

2023 International Conference on Artificial Intelligence and Knowledge Discovery in Concurrent Engineering (ICECONF 2023)

**Chennai, India
5-7 January 2023**

Pages 1-644



**IEEE Catalog Number: CFP23DJ4-POD
ISBN: 979-8-3503-3437-1**

**Copyright © 2023 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: | CFP23DJ4-POD |
| ISBN (Print-On-Demand): | 979-8-3503-3437-1 |
| ISBN (Online): | 979-8-3503-3436-4 |

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

| | |
|---------------------------------------------------------------------------------------------------------------------------------------|----|
| A Novel and Robust Sensing Technique Under Cooperative Schemes of IOT Based Industrial WSN in Real Time | 1 |
| <i>Vijaya Vardan Reddy S P, B. Jaison, Resmi N C, S. Ashok, Sahana. S, R. Thandaiah Prabu</i> | |
| A Novel Hybridclustering Model Forwireless Sensor Networks..... | 9 |
| <i>P. Vijayalakshmi, M. Saravanan, M. Thillai Rani, M. Ashok, Ramya Palaniappan, V. Nagaraj</i> | |
| A Robust Task Organizing Approach on IoT Enabled Mobile Computing Paradigm Based on Multilayer Management Model | 17 |
| <i>T. D. Subha, Nivetha C, Nithyashree R, Thirishaa K, Pathakottu Bhargavi, Perugu Vinitha</i> | |
| Multi-Mode Summarization of Surveillance Videos Using Supervised Learning Techniques..... | 26 |
| <i>Ranjitha M, Aruna Devi, Divya Mo</i> | |
| An Energy-Efficient Cluster Routing Protocol for Wireless Networks Based on Blended Optimization Technique | 31 |
| <i>Dharmeshwaraan K, L. Saravanan, P. Sharmila, Rahul Krishnan, Shyam. M, Anitha G</i> | |
| MRI Image Analysis for Brain Tumor Detection Using Convolutional Neural Network..... | 40 |
| <i>B. Ayshwarya, M. Dhanamalar, Vinod Kumar</i> | |
| A Robust Network Connection Across Internet of Things Devices Inside the Room with Visible Light Communication..... | 47 |
| <i>N. Banupriya, Suresh G, R. Nandhini, Anu Mary Mathew, L. Saravanan, Anitha G</i> | |
| Adaptive FLAME Based Segmentation and Classification for Bone Cancer Detection | 56 |
| <i>Augustine George, B. Ayshwarya</i> | |
| Medium Access Control Scheduling Policy Performance Evaluation in Wireless Networks..... | 61 |
| <i>N. Banupriya, P. Jyothi, K Malathy, R Sureshkumar, D Dhanush, G Sajiv</i> | |
| Enhancing Energy Level and Network Lifetime for Asynchronous Duty Cycled WSN with Expectation-Maximization Algorithm | 68 |
| <i>R. Purushothaman, R. Narmadha</i> | |
| Real-Time Scanning and Tracking of Health Records Through a Centralized Ecosystem Based on Internet of Things and Fog Computing | 75 |
| <i>P. Vijayakumari, P. G. Kuppusamy, Eethamakula Kosalendra, K. Krishnamoorthi, S. Diwakaran</i> | |
| A Novel and Robust Gait Recognition Method Based on Hybrid Learning Methodology | 83 |
| <i>Yesodha. P, J. Mohana</i> | |
| An Efficient and Intelligent Systems for Internet of Things Based Health Observance System for Covid 19 Patients..... | 90 |
| <i>R. Sathya Vignesh, Arun Kumar S, T. M. Amirthalakshmi, P. Delphy, J. R. Arunkumar, S. Kamatchi</i> | |
| A Novel and Effective Ensemble Machine Learning Model for Identifying Healthy and Rotten Fruits..... | 98 |
| <i>Arun Kumar S, Hubert Mary. L, Shaamili Varsa G V, Ulaganathan. M. S, L. Kannagi, P. Shyamala Bharathi</i> | |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Various Improvements of Multimodal Imaging Systems for Detection of Age-Related Macular Degeneration During Initial Stage..... | 105 |
| <i>Akila A, P. Durgadevi</i> | |
| A Novel Enhanced EfficientNet Model for Identification of Floating Debris on Marine Surface | 108 |
| <i>Sneha Joseph, Suresh G, P. Jyothi, S. Ashok, D. Venkatesan, S. Agnes Shifani</i> | |
| An Effective Sensor Filtering Model for Mobile Devices Based on Long Short-Term Memory Technique in Sensor Archives | 118 |
| <i>A. Jasmine Gilda, Suresh G, S. Sivamrugaan, Suresh Kumar. R, Sushmitha. K, R. Thandaiah Prabu</i> | |
| A Novel Orientation Approach in Artificial Intelligence for Mounting Robots Utilizing a Three-Dimensional Framework of the Broadcast Tower | 128 |
| <i>S. Niranjana, I. Chandra, G. Charulatha, S. Leopauline, Ch Prathima, T. Geetha</i> | |
| Robust Technique Using Novel Artificial Neural Network Classifier for Detection and Classification of Hepatitis C..... | 135 |
| <i>D. Sravanthi, Jenila Rani. D</i> | |
| Dynamic Host Configuration Protocol Attacks and Its Detection Using Python Scripts | 140 |
| <i>Pratik Shrestha, Tshering Dolkar Sherpa</i> | |
| Novel Method for Classification of Hepatitis C Using Support Vector Machine Classifier..... | 145 |
| <i>D. Sravanthi, Jenilarani D</i> | |
| Lack of Efficiency on Robotic Hectoring Recognition Over Online Social Media Networks Using Novel Support Vector Machine Algorithm Comparing Lasso Algorithm..... | 150 |
| <i>P. Sai Reddy, A. Shri Vindhya</i> | |
| Detection of COVID-19 Patients Using Speech Recognition with Support Vector Machine” and Comparing with “K Nearest Neighbour Algorithm” | 155 |
| <i>Rallapalli Jhansi, G. Uganya</i> | |
| Characterisation of Landuse / Landcover Changes and Its Comparison in Vijayawada City Using Artificial Neural Networks with Minimum Distance to Mean | 160 |
| <i>K. Pavan Venkat, Vidhya Lakshmi Sivakumar</i> | |
| Improved Accuracy in Speech Recognition System for Detection of Covid-19 Using K Nearest Neighbour and Comparing with Artificial Neural Network | 167 |
| <i>Rallapalli Jhansi, G. Uganya</i> | |
| An Effective Analysis of Palm Print Detection Using SVM Over ANN with Improved Accuracy | 172 |
| <i>E. Apoorva, N. Bharatha Devi</i> | |
| An Innovation Success Prediction Model of Android Application Using Logistic Regression Over MLC in Combination with PCA..... | 178 |
| <i>A. Ranadheer, L. Rama Parvathy</i> | |
| Accurate Human Palm Recognition System in Cybercrime Analysis Using Naive Bayes in Comparison with Decision Tree | 183 |
| <i>Aigi Saisundar, Devi. T</i> | |
| An Evaluation of Performance of Change Detection of Land Use/Land Cover in Hyderabad City Using Artificial Neural Network and Mahalanobis Classification to Improve Accuracy..... | 188 |
| <i>Rakesh Kumar Appala, Vidhya Lakshmi Sivakumar</i> | |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Lung Cancer Identification System to Improve the Accuracy Using Novel K Nearest Neighbour in Comparison with Logistic Regression Algorithm | 194 |
| <i>Y. Kotesk Kumar, R. Priyanka</i> | |
| Analysis of Stock Market Value Prediction Using Novel Long Short-Term Memory in Comparison with SVM for Increased Accuracy | 199 |
| <i>N. Jaswanth Reddy, Jaisharma K</i> | |
| Anomaly Based Detection for Identifying R2L (Remote to Local) Attacks Using RNN-LSTM in Comparison with ANN for Reducing False Alarm Rate..... | 204 |
| <i>B. Hemasree, Deepa. N</i> | |
| Accurate Predictive Model for Identifying at - Risk Students at Various Percentage of Course Length Using Logistic Regression Compared with Random Forest Algorithm | 208 |
| <i>A. Yamini, K. Sashi Rekha</i> | |
| Mucormycosis Detection Using Hybrid Convolutional Neural Network with Support Vector Machine and Compare the Performance with Support Vector Machine..... | 213 |
| <i>Panhangivenkata Sai Charan, G. Ramkumar</i> | |
| Novel Improved Communication Steadiness Routing for Wireless Sensor Network's Performance Analysis Compared with Network Boundary Maintenance Routing..... | 221 |
| <i>T Anitha, S. Sridhar</i> | |
| Implementation and Health Monitoring System of Vehicle by Fog Computing..... | 229 |
| <i>R. Suneetha Rani, C. Raghavendra, K. Sreerama Murthy, Nalavala Ramanjaneya Reddy</i> | |
| Scada Energy Management System Under the Distributed Decentralized of Service Attack Using Verification Techniques by IIoT | 236 |
| <i>S. Sivakumar, R. Raffik, K. Kiran Kumar, Bramah Hazela</i> | |
| Improved Accuracy for Identifying At-Risk Students at Different Percentage of Course Length Using Logistic Regression Compared with K-Nearest Neighbour Model..... | 240 |
| <i>A. Yamini, K. Sashi Rekha</i> | |
| Analysis of a Wireless Sensor Network's Performance Using Novel Improved Communication Steadiness Routing Over Cluster-Chain Mobile Agent Routing | 245 |
| <i>Anitha T, S. Sridhar</i> | |
| Modified Convolutional Neural Network Architecture with XGBoost for Mucormycosis Detection and Compare Performance with XGBoost | 253 |
| <i>Panhangangi Venkata Sai Charan, G. Ramkumar</i> | |
| Power Quality Enhancement in the Power Distribution System Using Seagull Optimization Algorithm Compared with Particle Swarm Optimization Algorithm by Increasing Voltage Stability | 261 |
| <i>K. B. Gokulakrishnan, T. Yuvaraj</i> | |
| Voltage Stability Improvement in Radial Distribution Network Using Cat Swarm Algorithm Compared with Differential Evolution Algorithm by Reducing the Power Loss | 266 |
| <i>K. B. Gokula Krishnan, T. Yuvaraj</i> | |
| A Robust and Efficient Traffic Analysis for 5G Network Based on Hybrid LSTM Comparing with XGBoost to Improve Accuracy | 271 |
| <i>N. Deeban, P. Shyamala Bharathi</i> | |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Deep Learning Based Network Traffic Analysis Using Modified Hybrid Methodology Comparing with SVM to Improve Accuracy | 279 |
| <i>N. Deeban, P. Shyamala Bharathi</i> | |
| Particle Swarm Bacterial Foraging Optimization Method for Enhanced Digital Image Watermarking System for Data Security Comparison with Genetic Algorithm | 287 |
| <i>Deepthi Pula, R. Puviarasi</i> | |
| Enhanced Digital Image Watermarking System Using Manta Ray Foraging Comparison with Bi-Directional ELM for Data Security | 292 |
| <i>Deepthi Pula, R. Puviarasi</i> | |
| A One-Dimensional Convolutional Neural Network and Long Short-Term Memory Model for Limb Movement Detection..... | 298 |
| <i>Blessy, K. Neela, A. Rajalakshmi, Almaria Joseph, C. Muralidharan, Anitha. G</i> | |
| An Efficient Image Based Mammogram Classification Framework Using Depth Wise Convolutional Neural Network | 306 |
| <i>T. D. Subha, Dhanesshree. S, Galiveeti Sai Charan, Divya Dharshini. E, Princy. I, Chittagong Charisma Reddy</i> | |
| Efficient Search Strategies in Selecting the Best Cluster Heads with Gray Wolf Optimization Based Clustering Technique in WSN | 314 |
| <i>V. Ramkumar, P. Jyothi, K. V. Karthikeyan, V. Senthilkumar, Ektha Sudhakar Reddy, R. Thandaiah Prabu</i> | |
| A Robust and Novel Hybrid Deep Learning Based Lung Nodule Identification on CT Scan Images | 321 |
| <i>A. Sivakumar, Lilly Sheeba S, M. Suganthy, B. Gunasundari, S. Sivamurugan, Sajiv G</i> | |
| A Safe and Reliable Digital Fingerprint Recognition Method for Internet of Things (IoT) Devices | 329 |
| <i>S. Diwakaran, P. Vijayakumari, P. G. Kuppusamy, Eethamakula Kosalendra, K. Krishnamoorthi</i> | |
| A Robust and Efficient Computational Offloading and Task Scheduling Model in Mobile Cloud Computing..... | 336 |
| <i>I. Chandra, K. V. Karthikeyan, Revathi. V, Shankar K, M. Tamilselvi, J. R. Arunkumar</i> | |
| Extracting Behavioral Characteristics of College Students Using Data Mining on Big Data | 344 |
| <i>R. Meena, T. Kavitha, Arun Kumar S, Daya Mary Mathew, R. Anusuya, G. Karthik</i> | |
| Probability of a Device Failure Using Support Vector Machine by Comparing with Random Forest Algorithm to Improve the Accuracy | 351 |
| <i>Degala Lokesh, Femila Roseline J</i> | |
| Design of Hearing Aid with Auto Tuning of Frequency on Comparison with IDFT Coefficients and Overlap Add Method | 356 |
| <i>M. Monisha, J Femila Roseline</i> | |
| Novel Detection of Water Quality Based on pH Level Data Obtained from Water Sources Using Node MCU | 362 |
| <i>Bukyatejesh Naik, N. P. G. Bhavani</i> | |
| Accurate Precipitation Prediction Using Deep Learning Neural Network Compared with Space Vector Machine..... | 367 |
| <i>D. Vasudeva Rayudu, J Femila Roseline</i> | |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Accurate Weather Forecasting for Rainfall Prediction Using Artificial Neural Network Compared with Deep Learning Neural Network | 373 |
| <i>D. Vasudeva Rayudu, J Femila Roseline</i> | |
| New Crow Search Algorithm for Economic Load Dispatch Resolution Vs. the Time-Proven BAT Algorithm | 379 |
| <i>K. Sumanth, M. Vishnu Priya</i> | |
| Finding Solution for Practical Economic Load Dispatch Problem Using Dragonfly Algorithm in Comparison with Novel Bat Algorithm..... | 383 |
| <i>K. Sumanth, M. Vishnu Priya</i> | |
| Performance Analysis of Mammogram Tumor Classification Using Deep Belief Network | 387 |
| <i>M. Sai Karthik, N P G Bhavani</i> | |
| Hand Posture Recognition on Photographic Images Using YOLO Algorithm in Comparison with Convolution Neural Network to Improve Accuracy..... | 394 |
| <i>G. Praveen Raj, N. P. G. Bhavani</i> | |
| Identify Facial Micro Expression Using Support Vector Machine Compared with Artificial Neural Network to Improve Recall Parameter | 399 |
| <i>S. Soharika, N P G Bhavani</i> | |
| An Automated System Based on Informational Value of Images for the Purpose of Classifying Plant Diseases..... | 404 |
| <i>B. Jeyapoornima, P. Suganthi, Shankar K, Vadlupati Venkateswara Chowdary, Vaddaram R Umesh Sai, Bolu Naga Venkat</i> | |
| Fuzzy Evaluation Method on the Financing Efficiency of Small and Medium-Sized Enterprises | 412 |
| <i>Jaichandran R, Somanchi Hari Krishna, Madhavi G. M, Shariq Mohammed, K. Bhavana Raj, Geetha Manoharan</i> | |
| Implementation of Fog-IoT Framework to Deal with the Performance Metrics in Various IoT Devices | 419 |
| <i>T. D. Subha, Kommi Sai Manasa, Kollareddy Akhila, Nekkantl Satya Saranya, Kondragunta Tejaswini, Kannanoor Sannuthi</i> | |
| Maximum Energy Productivity for Concurrent Wireless Data and Power Shifting-Enabled IoT Network with Energy Coordination..... | 428 |
| <i>Sneha Joseph, Sankar R, Angelina Royappa, Anandakumar D, Gururaj D, K. V. Karthikeyan</i> | |
| Internet of Things for Green Smart City Application Based on Biotechnology Techniques | 436 |
| <i>N Bhaskar, S Ramana, G. Mahesh Kumar</i> | |
| A Robust and Improved Sparrow Search Algorithm for Optimization in Wireless Sensor Network | 443 |
| <i>K. Krishnamoorthi, S. Diwakaran, P. Vijayakumari, P. G. Kuppusamy, Eethamakula Kosalendra</i> | |
| Internet of Things Based Smart Home Security Analysis System..... | 450 |
| <i>P. Srujana, Kalluri Rama Krishna, S. Madhavi, Chhavi Sharma, Nimmati Satheesh, Gaddi Poshamalla</i> | |
| Application of Artificial Intelligence in E-Marketing | 456 |
| <i>Somanchi Hari Krishna, S. Silas Sargunam, Nirzar Kulkarni, Naveen Nandal, V. Vidya Chellam, S Praveenkumar</i> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------|-----|
| Early-Stage Timing Prediction in SoC Physical Design Using Machine Learning | 463 |
| <i>Madhusudan Kulkarni, Jehan Kadhim Shareef Al-Safi, S M K Sukumar Reddy, S B G Tilak Babu, Pankaj Kumar, Pushpa P</i> | |
| An Efficient Intelligent Systems for Low-Power Consumption Zigbee-Based Wearable Device for Voice Data Transmission | 473 |
| <i>I. Chandra, G Sowmiya, G. Charulatha, Sasirekha. D, S. Gomathi, R. Anusuya</i> | |
| Health Care and Management Based on Block Chain and Machine Learning | 480 |
| <i>Ruhi Bakh, Veenanair Sarkar, Jerlin Priya Lovelin Auguskani, Galiveeti Poornima, Monali N. Shetty, Meerjumla Govind Raj</i> | |
| Assessment of Classification Techniques for Heart Disease Prediction | 486 |
| <i>Lakshmi. G, P. Sujatha</i> | |
| A Sheltered CARMA Algorithm Using Cosseted Articulate for Implication Data..... | 491 |
| <i>R. Caroline Kalaiselvi, S. Mary Vennila</i> | |
| Analysis of Visualization Tools for Team Sports..... | 497 |
| <i>M. Gayathri, V. Kavitha</i> | |
| Application of SMAP Images in Predicting Crops by Using Decision Tree and Random Forest | 502 |
| <i>Valaparla Rohini, Kalapala Meghana, Rayala Krishna Sowmya, Kandepu Siva Krishna, Bethina Srikrishna</i> | |
| Privacy Preservation of Business Forecasting Using Homomorphic Encryption..... | 508 |
| <i>Sk. Shamreen, M. Madhavi, L. Priyanka, B. Saravani</i> | |
| Graph Signal Estimation Based on Maximum Correntropy Criterion..... | 514 |
| <i>A. Chandrasekar, S. Radhika</i> | |
| An Improved Deep Learning Framework Approach for Detecting the Psoriasis Disease | 519 |
| <i>Anuj Singh, Nithin Kumar K C, M. Anand Kumar, Harendra Singh Negi</i> | |
| Sugarcane Yield and Price Prediction Using Forecasting Models..... | 524 |
| <i>V. Sneha, V. Bhavana</i> | |
| Prakruthi Sedhya: A Natural Farming Mobile App | 530 |
| <i>Tejaswini Sambrajyam. J, Ranga Rao. J, Eswar Reddy. E, Yashwanth Chowdary K</i> | |
| Manual and Automated Web-Based Testing of the NPTEL Portal | 536 |
| <i>Durga Shree N, Steve Mathew D A, Gitanjali J</i> | |
| Water Quality Prediction Using Neural Networks..... | 543 |
| <i>S. Babu, Banavath Baby Nagaleela, Cheekurimelli Ganesh Karthik, Lakshmi Narayana Yepuri</i> | |
| A Novel Ensemble Classification Model for Plant Disease Detection Based on Leaf Images..... | 549 |
| <i>E. Saraswathi, J. Farithabanu</i> | |
| Fundus Image Based DR Detection Using Image Processing | 556 |
| <i>Tarun Singh, A. Suresh</i> | |
| A Novel Ai Framework for Personalisation and Customization of Product Prices Through Bigdata Analytics..... | 563 |
| <i>Sudharson D, Aman Kumar Dubey, Arun Kumar B, Sri Thrishna J, Neha F, Kavinaya S K</i> | |

| | |
|-------------------------------------------------------------------------------------------------------------------------------------|-----|
| Automated Brain Tumor Classification of Different Types of Tumors Using Convolutional Neural Network of Multi Label MRI Scans | 569 |
| <i>Jaiwant Singh Raghav, Aditya Narayan Das, A. Suresh</i> | |
| Evaluation of Biometric Classification and Authentication Using Machine Learning Techniques | 576 |
| <i>N. Umasankari, B. Muthukumar</i> | |
| Interactive Deep Neural Network for Aspect-Level Sentiment Analysis | 583 |
| <i>R. Nareshkumar, K. Nimala</i> | |
| Fake News Classification Using Transfer Learning | 591 |
| <i>Muthu Lakshmi V., K. Vijayakumar, Suthanthira Devi P., Rajin Gangadharan, D. Suresh</i> | |
| An Effective Deep Learning Based Recommender System with User and Item Embedding..... | 598 |
| <i>R. Nareshkumar, K. Agalya, A. Arunpandiyam, M. Vijayalakshmi, V. Ranjani, A. Ramya</i> | |
| Detecting Parkinson's Disease from Speech Signals Using Boosting Ensemble Techniques..... | 605 |
| <i>P. Deepa, Rashmita Khilar</i> | |
| XSS Attack Detection Using Convolution Neural Network..... | 612 |
| <i>G. S. Nilavarasan, T. Balachander</i> | |
| Image Manipulation Detection Using Man Tra-Net..... | 618 |
| <i>Vijay Rengaraj R, Thinakar R, G. Geetha</i> | |
| Diagnosis of Depressive Disorder Based on Facial and Text-Based Features Using Effective Techniques..... | 623 |
| <i>Kussagra Pathak, Prisha Gupta, K. Nimala</i> | |
| Emotion Detection in Instagram Social Media Platform..... | 630 |
| <i>Lakkimsetti Jayanth Sailesh, Vutukuri Kishore Kumar, K. Nimala, R. Nareshkumar</i> | |
| Racial Slur Detection Using Natural Language Processes | 636 |
| <i>Vatsal Gupta, J. Godwin Ponsam, Chanakya Vangavarapu</i> | |
| Panic Selling Analysis in Stock Market..... | 645 |
| <i>Gevariya Meet B, Pratiksha Ghosh, G. Geetha</i> | |
| Data Science: Simulating and Development of Outcome Based Teaching Method | 654 |
| <i>K. Sridhar, Govind Shinde, Amrita Chaurasia, Asha Rani N R</i> | |
| Baseline Modeling for Early Prediction of Loan Approval System | 661 |
| <i>R. Priscilla, T. Siva, M. Karthi, K. Vijayakumar, Rajin Gangadharan</i> | |
| Cursive Handwriting Recognition Using CNN with VGG-16 | 668 |
| <i>Anushka Anil Rangari, Swagat Das, Rajeswari D</i> | |
| Monochromatic Image Dehazing Using Enhanced Feature Extraction Techniques in Deep Learning | 674 |
| <i>Nisarg Doshi, Sagar Bhavsar, D Rajeswari, R Srinivasan</i> | |
| Customer Churn Prediction Using Machine Learning Approaches..... | 682 |
| <i>R. Srinivasan, D. Rajeswari, G. Elangovan</i> | |
| Assessing the Impact of Eight EfficientNetB (0- 7) Models for Leukemia Categorization | 688 |
| <i>Kanwarpartap Singh Gill, Avinash Sharma, Vatsala Anand, Rupesh Gupta</i> | |

| | |
|------------------------------------------------------------------------------------------------------------------------------------|-----|
| IoT Based Stormwater Quality Management System..... | 693 |
| <i>Kunal Shetye, Shruti Gupta, Karthikeyan Naidu, Siddhant Keskar, Priti Shahane, Harikrishnan R.</i> | |
| Blockchain Open Source Tools: Ethereum and Hyperledger Fabric | 700 |
| <i>Sri Santhoshi Devi Arigela, Persis Voola</i> | |
| An Automatic Method for Identification of Cervical Cancer Based on Multilayer Perceptron Neural Network..... | 708 |
| <i>N. Meenakshisundaram, G. Ramkumar</i> | |
| A Novel and Effective Method for Early Identification of Cervical Cancer Based on Gradient Boosting Classifier | 715 |
| <i>N. Meenakshisundaram, G. Ramkumar</i> | |
| Analysis of Breast Cancer Recognition in Histopathological Images Using Convolutional Neural Network..... | 722 |
| <i>Sajiv G, Ramkumar G</i> | |
| A Novel and Robust Breast Cancer Classification Based on Histopathological Images Using Naive Bayes Classifier | 730 |
| <i>Sajiv G, Ramkumar G</i> | |
| IoT Based Crowd Detection and Stampede Avoidance Using Predictive Analysis..... | 738 |
| <i>Harikrishnan R, Mugdha Thanawala, Samiksha Shukla, Harshvardhan Upadhyay, Sayed Atharabbas, Vishwak Chella</i> | |
| VANET Real Safety Congestion Control Wireless Access in Vehicular Environment Using Artificial Intelligence..... | 745 |
| <i>Akanksha Budholiya, A B Manwar</i> | |
| Comparative Analysis of Alzheimer's Disease Detection Via MRI Scans Using Convolutional Neural Network and Vision Transformer..... | 751 |
| <i>Pinky Sherwani, P. Nandhakumar, Pihu Srivastava, Jayant Jagtap, Viren Narvekar, Harikrishnan R</i> | |
| Portable GPS Tracker with Standalone Quito App..... | 760 |
| <i>Arbind Halder, Vaibhav Dhakan, Yash Sood, Jasdeep Singh, Harikrishnan R, Mangal Singh</i> | |
| A Comparison of Supervised Learning Algorithms to Prediction Heart Disease | 765 |
| <i>Kuchlpudi Prasanth Kumar, Valaparla Rohini, Jyothi Yadla, Jonnalagadda Vnraju</i> | |
| Sentiment Analysis of Twitter Data Using Big Data Analytics and Deep Learning Model..... | 770 |
| <i>Harika Vanam, Jeberson Retna Raj R</i> | |
| An Efficient Prevention and Challenges in Wireless Sensor Networks for Energy and Security Concern | 776 |
| <i>Sumathy G, K. Geetha, Maheshwari A, Ar Arunarani, Prithi Samuel</i> | |
| Allocation of Cloud Resources Based on Prediction and Performing Auto-Scaling of Workload | 784 |
| <i>M Jananee, K Nimala</i> | |
| Breast Cancer Detection Mammogram Images using Convolution Neural Network..... | 791 |
| <i>Swetha V, G. Vadivu</i> | |
| Price Prediction of Bitcoin and Ethereum - A Machine Learning Approach..... | 796 |
| <i>Sriman B, Tamil Iniyal T, Thasmiya J, Taariq Ziyaadh J, Sri Ranjani, Teju Thomas S</i> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------|-----|
| Predicting Anomalous and Consigning Apprise During Heists | 802 |
| <i>S Nikkath Bushra, S Anslam Sibi, K. Vijayakumar, M Niveditha</i> | |
| A Smart Framework for IoT Based Garbage Monitoring System | 810 |
| <i>Ankit Lunawat, Vedant Rastogi, Aryan Shrivastava, Mangal Singh, Ayush, Harikrishnan R</i> | |
| Defect Detection and Recognition of SS Plate Using Deep Autoencoder Neural Network | 817 |
| <i>V. Elanangai, K Vasanth</i> | |
| Hiring and Recruitment Process Using Machine Learning | 825 |
| <i>Dahlia Sam, M. Ganesan, S. Ilavarasan, T. John Victor</i> | |
| Classification of Chromosomes to Diagnose Chromosomal Abnormalities Using CNN | 829 |
| <i>S. Saranya, S. Lakshmi</i> | |
| Automated Detection of Breast Cancer Using Artificial Intelligence Systems | 834 |
| <i>Bethanney Janney J, Aishvariya Shivani. S, Sindu Divakaran, S. Krishnakumar, Hemalatha R J, P. Grace Kanmani Prince</i> | |
| Neural Machine Translation Using Attention | 841 |
| <i>Dafni Rose, K. Vijayakumar, D. Kirubakaran, R. Pugalenti, Gotti Balayaswantasaichowdary</i> | |
| Combined Application of Various Techniques for Personalized Job Recommendation | 848 |
| <i>Drishti De, Richa Dwivedi, Nidhi Allwani</i> | |
| Empirical Copula Based Naive Bayes Classifier..... | 855 |
| <i>Tanishi Srivastava, Dristi De, Prerna Sharma, Debarka Sengupta</i> | |
| Car Defect Detection Using Image Processing..... | 862 |
| <i>S. Durai, T. Sujithra, Athmakuri Sai Charan, Sai Kiran Pulyala, Battula Vishnuwardhan Satyam</i> | |
| Forest Fire Detection: A Comparative Analysis of Deep Learning Algorithms..... | 867 |
| <i>M. Karthi, R. Priscilla, Subhashini G, Niroshini Infantia C, Abijith G R, Vinisha J</i> | |
| SIPMS: IoT Based Smart ICU Patient Monitoring System..... | 873 |
| <i>Srinivasan C, Varsha R, Konireddy Sreelatha, Sakthipriya V</i> | |
| Collecting Dataset for Machine Learning Using IoT: Based Electricity Consumption in Residential and Commercial Area | 880 |
| <i>D Lingaraja, T Aravind, S Praveen Kumar, Bollavaram Vamsidharreddy, Mannur Rohith, Thopugunta Pavan Kumar</i> | |
| Varoka-Chatbot: An Artificial Intelligence Based Desktop Partner..... | 889 |
| <i>Penaka Sai Varshita Reddy, Tripuram Pavani Kalki, P Roshini, S. Navaneethan</i> | |
| IoT-Enabled Intelligent Farming System with Integrated Tracking and Water Gathering Plan..... | 895 |
| <i>Mekala Bhargav, Nariboyina Pavan Sai, N Pavan, Jeffin Gracewell</i> | |
| A Hybrid Model for Pupil Detection Using FPGA and CPU by Iterative Circle Fitting..... | 902 |
| <i>Kishore Kumar. S, Vishwa. S, Bhuvanesh. S</i> | |
| Development of Interactive Visual Recognition Assistant Bot..... | 909 |
| <i>Justin Paul Kolengadan, Simson Justin Dsouza, M M Ramya</i> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|
| Coviguard - Intelligent Shirt Using Arduino for Protection Against Covid | 917 |
| <i>Aishvariya Shivani S, Bethanne Janney, J. Aishwarya Mohan Kumar, Sindu Divakaran, Krishnakumar. S, Sabarivani. A</i> | |
| Conspectus of Techniques to Monitor and Control Diabetic Foot Ulcers | 923 |
| <i>Aishvariya Shivani. S, Bhavani Sri S, Krishnakumar. S</i> | |
| Machine Learning Techniques for the Prediction of Non-Communicable Diseases | 929 |
| <i>J. M. Sheela Lavanya, P. Subbulakshmi</i> | |
| Comprehensive Analysis on Drowsiness Detection of Drivers Using Facial Analysis | 937 |
| <i>Dhandapani Samiappan, Pawai Vendhan Ganesan, Rithick Subramanian, Yuvaraj Rajasekar</i> | |
| Leaf Disease Identification Using ResNet..... | 947 |
| <i>P. Sirenjeevi, J. Madhu Karthick, K. Agalya, R. Srikanth, T. Elangovan, R. Nareshkumar</i> | |
| A Smart Bin for Disposal of Infectious Medical Waste..... | 952 |
| <i>Sindu Divakaran, J Bethanne Janney, MA Charan, S Krishnakumar, B Mathangi, K Dhanalakshmi</i> | |
| Brain Tumor Detection and Classification Using VGG 16 | 957 |
| <i>R. Sankaranarayanan, M. Senthil Kumar, B. Chidhambararajan, P. Sirenjeevi</i> | |
| The Adaptive Security of Cloud Information Management Encrypted with Cryptographic Network Coding | 962 |
| <i>Naveed N, Nanda Kishor K P, Niranjana R T</i> | |
| An Analysis on Keylogger Attack and Detection Based on Machine Learning | 969 |
| <i>Yeshaswini Balakrishnan, Renjith P N</i> | |
| The Conceptualization and Implementation of a Patient Monitoring System Based on the Internet of Things for Use in Telemedicine | 977 |
| <i>Muruganandam N, Sindhu E, Mulla Safraz</i> | |
| A Novel Fabric Defect Detection Network in Textile Fabrics Based on DLT | 985 |
| <i>Kannan Ramakrishnan, Pushpa Ganesh Jayakumar, Pradeep Saravanan, Prakash Sivakumar</i> | |
| An Experimental Model of Smart Digital Pills for Real Time In-Body Localization | 993 |
| <i>Archana T, Ponnaganti Dimple, Pooja Balu, Portia Jude</i> | |
| Big Data Analysis Based Intrusion Detection in WSN with Reduced Features | 999 |
| <i>Dharini. N, Sruthi Priya. D. M, Sakthi Sneghaa. V. A</i> | |
| Advanced Semiconductor Classifiers Using Machine Learning Techniques | 1007 |
| <i>Oviya G, Kishore M, Pradeep S, Poorani S, Anitha R</i> | |
| Pilotcontamination Analysis of Massive MIMO 5G Networks Based on HetNets Weighted Scheduling with Reinforcement Markov Encoder Model | 1014 |
| <i>Tirupathaiah Kanaparthi, Ravi Sekhar Yarrabothu</i> | |
| Integrated Crow Lookup and Particle Optimization Algorithm-Based Cluster Head Selection..... | 1021 |
| <i>P. Vinoth Kumar, K. Venkatesh</i> | |
| Intelligent Border Surveillance Using Deep Learning Algorithms..... | 1028 |
| <i>G. Rohini, C. GnanaKousalya, J. Bino, S. Tephilla, R. Ranjana</i> | |

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------|------|
| Analysis of Microneedle Using COMSOL for Automated Drug Delivery System..... | 1034 |
| <i>T. Archana, Jayasurya B, Harish Balaji M, Dhanush N, Hariharan U</i> | |
| Awake/Sleep Mechanism Using LEACH Protocol in WSN - An Energy Efficient Approach..... | 1039 |
| <i>R. M. Dilip Charaan, P. R. Therasa, M. Vasudevan, S. Karthi</i> | |
| Real Time Monitoring of Transformer for Industry Using IoT..... | 1045 |
| <i>G. Keerthiga, M. Devendra Reddy, P. Venkat Kumar, S. Gireesh</i> | |
| Divination of Air Quality Assessment Using Ensembling Machine Learning Approach..... | 1050 |
| <i>P. William, Deepak Narayan Paithankar, Prashant Madhukar Yawalkar, Sachin K. Korde, Abhijeet Rajendra, Pabale, Dhananjay S. Rakshe</i> | |
| Framework for Deployment of Smart Motor Starter Using Android Automation Tool..... | 1060 |
| <i>D. B. Pardeshi, Akash K. Chaudhari, Prashant Thokal, Ritesh S. Dighe, P. William</i> | |
| An Efficient Classification of Gait Analysis Model Using Modified Hybrid Neural Network..... | 1066 |
| <i>Yesodha. P, J. Mohana</i> | |
| Deployment of Framework for Charging Electric Vehicle Based on Various Topologies..... | 1074 |
| <i>P. S. Chobe, Deepak Babasaheb Padale, D. B. Pardeshi, Nikhil Mohan Borawake, P. William</i> | |
| Efficient Method for Detecting Abnormal Growth of Blood Vessels Using Convolutional Neural Network..... | 1078 |
| <i>A. Deepak Kumar, T. Sasipraba</i> | |
| I-SPMS: IoT-Enabled Novel Smart Parking Management System with Load Cell Deployment..... | 1084 |
| <i>Latha. P, Rakshith. R. K, Pavankumar. C, Kaviyarasan. K</i> | |
| An Effective Analysis to Reduce Hypertension with Adaptive Lifestyle..... | 1090 |
| <i>G. Sivakarathi, R. Perumalraja</i> | |
| Detecting Parkinson's Disease Using Machine Learning..... | 1097 |
| <i>Nancy Deborah R, Vinora A, Alwyn Rajiv S, Ajitha E, Sivakarathi G</i> | |
| Horticulture Image Based Segmentation with Feature Selection Using U-ConVolNet with Boltzmann Machine Using Deep Learning Architectures..... | 1103 |
| <i>Divya A, Sungeetha D</i> | |
| Estimation of Deforestation Rate and Forest Land Use Land Cover Change Detection..... | 1111 |
| <i>M. Kalaiyarasi, S. Saravanan, Balaji. R, S. Karthi, D S Naga Malleswara Rao, D. Nagineni Venkata Sireesha</i> | |
| Crop Yield Identification Using CNN..... | 1115 |
| <i>G. Yogapriya, R. Shalini Kumari, S. Suganthi, K. Agalya, T. Elangovan, D. Selva Pandian</i> | |
| An Investigation on Control Overheads of Dynamic Cooperative Spectrum Sensing..... | 1119 |
| <i>J. Bino, P T V Bhuvaneshwari</i> | |
| Facial Expression Recognition Using Convolutional Neural Network and Haar Classifier..... | 1124 |
| <i>Arjun Dinesh S, Srivignesh R, Anand A</i> | |
| A Framework for Secure Cooperative Spectrum Sensing Based with Blockchain and Deep Learning Model in Cognitive Radio..... | 1129 |
| <i>Neelam Dewangan, Arun Kumar, R. N. Patel</i> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------|------|
| Deep Learning Based Lung Segmentation Prior for Robust COVID-19 Classification..... | 1135 |
| <i>T. Suvathi, A. Chandrasekar, K. Palani Thanaraj</i> | |
| Hybrid K-Means Clustering for Training Special Children Using Utility Pattern Mining..... | 1140 |
| <i>J. Jeyachidra, T. Logesh, K. Nandhini, R. Krithiga</i> | |
| A Machine Learning Edged Self-Adaptable Vehicle Slowdown Earliest Warning Information System Using IOT Based Traffic Prediction Model..... | 1147 |
| <i>Murali N, D. Beulah David</i> | |
| Disease Prediction Using Symptoms Based on Machine Learning Algorithms and Natural Language Processing..... | 1155 |
| <i>Pothana Hema, Arunarkavalli Darbha, N. Sunny, Raavi Venkata Naganjani</i> | |
| Tracking of Food Waste in Food Supply Chain Using Machine Learning..... | 1162 |
| <i>Sriman B, Santhosh R, Santhosh Guru R, Saras Prasad Raju V, Ruma Prasad H, Sailendiran R</i> | |
| Robust Smart Face Recognition System Based on Integration of Local Binary Pattern (LBP), CNN and MTCNN for Attendance Registration..... | 1166 |
| <i>Sriman B, D. C. Joy Winnie Wise, S. H. Annie Silviya, Saravaanaa Kumar D, Venkat Sai Sujan K, Bruhathi S</i> | |
| Enhancement of Recommendation Systems Through Collaborative Filtering to Assure Customer Requirement..... | 1171 |
| <i>Annie Silviya S H, S. Vinod, Pathmanaban. J, Sriman B, Suryaa Narayanan K, Santhosh Kumar E</i> | |
| Concurrent Social Media in Collaborative Media Education..... | 1176 |
| <i>N. Raja</i> | |
| Automated Fare Collection System for Public Transport Using Intelligent IoT Based System..... | 1182 |
| <i>Kanwarpartap Singh Gill, Avinash Sharma, Vatsala Anand, Sheifali Gupta</i> | |
| Creation of a Drowning Prevention System for Kids Learning in Pool Using Computational Technology..... | 1189 |
| <i>M. Pushpavalli, P. Abirami, P. Sivagami, M. Kavitha, C. Bhuvaneswari, W. Abitha Memala</i> | |
| Classification of Epileptic Seizures Using Optimized TQWT and Hybrid Models..... | 1194 |
| <i>Varalakshmi P, Ramanujan V, Caushik Subramaniam C, Aditya Vishwakarma R I, Sakthi Jaya Sundar Rajasekar</i> | |
| A Machine Learning Approach to Segment the Customers of Online Sales Data for Better and Efficient Marketing Purposes..... | 1202 |
| <i>Mathesh T, Sumathy G, Maheshwari A</i> | |
| An Enhanced Optimal Design of a Phase Changing Material Based Photo Voltaic System Using Deep Learning..... | 1211 |
| <i>Prasanna Lakshmi G S, Mani. P. K, S. Sangeetha, T. Santhana Krishnan, T. Udhayakumar, M Anusuya</i> | |
| An Enhancement of Service Function Chaining in Metro Mobile Ad-Hoc Networks in 5G Communication Using Machine Learning..... | 1219 |
| <i>Komala C R, Varuna Kumara, N. Sharmila Banu, S. Sumithra, S. Raja Gopal, Shreeshakalkoor Mudradi</i> | |

| | |
|--------------------------------------------------------------------------------------------------------------------------------|------|
| An Innovation Development of Light Weight Deep Learning Algorithm for Smart Healthcare Neural Science Management | 1226 |
| <i>M. Chithambarathanu, V. Vinay Kumar, P Sreelekha, J Samson Isaac, Mandeep Kaur Ghumman, D. Abdus Subhahan</i> | |
| Cost-Effective Communication in UDN in Indoor and Outdoor Environment Via Machine Learning..... | 1233 |
| <i>K Nattar Karman, V. Velmurugan, Kommisetti Murthy Raju, T. Sajana, V. Vijayalakshmi, Joshuvaarockia Dhanraj</i> | |
| An Investigation of Smart Detection for Small Lung Tumor with Tumor Pattern Recognition Algorithm | 1240 |
| <i>G. Hariharan, P. Prasanth, P. Arthi Devarani, T. Sajana, Indhumathi C, Ashok Kumar</i> | |
| Machine Learning Designed Identification on Cervical Cancers in Patient | 1247 |
| <i>M. Sangeetha, G. Sasikala, K. Anitha, S D Prabu Ragavendiran, K R Senthil Kumar, M. Deivakani</i> | |
| Innovative Machine Learning Method for the Creation of Power-Maximizing Solar Trackers | 1254 |
| <i>Yuvaraj Mariappan, Mani P. K, Sivasankar G A, Srinivasan K, Pawan Kumar Inaniya, Satyendra Vishwakarma</i> | |
| Supervised Machine Learning Strategy for Detection of Covid19 Patients | 1261 |
| <i>I. S. Hephzi Punithavathi, K. Deepa, Cheruku Poorna Venkata Srinivasa Rao, S. Raja Gopal, P. Rajasekar, Ashok Kumar</i> | |
| The Effective Solar Panel Tracker to Obtain Maximum Energy Optimization by Using Innovative Machine Learning..... | 1267 |
| <i>Rajanish Kumar Kaushal, V. Velmurugan, S. Mahendran, Arul Prakash M, Balvender Singh, Joshuva Arockia Dhanraj</i> | |
| The Prediction of Micro Plasma Impacts of Farm Fresh Vegetables Using Machine Learning | 1275 |
| <i>Maragatham G, K. Sundaramoorthy, K. Maheswari, T. Sajana, Mary Shiba C, Ashok Kumar</i> | |

Author Index