2022). To reduce the scams and improve the security in banking, this ATM face password project can be replaced the debit or ATM cards So that the User does not need to carry their debit card everywhere. User will have their unique account number to access the ATM. After entering that unique account number, the machine will scan the User's face recognition to see if it matches the data set in the account. It executes the banking process. If not, it sends an OTP pin to the account holder's phone number by using IoT. By using the OTP PIN, the person in the ATM can withdraw the amount in that account. This system can be beneficial for the future banking system.

**Keywords:** ATM , debit card, face recognition



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## A Machine Learning Methodology for Diagnosing Chronic Kidney Disease

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**Abstract:** Persistent kidney illness (CKD) is a worldwide medical condition with high bleakness and death rate, and it instigates different sicknesses. Since there are no prominent aftereffects during the starting periods of CKD, patients routinely disregard to see the ailment. Early disclosure of CKD engages patients to seek perfect treatment to upgrade the development of this contamination. AI models can effectively assist clinicians with achieving this objective due to their fast and exact affirmation execution. In this evaluation, we propose a KNN AND DECISION TREE, RANDOM FOREST, SVM. framework for diagnosing CKD. The CKD informational collection was got from the University of California Irvine (UCI) AI store, which has countless missing qualities. attribution was used to in the missing characteristics, which picks a couple of complete models with the most near assessments to deal with the missing data for each divided model. Missing characteristics are by and large found, taking everything into account, clinical conditions since patients might miss a couple of assessments for various reasons.



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# Machine Learning in Cardiovascular Disease Prediction

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**Abstract :** Cardiovascular disease is mostly predicted by doctors based on their own intuition and experience rather than referring to all the patient records. This affects the quality of prediction for the patients. Prediction of cardiovascular disease using machine learning algorithms can reduce errors and enhance the patient safety and outcome. Nowadays, large amount of data can be analyzed and prediction can be done easily.

Prediction and diagnosis of cardiovascular disease is the most challenging factor that the doctors are facing every day. In order to minimize the mortality rate, the process of prediction must be done automatically and quickly on receiving the patient details. To increase the rate of prediction, machine learning algorithms play a vital role in finding the accuracy of the model. A software must be developed instead of consulting the doctors personally. The main objective of the project is to develop a cardiovascular disease prediction model using various machine learning algorithms.



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## Quality of Service using Min-Max Data Size Scheduling in Wireless Sensor Networks

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**Abstract:** Min-Max data size scheduling is use in this proposed work. It is used to reduce the Delay & Energy. In this proposed work, the cluster is formed dynamically in the proposed system. The clusters are formed with a two-hop intermediate node using Min-Max Data Size-based Scheduling Algorithm. The Cluster is formed with the help of neighboring nodes identifying the nearby nodes and connected into the cluster. The cluster is formed with two-hop neighboring nodes. Data Scheduling is used to identify the shortest path and transmit the data based on weightage. Here the data size is large, the data are sent via the first level shortest path, then the data size medium, the second level shortest path is used to send the data, then the data size is small, it should be sent through the third level shortest path. The data size is identified by three size of measurement Min, Max and Medium. The data transmission is based on time, energy, delivery, etc., the data are sent via the first level shortest path, then the data size medium, the second level shortest path is used to send the data, then the data size is small, it should be sent through the third level shortest path.



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# Authentication Protocols and Token Management Schemes for Identity Management in Cloud Computing

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**Abstract:** In this era of electronic world, where every kind of transaction can be done with few clicks require strong authentication in order to protect yourself from malicious hands. Whenever authentication is done it requires once credentials and verification of the credentials stored on servers with the help of tokens. This paper presents the authentication protocols and token management schemes that are used for identity verification in cloud computing environment. A detailed comparison is presented between various authentication protocols and token management schemes so that right protocol and token management scheme could be selected for designing the Identity Management Models for Cloud Computing Environment.

**Keywords:** Identity, Identity management, Authentication Protocols, Tokens, Token Management Schemes, Cloud Computing.



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## Health and Social Distance Monitoring System for Covid Patients Using IoT

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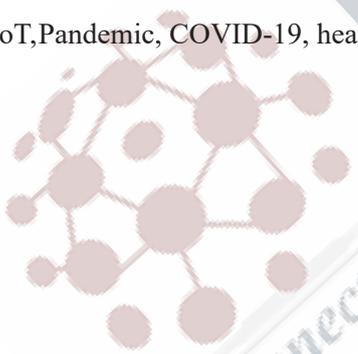
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**Abstract:** In this world of COVID-19 pandemic, as the cases are increasing day by day, the need of health care becomes a mandatory one in everyone's life. COVID-19 is a contagious disease so it is very important to quarantine the COVID-19 affected patients, but at the same time medical sector need to check the fitness of affected persons. This paper represents the design and implementation of a health monitoring system for COVID patients. A possible application of the Internet of Things (IoT) in healthcare and social distance monitoring for COVID pandemic situation is presented in this paper. A smart health care system in IoT environment that can monitor the patient's basic health sign as well as the room condition where the patients are now in the real time is proposed. A smart health care system consists of several sensor like temperature sensor, pulse oximeter and blood pressure sensor are straight away connected to the affected person and gather the client's issues by using the various sensing devices. This sensor data is then relayed to the server using microcontroller. The doctors and caretakers monitor the patients in real time through the data received through the server. The IoT node tracks the health parameters then update the smartphone app to display the user health conditions. The App notifies the user to maintain a physical distance of 2m or 6feet which is the key factor in controlling the virus spread. In times of pandemic, importance of health care monitoring system has elevated even more than even before.

**Keyword:** IoT, Pandemic, COVID-19, health monitoring.



# **Analysis of Supervised Machine Learning Algorithms for detecting cardiovascular patients**

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**Abstract :** Putting details by different sources to show the amount of productivity and to decrease the factual problems which are faced in medical survey while analyzing the datasets that we were collected by the different organizations of the state accordingly. it collects an immense level of data from day to day life to show the appropriate details but unfortunately Medical & health region wasn't able to use that relevant data to full potential and that's the cause that data is underutilized. There are so many types of diseases which causes can be determined and the future generations could use that information for the better treatment and medical facility of the mankind accordingly. Some cardiovascular diseases are also countable into this category and in this research paper we'll use four types of supervised machine learning algorithms on a single dataset that is collected through some medical experts and from some different hospitals regarding some cardiovascular patients that dataset contains the medical data such as age, cause, gender, weakness, alcohol, hypertension, low and high level of diabetes, count of cigarette smoked per day this is taken as input and these features are modelled for prediction first and after we get the outcomes on the dataset which is taken and after all we will be able to have that supervised learning algorithm proposedly it's best to get values and prediction of the actual result with conclusion. algorithms like K- nearest neighbour, Naive Bayes, Support vector machine and decision tree are used in this idea of the research paper accordingly.



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## Real time criminal face recognition using Machine Learning Approach

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**Abstract:** Face recognition may be taken into consideration as one of the maximum hits than biometric identity strategies amongst numerous forms of biometric identity. Face recognition affords biometric identity that makes use of the individuality of faces for safety purposes. Machine learning is one of the most disruptive technologies of this generation. It is part of records technological know-how in which the pc structures are made to analyse from the distinctive records units on the idea of styles generated from the datasets. In this paper, we differentiate between criminals and citizens and further investigate if the person is criminal or not through face recognition using LBPH and AdaBoost. If someone is identified as a criminal, notification is received. We had finished a technical paper of this discipline and listed out the distinctive strategies used for this region and additionally defined a number of the detection and recognition algorithm, additionally offered quick notes on a few strategies of face recognition.

**Keywords:** Face recognition, Machine learning, criminal identification, face detection.



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# A Research Paper on Development of Encoder & Decoder for Compression

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**Abstract:** The objective of this paper is to develop test program for encoder and decoder based on Rapid Entropy-Coding Algorithm and its evaluation using graphic input files. The modeling part of the problem is determining the probabilities for each symbol; the entropy-coding part of the problem is determining the representations in bits from those probabilities; the probabilities associated with the symbols play a fundamental role in entropy coding. The test programs have been developed with an eye towards applications which would generally involve compressing a dataset once and subsequently decompressing. The approximation used in the Q-coder provides its best coding efficiency in such a case, and a high compression ratio entails less frequent importing of data, so that operation is faster. A version of the ELS-coder using sixteen-bit words rather than eight-bit bytes as its basic unit of data would provide profound compression comparable to that of the Q-coder with about twice the memory usage of the version given here. In the realm of mild compression, the superior accuracy and less frequent data import of the ELS-coder probably give it an edge.

The code developed has been tested using image, sound and text files. The efficiency has been found better for the image files as predicted. There was no corruption of data.

A raw file was taken and compressed. Then the output was again fed to decoder to retrieve the original file. It was found that the recovered file was identical to the original file.



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# AI Virtual Mouse Using Hand Gestures

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**Abstract:** In the Era of technology, Technology is moving towards the best solutions and outputs to the People's life and with use of them it is making the world digitally and increasing the work efficiency with less time and making all smart with new Technology. So we are going forward with AI Virtual Mouse. In simple terms I talk about this now a days we just passed away from Covid situation which was very critically treated and affected human beings and still it is going and people are worried about any touch. So by keeping that in mind this is the great and best idea which will work for humans as well by making new inventions.

Because existing mice are utilising battery for power and a dongle to connect it to the PC, a wireless mouse or a Bluetooth mouse still uses devices and is not totally device-free. This issue can be overcome in the proposed AI virtual mouse system by using a webcam or a built-in camera to capture hand motions and recognise hand tips using computer vision. The algorithm used in this is Machine Learning for the hand controlling gestures on the screen.

This research introduces a method for controlling mouse movement with a real-time camera using a physical mouse as a common way to interact with a computer screen. Our concept and our idea is to use camera and computer vision technology, as image segmentation and gesture recognition to control mouse tasks with a computer's screen and we demonstrate how it can work or do the same tasks that all existing mice can do.

This study provides a method for controlling the cursor's position without utilising any electronic devices. While some operations, such as clicking, dragging and dropping of objects will be done in a variety of ways. Hand motions the suggested method will only necessitate the use of an input device, use a webcam. The programme that will be implemented. Open-CV is needed to implement the proposed system as well as python. The camera's output will be seen on the system's display so that it can be fine-tuned for the person who uses it.

**Keywords:** Gestures control, Image Processing, OpenCV, MediaPipe, Autopy, Hand Tracking.



# EVENTERZ : Event Management System

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**Abstract:** Eventerz an Event management is a fast-growing and highly specialized field, but it lacks standardization. Events are often viewed as part of projects, but this isn't always the case. There are distinct concepts and issues in event management that necessitate the development of more sophisticated methods and tools. It's important to categories events, compare and contrast project management and event management, and discuss the future of event management standardization. Only registered users can access the system, and new users can join the application. Sql was used to create the web application, but the same code can also be run on a desktop computer. Most of the essential features needed for an event can be found in this application. It provides a menu of event types from which the user can choose. Once a specific type of event, such as a wedding or a dance show, has been selected by the user, the system provides options for the event's date, time, location, and equipment. All of this information is saved in the system's database, and the customer receives a unique receipt number for their reservation. The administrator (owner of the website) will receive this information and will be able to communicate with the customer using the information in the database about the client's preferences and contact information.



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## Integrated Web Resource of Alphapapillomavirus 9

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**Abstract:** Alphapapillomavirus 9 is a virus that belongs to the family Papillomaviridae. It is closely related to the high-risk Human papillomavirus - 16, as well as HPV-31, HPV-33, HPV-35, HPV-52, HPV-58, and HPV-67. It creates warts and malignant tumours, and it is responsible for 75 percent of cervical malignancies and pre-cancerous cervical lesions globally, making it an organism that requires specialised research and attention. In order to make research easier, we're working on an integrated resource that is organised and comprehensive. The resource is a webapp which is built using Flutter framework that uses Dart programming language. Our efforts are concentrated on consolidating knowledge about the virus, including complete genome sequences, proteins, genes, and structural material. It mostly consists of many types of analyses and outcomes, such as genome alignment, phylogenetic inferences, codon context and usage bias, and significant CpG island statistics. In addition, primers for molecular diagnostics were developed and glycosylation sites were discovered and studied. Most importantly, we're looking at prospective therapeutic elements like vaccine epitopes and deriving potential information about them. We believe that the researchers' community will benefit from our concerted work on this resource.

**Keywords:** Integrated Web Resource, Database, Alphapapillomavirus 9, Therapeutics



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# Averaged Multi-Technique Discrete Wavelet Transform Based Medical Image Enhancement

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**Abstract:** This paper brings forth a novel averaging based approach that combines the strength of multiple techniques to enhance contrast and sharpness of images without losing significant details of the original image. The pipeline of the technique can be classified into 2 stages. In the first stage, an image preprocessed using median blurring and enhanced by contrast limited adaptive histogram equalization (CLAHE) followed by unsharp masking, is averaged with a similar image that had undergone the same process with the only difference being the use of a Gaussian filter. A third image, which is the result of unsharp masking performed on the original image, also joins this averaging process. In the next step, discrete wavelet transform (DWT) is utilized to break down the image into four components and they are fused with the corresponding components formed from applying discrete wavelet transform on the original image. This step ensures that the fine details present in the original image are preserved in our final product but at the same time, we get an enhanced result as well. Inverse discrete wavelet transform (IDWT) is then utilized to get the resultant enhanced image which has improved contrast and sharpness without significant loss of detail present in the original image.



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## EEG Signal Processing using ADT-SVM & Random Forest

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**Abstract:** Since its discovery, electroencephalography (EEG) has been a standard technique for diagnosing a variety of health conditions in patients. Due to the numerous different types of classifiers available, the analysis methods are also diverse, and the goal of this research is to look at machine learning methods developed for EEG analysis with engineering science applications. It is possible to confirm the success of each machine learning technique as well as the main properties using this data. Each of the earliest machine learning methods has been discovered to be used in some way in EEG categorization. This includes everything from Naive-Bayes to Tree/Random Forest and Support Vector Machines (SVM). Learning methods that are supervised have more accuracy than those that are not supervised.



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# An Effective Agricultural Crop Yield Recommendation System Using Deep Learning Algorithm

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**Abstract:** Agriculture is the primary vocation of the majority of Indians. Farmers are accustomed to sowing the same crop, applying more fertilizers, on their own knowledge and following the opinion of the public. The farmers suffers a lot of loss. To overcome this, we used deep learning. So, the system is developed to give suggestions to the farmers to sow the type of plant according to the soil and to improve the productivity. Identification of the crop is very much essential. The various factors which help in this are rainfall, production rate, agricultural product, temperature, and season. By deploying deep learning techniques, the overall performance is important in the agricultural sector. Before using any machineries in the field, it is more important to predict the production earlier. The model DNN is used to train the dataset and to achieve better accuracy. The model is also used the state of art methods Logistic Regression, Decision Tree and K - Means. The system helps in selecting the crop and give suggestion for the farmers till increased productivity. The system helps to get the crop selection idea into action so that it will help farmers to choose appropriate crop for more yield productions.



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## Comparative Study of Various Machine Learning Based Approach for Sentiment Analysis

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**Abstract:** As evolution of web development from Web 2.0 to 3.0, people have adapted from being educated and socially connected with others and also becoming more empowered to deliver/obtain various services based on individual thoughts and views of individual. Sentiment analysis is a method of natural language processing which uses the emotional content of text whether it is positive, negative, or neutral. It encompasses extraction text for sentiment and qualitative information using data mining, machine learning, and artificial intelligence. This research paper examines different machine learning methods, including a comparison of attributes such as accuracy, benefits, and limitations of each machine learning technique.



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## E -Voting Using Face Recognition

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**Abstract:** Face Recognition regulation (FDR an authentication technique within on-line voting, as some of electronic is voting types, is proposed. Web based totally balloting lets in the voter to vote out of any vicinity of regimen or oversea on state. The voter's picture is captured and passed after a back detection algorithm (Eigenface then Gabor filter) which is ancient in accordance with become aware of his rear beside the photo and store that namely the first matching point. The voter's National identification card wide variety is chronic after retrieve yet return his protected photograph beside the database of the Supreme Council elections (SCE) which is passed after the same detection algorithm (Eigenface then Gabor filter) according to observe back beyond that then shop that as like 2d matching point. The couple matching points are old by a matching algorithm in accordance with take a look at decline they are same yet not. If the effects regarding the matching algorithm are pair factor fit since exams decay this individual has the right to vote yet not. If they has appropriate in accordance with election then a balloting shape is presented after him. The end result indicates so the proposed algorithm successful about finding over 90% of the faces among database yet allows their voter in imitation.

**Keywords:** E-Voting, Base-64 encoder, Iris, Cryptographically Secure Pseudorandom Number generator (CSPRNG).



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## Data Security Using Data Encryption

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**Abstract:** Personal computer users, the military, and other organizations are increasingly concerned about data security. An increasing number of people are concerned about online security. Security's emergence technologies can be better understood by studying security's ancient roots. The internet's design allows for multiple security alerts. Internet architecture may have changed, reducing the number of attacks that can be sent over it if the attackers know how to use them. Both were able to escape unharmed. Firewalls and encryption methods are common online security tools for many companies. Businesses create a "intranet" in order to remain connected over the internet while also safeguarding themselves from external threats. The field of data security is vast, and this is just the beginning of its evolution. Today, it is critical to understand the study's context in terms of the internet's background information, its risk, cyberattacks, and security technologies.

**Index Terms:** Data security, Internet architecture, IPv4, Network security.



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# Virtual Boundary Recognition Carries Sensitive Information

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**Abstract:** In the cloud climate, inferable from the enormous scope sharing of the upper application case and the basic virtual machine assets, the inhabitants' data stream limit in the common virtual machine is fluffy and challenging to distinguish. What's more, security of the inhabitant data stream between processes is deficient, bringing about the spillage of delicate data of occupants. In this manner, a powerful control technique for inhabitants' delicate data stream in view of virtual limit acknowledgment is proposed. By examining the way of behaving and activity log of inhabitants, the conduct include vectors of occupants are built, and a programmed acknowledgment calculation of occupant virtual limit in view of the powerful it is intended to spike brain organization. This calculation can understand dynamic ID of the occupant virtual security limit when the application administration request changes progressively. Further, joined with the idea of brought together and decentralized data stream control, a powerful control strategy for delicate data stream is laid out .



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# Develop a Mobile Application to Monitor the Presence of Employees in the Office by Tracking their Mobile Phone Location using GPS with Face Recognition

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**Abstract:** There are a few Data Innovation (IT) companies that offer their workers to work from domestic. In the interim, the IT companies Information the troubles in way of watching the staff member working time and making the participation list. To this extent, we display the Worldwide Situating Framework (GPS) empowered participation and representatives working hour checking framework based on an Android application. GPS makes a difference to screen the position of the client, based on the position of the representative the computer framework measurable examination of the working hour. Within the proposed strategy, the Mac address and a Versatile number of the employee's portable phones will be put away within the database. Based on that data, the employee's interesting ID will be apportioned. The proposed strategy isn't as it were appropriate for the quarantine period, we will utilize the proposed mobile-based participation checking framework in offline work, we too included confront acknowledgment to identify the representative is utilizing the portable of that portable is kept up by a few others. Now and then they can donate their portable to a few others to form a display. Individuals continuously carry their mobiles anyplace. This proposed android application has been proposed by employing a programming strategy called the Object-Oriented strategy and for confront acknowledgment, we utilize CNN calculation. The application has been created by approaches such as charting, organizing, programming, and coming about. Our proposed application has a few highlights for joining the proven records to induce take-off authorization, late authorization, and nonappearance. The format of the application is planned based on the user's can effectively usable. Conjointly application gives the stage to oversee the HR group effortlessly.

# A Review on Applications of Blockchain Technology in Various Sectors

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**Abstract:** Blockchain Technology is used mainly for the secure transmission of data between the users, if attack occurs between the users, it help us to identify the theft. A block of data is packed in a packet; these data are sent through the networks for communication purposes. The main aim of Blockchain is the avoidance of third parties in the process. Blockchain Technology is used in many applications such as healthcare, Business, Voting systems, IoT systems.

**Keywords:** Applications, Healthcare, Digital Currency, Voting System, Io



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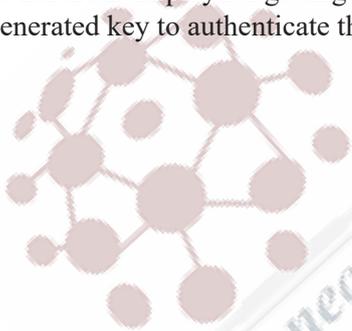
## Enhanced Secure Transaction Based on Biometric, Multifactor Authentication

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**Abstract:** With the increase in use of online transactions, there comes a need to secure the way in which the transactions take place. Authentications for transactions have been carried out by various means like passwords/PINs, OTPs, etc. However, with the advancement in technology, there comes a need to secure the newly developed system before attackers get their hands on it. The effectiveness of a simple OTP has been reduced during the recent times for several reasons: i) they are not being encrypted, and, ii) it became easier for the attackers to lure the public into disclosing their identity in the pretext of upgrading SIM cards etc. To prevent further damage and to make systems more secure, it is proposed that a device which has no connection with a network, where any potential vulnerability can exploit a system takes place, can be used to generate authentication character, in this case OTPs, to authenticate transactions. This is a safer and secure way of authenticating transactions that can not only make the transactions easier but also prevent the attacks on them to a far greater extent. By using multiple factor for authentication, the chances that the intruder get his/her hands on all the authenticators is very minimal, so that the users can transact without the fear of being spied upon. By isolating the process of key generation from a network, it is possible to secure it to a lot greater extent since any attack happens over a network. This device uses simple components such as an Arduino board, inexpensive fingerprint scanner, keypad, and LCD display, and is a very inexpensive process to assemble and operate. This could enhance the security of transactions to a great extent. This device is battery operated and it uses cell battery, therefore it can be relied upon in most of the circumstances. This attributes to the chances of failing be minimum. The use of fingerprint sensor in this device helps in faster recognition of the fingerprints, given the algorithms used in fingerprint recognition is one of the best in today's scenario. This has LCD display for getting the input (the OTP sent to the registered mobile number), and to get the output (the generated key to authenticate the transaction)



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# Breast Cancer Prediction using Machine Learning

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**Abstract:** Breast Cancer has become one of the most common cancers worldwide, women are affected by it mostly and men are rarely affected by it. Breast cancer is described as a painless lump or thickening in the breast. If an abnormal lump is present in the breast, it is important to consult a health practitioner even when there is no pain associated with it. Early detection of breast cancer helps for better successful treatment. Tumors are generally classified into two types: 1.Malignant and 2.Benign. Malignant tumors are also referred to as cancerous tumors which can spread into nearby glands, tissues and other body parts whereas benign tumors are non-cancerous which will not spread across other parts and are rarely life threatening. Most common type of screening for breast cancer is mammography. MRI screening may be used for women having a high risk of breast cancer. To evaluate breast tumor Fine needle aspiration cytology (FNAC) is performed as it can prevent unnecessary surgery and it is cost effective. Breast Cancer can be predicted with the help of machine learning. In this paper, various machine learning algorithms such as Support Vector Machine (SVM), Decision Tree, Random Forest, Naive Bayes and XGBoost are trained using Wisconsin Dataset of Breast Cancer (WDBC) and their accuracy, f1 score, precision score and recall score are compared.Among all algorithms Random Forest performed better with accuracy of about 98.6%.

**Keywords:** Breast Cancer, Decision Tree, Fine Needle Aspiration Cytology, Naive Bayes, Random Forest, Support Vector Machine Wisconsin Dataset of Breast Cancer, XGBoost.



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## Eye Gaze Communication System

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**Abstract:** The objective of the Eye gaze project is to use Eye gaze of the human by the means of interaction with the computer. As such, we have to develop a commercial computer system such that users will be able to operate computer based system by giving commands making use of his eye only. For instance to perform particular function such as to switch ON/OFF lights, the user activate control key on the screen in front of the function only by looking towards that key. The advantage of this system that there is no need of any physical connection between user and the system. This system is being developed for the people with the complex physical disabilities who are unable to make the use of their hands and can't speak. This type of direct eye interface would increase an individual independence, dramatically improved quality of life of such people. It was first time introduced by Yarbus and known as Yarbus eye tracker in the 1960.



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# Secured E-Voting System Using Iris and Fingerprint Recognition

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**Abstract:** In every election, the election commission is facing a lot of troubles and various types of problems throughout the election. The most familiar issue faced by the election commission is improper confirmation with respect to the arrangement of casting the votes, duplication or illegal casting of votes. The main objective of this project is to develop a new idea about voting system and also ensure the security of it. To ensure the security of voting system, we use iris and fingerprint recognition in proposed system. Iris recognition is used because it is highly unique, stable, cannot be duplicated and easily captured. Many researchers realized that iris as biometrics is the most accurate means for recognition since iris of human contain unique patterns. This work is implementing the SIFT feature extraction based Iris pattern matching and embedded based authentication approval system.

**Keywords:** authentication; face detection and recognition; biometric scanning; user friendly



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# Automatic classification of Multi-Sleep Stages Using Two Stage Recurrent Neural Network

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**Abstract:** Automatic Sleep Stage classification is a vital task for identification of Sleep quality that are prone to Insomnia and Sleep apnea events which further lead to changes in the immune system especially on the various memory and metabolism properties. However, its significant single channel ECG signals is divided into 30 second segments containing complex time characteristics and frequency characteristics which makes it difficult for manual techniques to discriminate between the different sleep stages patterns. In order to address those challenges, automated sleep stage classification model using deep learning mechanism has to be proposed. In this paper, two stage Recurrent Neural Network has been framed as prediction function to detect and classifies the type of Sleep Patterns with domain knowledge. It is capable for predicting without priori definition of specific signal features or thresholding value. Recurrent neural network that will automatically extract from the Signal information on both Time and Frequency constraints as raw spectra that is optimal for the identification of the different sleep stages on employment of LSTM model. We used approximately 100 patches of signals from different patients extracted from a SC4001E0-PSG dataset and 80% of data has used to train corresponding expert signal characterizations and 20% is used to validate the proposed time and frequency constrained two stages Recurrent Neural Network. The results of K fold cross-validation experiments show that the proposed model achieves correlation of about 0.90 with the estimation of multiple sleep stages as as highly automated model for characterization of sleep patterns.

**Keywords:** Sleep Stage Classification, Recurrent Neural Network, Feature Extraction, Long Term Short Memory



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# Predicting the Disease Outcome in COVID-19 Positive Patients through Naive Bayes (NB)

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**Abstract :** Accurate diagnosis of patients with COVID-19 is extremely important to offer adequate treatment, and avoid overloading the healthcare system. Characteristics of patients such as age, gender and varied clinical symptoms can help in classifying the level of infection severity, predict the disease outcome and the need for hospitalization. Here, in this paper, I would like to present a study to predict in positive COVID-19 patients and possible outcomes using machine learning. The study dataset comprises information of 5,000 patients concerning closed cases due to cure or death. This is a preliminary retrospective study which can be improved with the inclusion of further data. The Machine learning techniques fed with demographic and clinical data along with relevant data of the patients can assist in the prognostic prediction and physician decision-making, allowing a faster response and contributing to the non-overload of healthcare systems. The results of post covid is showing the virus not only affects the lungs but also has an impact on one's heart, brain, the digestive system, and kidneys amongst other organs. This new phenomenon that has emerged is termed as the 'Post Covid-19 syndrome,' The world health organization points out that patients who have recovered from Covid-19 might experience: Abnormal heart rate, Chronic fatigue, Persistent diarrhoea, Rapid weight loss and digestive issues, Mild to severe inflammation in the brain, Nausea, Loss of appetite, taste and smell, Reduced exercise, tolerance, Disturbed sleep patterns, Muscle weakness. Here, in this study we used the Naive Bayes is an example of an induced classifier based on strong and unrealistic assumption: all the variables are considered to be conditionally independent given the value of the class variable. Consequently, a NB classifier is automatically achieved by only inducing the numerical parameters of the model. To this end, only information about the variables and their corresponding values are needed to estimate probabilities, leading to a computational time complexity that is linear with respect to the amount of training instances. NB is also space efficient, requiring only the information provided by two-dimensional tables, in which each entry corresponds to a probability estimated for a given value of a particular variable. According to Friedman et al. (1997), NB has provided good results on several domains. It is a classification technique based on Bayes' Theorem with an assumption of independence among predictors.

**Keywords :** Post Covid-19, Naive Bayes; Machine Learning; World Health Organization

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## A Study On Static Program Analysis Techniques and Tools

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**Abstract:** Program analysis has been a rich field of research for a long time. Program analysis automatically analyzes the behavior of computer programs concerning the properties such as correctness, robustness, safety, and liveness. Two significant focus areas in program analysis are program optimization and program correctness. Many program analysis tools and techniques are available to analyze the properties of programs, including their analysis, flow, program development, algorithm, reverse engineering, and other features. Static analysis is the analysis of computer programs before their execution to identify any flaws that must be rectified before they are executed. Static analysis tools use a variety of methodologies to find a variety of faults in software; because these tools use different techniques, the bugs they identify have a slight overlap, making it challenging to combine the analysis reports they generate. In order to understand the working and efficiency of ideal solutions, this study compares results from static analysis tools such as SpotBugs, PMD, SonarScanner, and CheckStyle. Along these lines, the user can take advantage of the benefits of various static analyzers to improve the software's overall quality.

**Index Terms:** Static Program Analysis Tools, Code Optimization, Bug Patterns



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## Aqua Communication using Modem

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**Abstract:** While wireless communication technology today has become part of our daily life, the idea of wireless undersea communications may still seem far-fetched. However, research has been active for over a decade on designing the methods for wireless information transmission underwater. Significant progress has been made in terrestrial sensor networks to revolutionize sensing and data collection. To bring the concept of long-lived, dense sensor networks to the underwater environment, there is a compelling need to develop low-cost and low-power acoustic modems for short-range communications. This post explains about Aqua communication using a modem and presents designing and developing such a model.



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