

# **2024 International Conference on Advances in Computing Research on Science Engineering and Technology (ACROSET 2024)**

**Indore, India  
27-28 September 2024**

**Pages 1-624**



**IEEE Catalog Number: CFP24VD5-POD  
ISBN: 979-8-3503-8881-7**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24VD5-POD
ISBN (Print-On-Demand):	979-8-3503-8881-7
ISBN (Online):	979-8-3503-8880-0

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## TABLE OF CONTENTS

A Survey on Security Techniques for Cloud Data Migration .....	1
<i>Anjali Dhaman, Ugrasen Suman</i>	
High Autoencoder Based System for Seamless Transformation of Grayscale Portraits into Vibrant Color Representations .....	6
<i>Anurag Sarna, Ashwini Gadwal, Jaydeep Singh Choudawat, Vandana Kate, Mahima Sharan</i>	
Exploring Chakra Balancing Practices in Software Applications.....	13
<i>Gajendra Singh Rajput, Mubeen Ahmad Khan, Tanmay Jain, Tanmay Khandelwal, Ujjwal Sharma</i>	
Unlocking Transfer Learning's Potential in Natural Language Processing: An Extensive Investigation and Evaluation .....	19
<i>Pradipita Banerjee, Swati Kashyap</i>	
Detection of Two-Wheelers Traffic Violations and Automated Ticketing Using YOLOv8 .....	26
<i>M. S. Abirami, Harsh Kumar Jain, Aman Singh Kanwar</i>	
Systematic Review of GAN for Enhancing Efficiency in AI in Gaming .....	32
<i>Jasdeep Singh, Sardar M. N. Islam, Manav Tewatia, Deepanshu Garg, Neda Fatima</i>	
Data-Driven Decision Making: Maximizing Insights Through Business Intelligence, Artificial Intelligence and Big Data Analytics .....	40
<i>Umesh Mangal, Sandeep Mogha, Sumit Malik</i>	
Human Detection and Tracking Using Machine Learning Algorithm.....	47
<i>G. Nallasivan, Ramya Thatikonda, M. Geetha, A. Bhuvanesh, S. Ramraj, Sreethu S</i>	
Importance of Search Engine Optimization in Digitalization — a Comprehensive Analysis .....	53
<i>Reshma Tatikonda, Jainath Ponnala, Ramya Tatikonda, Dileep Kumar Yendluri, M. Kempanna, A. Bhuvanesh</i>	
Role of RPA to Seize Opportunities in 5G Edge Computing in Telecommunications .....	59
<i>Dileep Kumar Yendluri, Reshma Tatikonda, Ramya Tatikonda, Jainath Ponnala, M. Kempanna, A. Bhuvanesh</i>	
Enhancing Metaverse Using Quantum Technologies .....	66
<i>Jash Doshi, Sanober Sultana Shaikh</i>	
Exploring the Growth and Future Research Directions on Robo Advisors: A Bibliometric Study .....	73
<i>Babapreet Kaur, Manjit Kour</i>	
Ant Colony Optimization-Based Energy Efficiency Optimization in IoT-Enabled Cloud Computing Resource Allocation.....	79
<i>Disha Sharma, Arjun Singh Parihar</i>	
Optimizing Credit Card Fraud Detection: Random Forest and XGBoost Ensemble.....	87
<i>Ajay Kumar Saw, Pooja Luthra, Dinesh Thakur</i>	
Exploring the Potential of IoT, Machine Learning, and Cloud Computing in Smart Home Applications.....	93
<i>Garima Mathur, Pankaj Savita, Neeraj Gaur, Bhavana Vishwakarma, Vaibhav Tripathi</i>	

Validation of Sophisticated Machine Learning Model for Early Detection of Acute Kidney Injury.....	99
<i>Nupur Yadav, Shilpee Srivastava</i>	
A Survey of Advances in Text Summarization Methods .....	105
<i>Julie Luthra, Priti Maheshwary</i>	
Evaluation of Information Security in Web Application Through Penetration Testing Techniques Using OWASP Risk Methodology .....	110
<i>Chinekezi Chinyere Echefunna, Jude Osamor, Celestine Iwendi, Pius Owoh, Moses Ashawa, Anand Philip</i>	
Smart Waste Monitoring System Over Urban Areas .....	131
<i>Devyansh Batra, Sehaj, Lakshita Mahajan, Sajal Jain, Kushagra Agrawal</i>	
Enhancing Remote Productivity: A Comprehensive Web Desktop Solution.....	137
<i>Ananya Thakur, Gautam Arora, Swayam Prakash Dhoundiyal, Aryan Chauhan, Velma Sai Varshitha</i>	
Mastering Super Mario Bros.: Overcoming Implementation Challenges in Reinforcement Learning with Stable- Baselines3 .....	141
<i>Manav Khambayata, Shivansh Singh, Neetu Bala, Arya Bhattacharyya</i>	
Attention to Retention: Exploring the Dynamics of Data Scientist Job Mobility.....	148
<i>Amiya Ranjan Panda, Debdip Sanyal, Anikat Sur, Manoj Kumar Mishra</i>	
Revolutionizing Healthcare: AI-Powered Solutions, Technological Integration for Accessible and Effective Medical Service .....	154
<i>Almas Jafar Shaikh, Sakshi Bharat Takbhate, Shailesh Gawai, Altaf Mainoddin Limbore, Vaidehi Avinash Patil</i>	
Advancing Foliar Disease Detection in Apple Orchards: Evaluating the Efficacy of the EfficientNetB3 Model in Machine Learning-Based Classification .....	161
<i>Naresh Dembla, Ravindra Yadav</i>	
Efficient Approximate Adders for Image Processing Applications .....	165
<i>C. Padma, Suresh Babu Potladurty, C. Nalini, T. Suguna, Ch. Pallavi</i>	
Emotion Recognition in Speech: A Natural Language Processing Perspective.....	171
<i>V. Suganya, K. Prema, Cherukuri Hari Krishna, Ch Siva Reddy, E. Jaswanth</i>	
Revolutionizing Finance: Unleashing Machine Learning's Potential for a New Financial Era.....	179
<i>Manjit Kour</i>	
Harnessing Machine Learning for Precise Rainfall Forecasting: A Comparative Study .....	184
<i>Anuj Pathania, Parvez Rahi, Aazim Khan, Tarandeep Singh, Bhanupratap Singh</i>	
Self-Converged Ensemble Deep RNN Classifier for Student Performance Prediction in Academics .....	190
<i>Vaibhav Sharma, Vivek Pandey, Manoj Patil, Ravi Jeswani, Pratiksha Shinde, Shital Agrawal</i>	
Plant Care AI an AI Based Solution for Plant Disease Diagnosis and Assistance -A Comprehensive Survey.....	196
<i>Abhijit Kulkarni, Seema Verma, Tanish Shingane, Snehal Ghogare, Shivkanya Dhupe</i>	
CHMP-CNN: To Implement the IoT Based Crops Health Monitoring and Prediction Using Deep Learning .....	202
<i>Vivek Pandey, Yukta Patil, Ramya Kanagaraj, Kaustubh Dabholkar, Ritesh Darade, Hitesh Patil</i>	

To Enhance the Security System of Mobile Phones by Using GSM Technology .....	209
<i>Mayank Mangal, Gagan Tiwari, Kanchan Malviya, Vivek Sahu, Kalpesh Pathare, Kaustubh Vaidya</i>	
Artificial Intelligence Based Identification and Monitoring of Student Using OpenCV.....	215
<i>Mayank Mangal, Adarsh Pandey, Jayesh Wagh, Sahil Gaonkar, Jagruti Bhanushali</i>	
Design and Development of IoT Based Smart Expert System Using Artificial Intelligence.....	220
<i>Vivek Pandey, Jaya Negi, Reshma Lohar, Shubham Patil, Laxmi Tiwari, Kartik Nair</i>	
Design and Development of IoT Based Collision Alert System Using Blynk and Arduino.....	226
<i>Vivek Pandey, Banjan Behera, Akash Yadav, Abhishek Dubey, Abhishek Barai, Shital Agrawal</i>	
To Implement Blockchain Based Social Media Platform with Sentiment Analysis Using NLP .....	232
<i>Vivek Pandey, Vikas Tiwari, Roshan Sonavane, Gaurav Jha, Kishan Mishra, Govind Lohar</i>	
To Implement the IoT Based Water Quality Monitoring and Analysis with Using Blockchain Technology .....	239
<i>Shivam Dubey, Ankit Sanghvi, Priti Yadav, Abhishek Balmiki, Samiksha Bansode</i>	
Design and Build Blockchain-Based Privacy Preservation and Disease Prediction Using CNN Model .....	245
<i>Brijesh Dubey, Vaishnavi Patil, Sanjeev Mandal, Komal Mishra, Saurabhchandra Singh, Vivek Pandey</i>	
Building IoT Based Wireless Network Pen-Testing Using NodeMCU .....	251
<i>Mayank Mangal, Vikas Sharma, Arun Chavar, Manish Singh, Suaid Momin</i>	
Decentralized Based E-Voting System Using Blockchain Technology .....	257
<i>Jyoti Jadhav, Pournima Ghude, Sandip Pashte, Aniket Sonawane</i>	
To Implement and Identify Counterfeiting Product in Supply Chain Based on Blockchain .....	263
<i>Vivek Pandey, Kaustubh Bhoir, Himanshu Bomble, Manas Patil, Yash Singh</i>	
Design and Development of Cryptocurrency Price Prediction (CPP) Using ARIMA-LSTM.....	269
<i>Rahul Kumar Saha, Sanjana Wankhade, Maaz Mujawar, Ravi Jeswani, Janhvi Tambavekar, Mayank Mangal</i>	
An Extensive Analysis of Pattern Identification and Categorization.....	275
<i>Amit Vajpayee, Palak Preet Kaur, Ankit Sharma, Abhishek Tiwari</i>	
An Extensive Analysis of Neuromorphic Computing .....	279
<i>Amit Vajpayee, Palak Preet Kaur, Ankit Sharma, Santosh Varshney</i>	
Advancing Cardiovascular Health Risk Assessment: A Comprehensive Study on Heart Attack Prediction Using XGBoost Models and Cross-Validation.....	284
<i>Diksha Bhardwaz, Yashank Singla, Rupinder Kaur, Liza Sharma</i>	
Design and Development of Expense App .....	289
<i>Gunit Girdhar, Sachin Kumar, Anuj Bhardwaj, Megha Sharma</i>	
Advanced Security and Protection for Logistic Industries and Warehouse Using Autonomous Carebot .....	293
<i>Siddhika Singh, Mohammad Shahnawaz Shaikh, Aarish Sheikh, Shruti Dhargave, Sheetal Mungale</i>	

Diabetic-Retinopathy Classification Using a Modified VGG16 Model .....	300
<i>Ch. Rajendra Prasad, J. Saikrishna, K. Akash, K. Sai Ganesh, Sreedhar Kollem, Chakradhar Adupa</i>	
Innovation in Finance: Machine Learning Algorithms for Predicting Loan Eligibility.....	305
<i>Amey Didolkar; Prasad Lokulwar; Aditya Turankar</i>	
Exploring Generational Perspectives on Restaurant Food Safety and Blockchain Implementation: A Survey Analysis.....	313
<i>Sachin Yele, Ratnesh Litoriya</i>	
SIFT and BRISK Feature Fusion Based Leaf Identification of Medicinal Plants .....	319
<i>Swati Shilaskar, Pratiksha Shinde, Kamlesh Shintre, Shripad Bhatlawande, Virendra Shelke, Saurav Shimare</i>	
Review and Explore the Transformative Impact of Artificial Intelligence (AI) in Smart Healthcare Systems.....	328
<i>Sneha Nagar, Mukesh Patidar, Rashid Sheikh, Sudhanshu Singh, Ashutosh Kashiv, Ankit Jain, Shravan Kumar Namdeo, Pranav Paranjpe, Devendra Singh Mandloi</i>	
A Deep Learning Approach to Improving Patient Safety in Healthcare Using Real-Time Face Mask Detection .....	333
<i>Mukesh Patidar, Praveen Bhanodia, Kamal Kumar Sethi, Shivshankar Rajput, Pooja Sanjay Patil, Chandrakant Tiwari, Aayush Gid, Kartik Gupta</i>	
A Detailed Analysis of College ERP Software Systems.....	339
<i>Ayush, Rishant Jamwal, Gautam Kumar, Arshdeep Singh</i>	
Glaucoma Detection Using Convolutional Neural Network .....	347
<i>Divya Khichi, Priyanka Jangde, Kamal Kumar Sethi</i>	
Design and Development of Real-Time Image Based Fire Detection Using OpenCV and HSV .....	355
<i>Raajjhesh Bothraa, Darsh Ahire, Rutuja Bhadange, Rutvij Temkar, Mayuri Mane, Shweta Jamdhade</i>	
Textual Therapies: Harnessing Language Models for Mental Health Insights .....	361
<i>Pranav Bookanakere, Sharanya S, Syeda Saniya, Arjun R, Srinivas K S</i>	
Extensive Research on Data Distribution Using Cluster-Based Data Distribution in VANET.....	366
<i>Ratnesh Kumar Dubey, Aravendra Kumar Sharma, Suraj Sharma, Pallavi Khatri</i>	
An Algorithm for Dragonfly Optimization (DOA) to Enhance Wireless Sensor Network Security During Attack by Node Capture .....	371
<i>Ratnesh Kumar Dubey, Suraj Sharma, Aravendra Kumar Sharma, Pallavi Khatri, Rinki Pakshwar, Pragya Goswami</i>	
Enhancing Cybersecurity Through Machine Learning: A Comparative Analysis of Classifier Performance.....	376
<i>Vandana Kate, Rohan Yadav, Shamoil Rao, Janhvi Kaushal, Rohit Makwana</i>	
Lung Image Segmentation and Compression Using Deep Learning.....	382
<i>Puneet Tiwari, Sunil Phulre</i>	
A Sequential Process of Clustering and Classification is Employed to Predict the Occurrence of Lung Cancer .....	387
<i>Puneet Tiwari, Sunil Phulre</i>	

Predictive Modeling of Soil Fertility Grades Using Random Forest Algorithm .....	392
<i>Sanket Gupta, Amit Goud, Priyansh Jain, Mehul Darshni</i>	
Optimization and Performance Analysis of LoRa-Based Multi-Hop Networks Techniques.....	398
<i>Jay Singh, Chandra Prakash Patidar</i>	
Classification of COVID-19 Utilizing CT Scan Images Employing the EfficientNet Model .....	402
<i>Priyanka Sharma, Varsha Sharma</i>	
Artificial Intelligence and International Crimes Against Humanity: Challenges and Solutions.....	409
<i>A T Am Sadiqur Rahman, Amritpal Kaur, Priya Saroj</i>	
Vehicle Rental Management System: OnDemand Vehicle Ride .....	414
<i>Ayush Sahu, Avani Katlana, Arpita Sharma, Maya Yadav Baniya, Sumitra Sureliya, Shubhrata Kanungo</i>	
Effective Forecasting for Enhancing the Precision in U2R Attacks in Wireless Networks Through the Use of New CNN Alexnet Compared to Support Vector Machine Algorithm.....	425
<i>Harshavarthan S, Kavitha T</i>	
TypeScript: An Open-Source Programming Language with Options for Robust Development and Large-Scale Applications.....	430
<i>Shreyansh Kushwah, Chanchal Bansal, Shreyansh Rathore, Vandana Kate, Divyanshi Bargal, Divesh Vishwakarma</i>	
The Application of Artificial Intelligence in the Administration of Criminal Law and the Procedures Involved in Criminal Cases .....	435
<i>A T Am Sadiqur Rahman, Amritpal Kaur</i>	
The Frontier of Political Science: A Framework for Research on Border City Policing .....	440
<i>A T Am Sadiqur Rahman, Priya Saroj</i>	
An Efficient Spam Classification Filter as a Naive Bayes Classifier Web Application.....	445
<i>Suraj Sharma, Ratnesh Kumar Dubey, Aravendra Kumar Sharma, Shashikant Gupta, Nidhi Dandotiya</i>	
A Review on NFC for Secure Transaction Its Fundamental Challenges and Future Directions.....	450
<i>Kartik Gupta, Praveen Bhanodia, Kamal Kumar Sethi, Shivshankar Rajput, Mukesh Patidar, Vignesh Hariharan Iyer</i>	
Advancing Skin Cancer Detection: Deep Learning Approaches for Enhanced Diagnostic Accuracy.....	457
<i>Sandipan Chatterjee, Arpit Kumar Sharma, Pramod Singh Rathore</i>	
Review of the Literature on Big Data and Performance Analysis of Multimodel and Polyglot Persistence.....	462
<i>Suraj Sharma, Ratnesh Kumar Dubey, Pallavi Khatri</i>	
Review the Deep Learning Strategies for Enhancing the Security of Body Area Networks Against Adversarial Attack.....	468
<i>Jagrati Nagdiya, Rajeev Goyal</i>	
Agriculture Monitoring System Using IoT and ML Smart and Improved Farming .....	476
<i>Anupama Jamwal, Nikita Kumari, Priyanka Pandey, Rohan, Heenureet</i>	
A Comprehensive Analysis of ML and DL Approaches for Epileptic Seizure Prediction.....	481
<i>Srikanth Yalabaka, B. Sneha, Ch. Rajendra Prasad, B. Vineetha, S. Srinith, N. Revanth</i>	

Facial Expression Recognition Using Deep Learning Model on Crowd.....	487
<i>Prashant Shakyawar, Upendra Singh</i>	
Transformative Potential IoT Sensor Frameworks for Real-Time Alzheimer's Detection and Monitoring in Elderly Populations .....	493
<i>Kamlesh Mani, Kamlesh Kumar Singh, Ratnesh Litoriya</i>	
IoT-Driven Revolution: Transforming Elderly Healthcare Through Dynamic Heart Health Monitoring and Analysis .....	501
<i>Kamlesh Mani, Kamlesh Kumar Singh, Ratnesh Litoriya</i>	
Augmented and Virtual Reality Devices Sentiment Dataset Generation and Analysis .....	509
<i>Lare Adeola, Celestine Iwendi</i>	
Malware Detection System Using Natural Language Processing Based on Website Links .....	514
<i>Lare Adeola, Celestine Iwendi</i>	
AI-Enhanced Predictive Maintenance in Intelligent Systems for Industries .....	519
<i>Shiv Shankar Sharma, Vivek V, Ashwini Malviya</i>	
Genome Analysis at Scale: Leveraging HPC for AI-Driven Genomics Research.....	525
<i>Shashikant Patil, Chandra Prakash Lora, Prabhu A</i>	
Understanding the Role of Machine Learning in Optimizing Manufacturing Processes and Quality Control.....	531
<i>Karishma Desai, Govind Shay Sharma, Rahul Pawar</i>	
Reimagining Architecture and Protocols for the Edge Computing Revolution in Web3.....	537
<i>Shweta Loonkar, Zahid Ahmed, Kavitha R</i>	
Harnessing the Capabilities of Artificial Intelligence in Retail for Personalized Shopping Experiences .....	543
<i>Vinima Gambhir, Mohit Kumar Sharma, Thiruvenkadam T</i>	
Investigating the Applications of Deep Learning in Drug Discovery and Pharmaceutical Research .....	549
<i>Karishma Desai, Manish Kumar Goyal, M N Nachappa</i>	
Investigating the Use of Neural Networks in Enhancing Music Composition and Sound Quality .....	555
<i>Sachin Gupta, Inzimam, Manivasagam</i>	
Countering the Rise of AI-Generated Content with Innovative Detection Strategies and Large Language Models .....	561
<i>Gowrishankar J, Shashikant Deepak, Manish Srivastava</i>	
The Role of Low-Dimensional Neural Networks in Solving Complex Inverse Problems .....	567
<i>Nayana Borah, Sumitra Padmanabhan, Pramod Kumar Faujdar</i>	
Enhancing 5G Network Efficiency Using Adaptive Modulation and Coding Schemes.....	573
<i>Koushik V Prasad, Shashikant Patil, Atul Dadhich</i>	
Enhancing Review Spam Detection with a Hybrid Approach Integrating Association Rule Mining and Convolutional Neural Networks .....	579
<i>Ganesh Wayal, Vijay Bhandari</i>	
A Comprehensive Analysis of Ultralightweight Secure Communication Protocol .....	587
<i>Prashansa Singh, Manjot Kaur, Rohit Bajaj</i>	

The Lithium-Ion Battery-Based Cell Balancing Technique for EVs: A Comparative Performance Analysis in MATLAB.....	593
<i>Smitanjali Rout, Sudhansu Kumar Samal</i>	
Harnessing the Power of Machine Learning to Predict and Mitigate the Impacts of Climate Change on Global Ecosystems .....	601
<i>Hannah Jessie Rani R, Karishma Desai, Neeraj Sharma</i>	
Modulation Magic Code Dynamics and Synchronization Secrets in NGMA .....	607
<i>Amar Shankar, Shweta Loonkar, Khushboo Sharma</i>	
Understanding the Societal Impacts of Artificial Intelligence and Machine Learning on Employment and Workforce Dynamics.....	613
<i>Vivek V, Vinima Gambhir, Amandeep Gill</i>	
Investigating the Ethical Implications of Artificial Intelligence and Establishing Guidelines for Responsible AI Development .....	619
<i>Sukumar R, Vinima Gambhir, Jyoti Seth</i>	
Designing Secure Communication Protocols for Industrial Systems .....	625
<i>Meenakshi Dheer, Deepak Kumar Sinha, Naresh Kaushik</i>	
Designing Resilient Network Architectures for Smart Cities Using IoT Devices .....	631
<i>Swati Gupta, Ramachandran T, Sumitra Padmanabhan</i>	
Analyzing the Human Element in Cybersecurity Breaches with a Focus on Social Engineering Tactics and the Risks Posed by Insider Threats .....	637
<i>Deeplata Sharma, Varalakshmi S, Shweta Loonkar</i>	
Industrial IoT Systems for Real-Time Environmental Monitoring.....	643
<i>Jyoti Seth, Abhishek Dutta, Karishma Desai</i>	
Internet of Things: Unveiling the Network of Connected Devices and Their Transformative Impact on Security.....	649
<i>Rekha Devrani, Beemkumar N, Vinima Gambhir</i>	
The Role of Machine Learning in Optimizing Industrial Communication Protocols.....	655
<i>Vikas Kumar Kharbas, Mahesh Tr, Satish Upadhyay</i>	
Neural Network Strategies for Optimizing Near Field Sensor Array Processing.....	661
<i>Surendra Yadav, Deepak Kumar Sinha, Sweta Kumari</i>	
Real-Time Object Detection in Computer Vision for Quality Control in Industries .....	667
<i>Zahid Ahmed, Varalakshmi S, Karishma Desai</i>	
The Integration and Implementation of the Healthcare Internet of Things and Its Comprehensive Analysis of Benefits, Challenges, and Future Prospects.....	674
<i>Manish Kumar Goyal, A. Kannagi, Karishma Desai</i>	
Advancing Search Engine Functionality Through AI-Powered Audio Transcription.....	680
<i>Saksham Poply, Arpit Kumar Sharma, Pramod Singh Rathore</i>	
Reinforcement Learning Models for Autonomous Decision Making in Sensor Systems.....	684
<i>Ramu K, Sanjay Kumar Suman, U. Rajeswari, Sumana S, Hitha Poddar, Arulananth T S</i>	

Ultra-Reliable Low Latency ISAC System Designs for Critical Application.....	690
<i>S. Sarupriya, Ramesh P, Sabitha Musuku, Sanjay Kumar Suman, Devolla Manogna, S. Kaliappan</i>	
The Ethical Implications and Societal Impact of Widespread WSN Deployments .....	696
<i>Ganesamoorthy R, Sanjay Kumar Suman, Kandle Navaneetha, Dabilkar Rajeshswari, Naresh Kumar K, Priyanka Sujit Wani</i>	
Real-Time Facial Recognition in Computer Vision for Industrial Security.....	702
<i>Deepak Kumar, M. Kumaresan, Shashikant Deepak</i>	
Integrating Deep Learning with Quantum Computing for Revolutionary Advancements in Computational Capabilities .....	708
<i>Gadug Sudhamsu, Karishma Desai, Murli Manohar Gour</i>	
Assessing the Efficacy of Distributed Ledger Technology for Immutable Data Logging and Fraud Prevention in IoT Retail Applications .....	714
<i>M. Ponnrajakumari, V. Elanangai, S. R. Ramprasad, Vijaya Kumar Velpula, L. Bhagyalakshmi, Prabha A G</i>	
The Role of Stream Data in Advancing Sustainable Agriculture Practices .....	720
<i>Naresh Kumar K, L. Bhagyalakshmi, S. B Inayath Ahamed, S. Parvathi, Sindhu Ravindran, Kotnur Abhiram</i>	
Exploring the Potential of Deep Learning in Parkinson's Disease Drug Discovery .....	726
<i>Ravula Arun Kumar, M. Ponnrajakumari, M Ravi Kumar, A. Nirisha, Raja Chandrasekaran, Tejasree Tejpal Moharekar</i>	
The Challenge of Adversarial Machine Learning in the Context of Smart Homes .....	732
<i>Preethi, Kishor Shivathya S, T. Chandrasekar, Banala Madhavi, L. Balaji, Arvind Balamurali</i>	
Unveiling Hidden Insights: Role of Data Analytics for Stakeholders in Modern Energy Internet.....	738
<i>Y. Alexander Jeevanantham, S. Sarupriya, Janane, Subhashini Peneti, Shahnaz K V, S. Kaliappan</i>	
Investigating the Potential of Self-Supervised Learning in Adversarial Machine Learning.....	744
<i>Thanigaivelu P. S, Priyanka Dash, Sravan Kumar G, S. Viveka, Vijayasri Nidadavolu, V. Gautham</i>	
The Confluence of Stream Data and Quantum Mechanics in Modern Research.....	750
<i>Ramya S, Ramesh P, Anurag Shrivastava, Mudunuru Srividya, Ramavenkateswaran Nagarajan, A. Bheem Raj</i>	
Early Diabetes Prediction Using Supervised Machine Learning Techniques.....	756
<i>Ramamani Tripathy, Dibyahash Bordoloi, Amit Vajpayee, Merry Saxena, Srikantha Kumar Mohapatra, Pradeepa Kumar Sarangi</i>	
Convolutional Neural Network Based on TensorFlow for the Recognition of Handwritten Digits in the Odia .....	760
<i>Karan Bajaj, Dibyahash Bordoloi, Ramamani Tripathy, Srikantha Kumar Mohapatra, Pradeepa Kumar Sarangi, Parth Sharma</i>	
Design and Implement Decentralized Application for Agriculture in India Using Blockchain Technology .....	765
<i>Venkata Swathi Patti, Akshith Reddy Musku, Nishanth Sree Vamsi Bahadursha, Deepak Mergu, Krithi Orhi, Deepak Sukheja</i>	

Analyzing the Trade-Offs Between Model Size and Approximation in Deep Learning.....	771
<i>Asha K., Sumitra Padmanabhan, Harshita Kaushik</i>	
Signal Processing Techniques for Noise Reduction in Industrial Machinery .....	777
<i>Vishvendra Singh, Kunal Dey, Sumitra Padmanabhan</i>	
Cross-Lingual Transfer Learning in RNNs for Enhancing Linguistic Diversity in Natural Language Processing.....	783
<i>Shikha Tiwari, Ch. Meher Babu, P Shanker, Shahnaz K V, Vandana Roy, Ramgopal Kashyap</i>	
Advancements in Language Processing Algorithms Transforming Linguistic Computing.....	789
<i>Poonam Mishra, Tushar Kumar Pandey, Vandana Roy, Ramgopal Kashyap, Chhaya, Ritu Ahluwalia</i>	
Visualizing Complexity: A Dynamic Approach to Reverse Engineering .....	794
<i>Ketki Balde, Lalji Prasad, Rashmi Yadav</i>	
Conversational AI Chatbot Using Log Pattern Detection.....	801
<i>Tamil Iniyan Ks, Rakesh M, Umar Ahmed Khan, Shashikala Hk, Adeebulla Khan, Rahul Das</i>	
Decoding the Devanagari - Handwritten Hindi Recognition Using Deep Learning Methodology .....	807
<i>Jyoti Kukade, Rahul Singh Pawar, Ishan Rai, Megha Patidar, Khushi Jain, Deepa Pandit</i>	
Precision Tumor Identification in Lung CT Scans: Leveraging Convolutional Neural Networks for Accurate Segmentation.....	813
<i>Souvik Sarkar, Harmanjeet Singh, Jasneet Chawla</i>	
Fintech and Data Science: Revolutionizing the Financial Services Industry Through Risk Analysis, Stock Management, and Automation.....	819
<i>Manish Rai, Hemlata Parmar, Ansh Jain, Kuljeetsingh Shekhawat</i>	
A Novel Image Caption Generation Based on CNN and RNN .....	825
<i>Hemlata Parmar, Manish Rai, Utsav Krishan Murari</i>	
Object Detection in Airport Security Checks .....	833
<i>Joshwa Joy Philip, Shreyas Panda, Kushal Rao Meesala, Jatin Garad, Ocean Bandhari, Ruchi Rani, Sumit Kumar</i>	
Machine Learning Based Crop Recommendation System .....	839
<i>Arpit Deo, Kailash Chandra Bandhu, Ratnesh Litoriya, Abhay Gupta, Purvi Chelawat, Purvi Gohade</i>	
AI-Based Smart Education System to Enhanced the Learning of Students.....	848
<i>Aaryan Barde, Raj Thakur, Shreyansh Patel, Neelesh Sinah, Snehlata Barde</i>	
Revolutionizing Plant Disease Detection: A Comprehensive Review of Machine Learning Techniques and Applications .....	855
<i>Sanket Gupta, Suresh Jain, Kailash Chandra Bandhu</i>	
Harvesting Insights: Leveraging Explainable AI to Optimize Farming Practices .....	862
<i>Ojasri Konda, Rehan Ashraf Sharief Mohammad, Shubhangi Mishra, Navmi Rajeev, Aryan Verma</i>	
Detecting Plant Disease Using Machine Learning .....	870
<i>Moksha Patidar, Saurabh Mishra, Trapti Mishra, Sanuj Tripathi, Jyoti Kukade, Vidhya Barpha</i>	

Dermatological Diagnosis Through Image Analysis and Automated Diagnosis .....	875
<i>Vaishali Jabade, Sanika Jamdade, Kunika Hiwrale, Gauri Gund</i>	
IOT Based Household Appliances Automation System .....	881
<i>Velladurai Muthukrishnan, Pranali Nannavare, Pradnya Chavhan, Nishant Nimade, Pankaj Kanawade, Deepika Dhansade</i>	
Implementation of a Search Engine Using Web Crawling and Indexing .....	887
<i>Mubeen Ahmed Khan, Gajendra Singh Rajput, Taha Koser, Ujjwal Patel, Siddhi Mishra</i>	
Design and Development of Diabetic Retinopathy by Using Convolutional Neural Network Classifier.....	895
<i>Mayank Mangal, Sundaram Pandey, Samiksha Parit, Dipti Pawar, Divya Vekhande</i>	
To Build and Evaluate Irregular Human Activity Detection System Using Deep CNN-LSTM Methodology .....	902
<i>Vivek Pandey, Tanishka Gulvi, Samirkumar Waghmare, Prasad Dalvi, Rohit Kesarkar, Deepanshu Dayal</i>	
CCNN-PDC: Design and Build a Customized CNN Classifier Model for Plant Disease Classification and Detection Using Deep Learning.....	908
<i>Vivek Pandey, Pratik Singh, Aishwarya Kamat, Ninad Mulik, Nitesh Jangid, Atharva Sawant</i>	
Revolutionizing Healthcare with Federated Learning: A Comprehensive Review.....	914
<i>Snehlata Mishra, Ritu Tondon, Narendra Pal Singh Rathore</i>	
Transfer Learning for Multiclass Classification of Wheat Leaf Diseases.....	919
<i>Riya Verma, Narendra Pal Singh Rathore, Kamal Kumar Sethi</i>	
Decentralized Social Media Application Using Blockchain Technology .....	927
<i>S. Nagini, Karthik Akkala, Venkata Nikhil Thanikella, Venkat Jagarlamudi, Teja Kumar Kalimera</i>	
Advancing Legal Decision Making: A Unique Method for Classifying Offense Incidents Under the Indian Penal Code Using Word Embedding and Labeled Searching.....	938
<i>Ambrish Srivastav, Shaligram Prajapat</i>	
Optimizing Marketing Strategy by Performing Customer Segmentation.....	949
<i>Amiya Ranjan Panda, Priyanka Rout, Aman Gautam</i>	
Behavioural Risk Factor Surveillance of Diabetes Using Supervised Learning.....	955
<i>Amiya Ranjan Panda, Priyanka Rout, Aman Gautam</i>	
Integrated Deep Learning Methodology for Early Glaucoma Detection and Diagnosis Using Retinal Fundus Images .....	961
<i>G. Amjad Khan, N. Deepthi, Fahimuddin Shaik, Pandurangaraju B., Shaik Karimullah, Peddapullaiahgari Hariobulesu</i>	
A Multimodel Deep Learning Based Facial Emotion Recognition and Detection with Hyper Parameters .....	965
<i>Vijaya J, Toshan Kanwar, Naman Kumar Rai, Shiva Kumar Nagesh, Yogesh Nag</i>	
Face Recognition System Using Haar Cascade Algorithm.....	971
<i>Vijaya J, Anurag Pratap Singh, Michel Ekka, Peethala Navya, Subhali Ar Otti</i>	

Incorporating Grey Wolf Optimization and Recurrent Neural Networks for Accurate Brain Tumor Detection .....	976
<i>B. Umakanth, Fahimuddin Shaik, Shaik Karimullah, K. Naga Shankar Reddy, Peddapullaiahgari Hariobulesu, Balaraju Vijayalakshmi</i>	
A Hybrid Feature Extraction-Based Prediction System (HFEPS) for Early Diagnosis of Chronic Kidney Disease.....	981
<i>Vineeta Gulati, Neeraj Raheja, Rajneesh Kumar</i>	
Exploring the Impact of Node Velocity on Communication Overhead and Energy Consumption in WSNs Using Fuzzy Clustering.....	987
<i>Dilip Kumar Sharma, Aaditya Yadav, Mukesh Patidar, Pooja Sanjay Patil, Praveen Kumar Patidar, Devendra Singh Mandloji, Rashid Sheikh, Shivshankar Rajpoot</i>	
RedSpear: Re-Engineered Discharge (RED) Team Toolkit for Empowerment of Cyber Security.....	992
<i>Nidhi Nigam, Mohit Singh Panwar, Vandana Kate, Aishwary Vishwakarma, Atharva Sharma, Aman Yadav</i>	
Leveraging BERT-Enhanced MLP Classifier for Automated Stress Detection in Social Media Articles .....	1000
<i>Amlan Nayak, Amiya Ranjan Panda, Debapam Pal, Sudatta Jana, Pratim Mangaldas Dasude, Utkarsh Anand</i>	
Extracting, Transforming, and Analyzing Olympic Data Using Azure Services: A Case Study .....	1006
<i>Debjit Samanta, Subhodeep Roy, Pratima Sarkar, Bitan Misra</i>	
High Dimensionality Reduction and Transfer Learning Based Ensemble Approach for Effective Car Damage Detection .....	1012
<i>Gunasundari B, Kezia H, Sushmithaa S, Dharanika T, Yogeswari S, Sreenithi G</i>	
Accelerating Cloud Deployment Through Containerization Technologies .....	1018
<i>Aayushya Lakkadwala, Prashant Lakkadwala</i>	
Brain Tumor Detection Using Xception Model.....	1027
<i>Joshwa Joy Philip, Ruchi Rani, Sumit Kumar</i>	
Churn Prediction and Customer Behavior Analysis in Telecommunications .....	1033
<i>Jalaj Shukla, Neha Dhariwal, Gagandeep Marken</i>	
Video Content Analysis to Distinguish Between Violence and Nonviolence Using ResNet101v2 and LSTM .....	1041
<i>Neeraj Sharma, Chandni Sikarwar, Kamlesh Ahuja</i>	
Watchful Eye Recognition of Abnormal Human Activities in Wild Video.....	1050
<i>Harshith V, Manas C, Shilpa T, Kavya Sangam, Harsha Ramakrishna Boralkar</i>	
Optimizing Window Size Determination for Improved Forecast Accuracy Through Pattern Sequence Similarity Detection .....	1056
<i>Gaurav Sharma, Kailash Chandra Bandhu</i>	
A Comprehensive Study of Gesture Recognition in Indian Sign Language .....	1064
<i>Shashi Malviya, Anita Mahajan, Kamal Kumar Sethi</i>	
UPI Based Financial Fraud Detection Using Deep Learning Approach.....	1067
<i>Vaishali Gupta, Sahil Sharma, Suhani Nimkar, Suhani Pathak</i>	

Logistic Regression Based Approach for Human Sentiment Analysis Across Domains .....	1073
<i>Sameer Nagar, Praveen Bhanodia, Kamal Kumar Sethi, Narendra Pal Singh Rathore</i>	
Advancements and Challenges in Federated Learning : A Survey .....	1084
<i>Vivek Prajapat, Narendra Pal Singh Rathore, Kamal Kumar Sethi, Shiv Shankar Rajput</i>	
Demystifying XAI: Understanding of Applications, Limitations, Challenges, and Future Perspectives .....	1095
<i>Pratham Varshney, Narendra Pal Singh Rathore, Kamal Kumar Sethi, Shiv Shankar Rajput</i>	
Human Movement Recognition with Machine Learning Techniques .....	1103
<i>Raj Sinha, Pankaj Chandra Sinha, Meena Tiwari</i>	
Privacy Preserving Techniques in Data Science : A Review .....	1110
<i>Yuvraj Panchal, Rashid Sheikh, Kamal Kumar Sethi, Praveen Kumar Bhanodia, Shiv Shankar Rajput, Narendra Pal Singh Rathore</i>	
Evolutionary Optimization for Biometric Feature Identification and Recognition .....	1116
<i>Shraddha Verma, Praveen Kumar Bhanodia, Kamal Kumar Sethi, Narendra Pal Singh Rathore, Shiv Shankar Rajput, Anita Mahajan</i>	
Dual Purpose IoT Enabled Smart Cleaner Hexabot with Edge Detection Mechanism .....	1124
<i>Mohammad Shahnawaz Shaikh, Kush Bhushanwar, Nilesh Khodifad, Syed Ibad Ali</i>	
Efficient Approach for Diagnosis and Detection of Alzheimer Diseases Using Deep Learning .....	1130
<i>Maitry Bimalbhai Desai, Yogesh Kumar, Shilpa Pandey</i>	
A Novel Technique for Sql Injection, Detection and Preventions Using Token Separation .....	1135
<i>Ashish Mishra, Nikhil Mehra, Jyoti Mishra</i>	
Enhancing Arrhythmia Classification and Prediction Using Deep Learning.....	1139
<i>S. Nagini, Chalumuru Suresh, Varagani Divya</i>	
A Method to Reduce the Incidence of Wheat Leaf Diseases .....	1147
<i>Riya Verma, Narendra Pal Singh Rathore, Kamal Kumar Sethi</i>	
Enhancing Traffic Safety: An Automated License Plate Recognition System for Effective Law Enforcement .....	1154
<i>Sam Mg Harish, Aksharasree S, Deepak S G, Mamatha S, Vipina Valsan</i>	
Navigating the Waves: IoT Border Alert System for Maritime Safety .....	1159
<i>Ajay Koppaka, Aravindh P, Aneesh M, Vipina Valsan</i>	
Enhancing Efficiency and Stability in Electric Vehicle Charging: Integrating Green Energy .....	1167
<i>Ashish K. Singhal, Namrata Talegoankar, Shweta Tiwari, Sonal Dhote, Manish Awasthi</i>	
Automated Subject Allotment to Faculty in an Academic Institute Using Maxflow Problem .....	1175
<i>Neha Sehta, Naman Shah</i>	
Comprehensive Analysis of Deep Learning in Spine Image Segmentation .....	1180
<i>Shaeba Khan, Laxmi Shrivastava, Sarita Singh Bhadauria</i>	
A Machine Learning Assisted Approach for Predicting Handovers in Wireless Software Defined Networks .....	1187
<i>Aarti Joshi, Krupi Saraf, Shraddha Sharma</i>	

A Comparison of Machine Learning Methods for Forecasting Solar Energy Production .....	1192
<i>Dharmistha K. Prajapati, Ritesh Joshi</i>	
Evaluation of Classifiers Based on Neural Network for Handwritten Digit Recognition .....	1198
<i>Neha Sehta, Krupi Saraf, Aditya Vinchi</i>	
Dual-Band Performance Enhancement of Square Wheel Antennas with FR4 Substrate for Sub 7GHz Applications .....	1203
<i>R Saravanan Kumar, Arumalla Raja, Puneet Narayan, Gangolu Rajesh, M. Vinoth, Raju Thommandru</i>	
Optimizing Classroom Teaching with AI-Based Adaptive Learning Tools .....	1210
<i>Vinod Bhatt, Dev Brat Gupta, Geetanjali Chandra</i>	
Effectiveness of ML with Neuroimaging Data in Detecting Individuals/Children with ASD .....	1215
<i>Naren Pudupatty Ramakrishnan, Shweta Loonkar, Karishma Desai</i>	
Cyberbullying Classification Using a Natural Language Processing and Machine Learning Techniques.....	1224
<i>Nikhilesh Pramod Mankar, Tushar Mahure, Anushka A. Joshi, Sagar Dhanraj Pande, Aditya Khamparia, Ankita Shrikrushna Nathe, Fadi Al Turjman</i>	
Car Infotainment System with Facial Recognition Integration .....	1229
<i>Himanshi Rohera, Harsh Singh Mandloi, Neha Gupta, Durgesh Mishra</i>	
Legal Framework for Digital India.....	1237
<i>Dhruv Agarwal, Ojas Sharma, Jaya Thakur, Durgesh Mishra</i>	
Yoga Posture AI Assistant .....	1242
<i>Devanshu Shrivastava, Yash Khilavdiya, Shubham Gurele, Durgesh Mishra</i>	

#### **Author Index**