2023 IEEE International Conference on Contemporary Computing and Communications (InC4 2023)

Bangalore, India
21-22 April 2023

IEEE Catalog Number: CFP23DM1-POD
ISBN: 979-8-3503-3578-1

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: CFP23DM1-POD
ISBN (Print-On-Demand): 979-8-3503-3578-1
ISBN (Online): 979-8-3503-3577-4

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

2023 IEEE International Conference on Contemporary Computing and Communications InC4 2023

TABLE OF CONTENTS

Table of Contents iii

About InC4 2023 xi

Conference Committees xii

Welcome from IEEE InC4 2023 General Chairs xiv

Welcome from IEEE InC4 2023 General Co-Chairs xv

Welcome from IEEE InC4 2023 Program Chairs xvi

Track-A: Communication and Control Systems

Experimental Demonstration of Hybrid PLC-VLC System
Ajit Kumar, Nishant Sharan and Swapan Ghorai 001

Analysis of Consumer Behavior Toward Electric Vehicle
Shubham Pathak and Sandeep Prabhu 006

Implementing Firefly Optimization Inspired Optimized Tuning of Fractional Order (FO) PID Controller for Yaw Angle Control for an Autonomous Underwater Vehicle
Linkan Priyadarsini 011

Wearable Patch Antenna With Rectangular Slots and Defected Ground for Biomedical Applications
Younes Siraj and Jaouad Foshi 017

Design Analysis of Graphene Based Half Wave Dipole Antenna for Future Wireless Applications
Rajesh Kumar Raj, Virendra Kumar Sharma, Harji Choudhary and Prashant Joshi 023

An Optimized Clustering Model for Energy-Efficient Routing in IoT Networks
Sateesh Gorikapudi and Hari Kishan Kondaveeti 027

Efficient Energy Trading and Charging System : Electric Vehicles with Blockchain
Dr. Kalyani, Ananya Thakkallapelli, Sai Neha Chekuri, Satwika Surabhi, Harshita Pedasingu and B V Seshukumari 032

Reconfigurable Intelligent Surface-Assisted OFDM-IM for Beyond 5G Mobile Networks: ML and LLR Detector Designs
Busra Ceniklioglu, Ibrahim Develi and Ayşe Elif Canbilen 038

Technique to improve user's perceptibility of audio in noisy environments
Magendra Singh, Tanuj Bhatia, Rajan Sahu, Pradyumn Kumar Tiwari and Pranshu Gupta 042

A Study of the Resource Allocation Mechanism for Secure Video Transmission in 5G Networks
Augustin Minalkar, Srinath Doss and Ruchi Doshi 047

A Microstrip Line-fed Slot Antenna with Inverted L- Shaped Stub for Application in Communication Systems S K Dash, Niten Panda, J R Panda, Pravin Samanta and Shubhalaxmi Mohapatra 053

Track-B: Informatics and Applications

Security Techniques in Cyber Physical System for Pharmaceutical Care Services
Swati Devliyal, Himanshu Rai Goyal and Sachin Sharma 057

ProHealth - Improvised E-Health Care System
Rajani Sajjan, Tushar Chaturvedi, Dhanraj Bhanusghare and Yash Bansal 063

A Comparative Study on Forest Fire Prediction using ARIMA, SARIMA, LSTM and GRU Methods.
Arunkumar Gopu, Anjali Ramakrishnan, Ganesan Balasubramanian and Srinidhi Kuna 069

Exploratory Review of Deep Learning Techniques for Ecg Signals Analysis
Muniraju Naidu Vadlamudi, Saikumar K, Sarada Kota, Mazin Al-Hameed, Sajad Ali Zearah and Divya Kanuganti 074

Machine Learning based approaches for Identification and Prediction of diverse Mental Health Conditions
Mohammad Anas Abid, Zahra Dehghan, Tanmay Shinde and Geetika Narang 080

Examining Undergraduate Students' Behavioral Intentions for M-Learning using Theoretical Framework of UTAUT
Sachin Srivastava and Narender Singh Bhati 085

Impact and Performance Analysis of Various Activation Functions for Classification Problems
Yuvraj Singh, Madan Saini and Ms sSavita 091

Pick up The Best Router Signature to Detect Intrusion by Artificial Intelligence Techniques
Iyas Alodat 098

Using Smart Contracts on the Blockchain for IoMT in e-Healthcare
Md Afroz, Birendra Goswami and Emmanuel Nyakwende 104

Towards Workflow Allocation using Dragonfly Algorithm in Cloud Computing Environment
Faraz Hasan, Mohammad Imran, Faisal Ahmad and Mohammad Shahid 110

Fem-Scale: A Data-Driven Approach for Quantifying Degree of Individual Feminism Perspective
Jannatul Ferdous Deepti, Md. Faiyaz Abdullah Sayeedi, Anayatul Ahad Shoikot, Safrin Sanzida Islam, Anika Tasnim Rodela and Akib Zaman 116

Non-Contact Vital Prediction Using rPPG Signals
Meghna Madhu, Gurudas V R, Chinthakunta Manjunath, Praveen Naik and Praveen Kulkarni 122

Validation of Snap-Through Voltages of Electrostatically Actuated Devices with Closed Form Equations
Kalaiarasi A R, Deepa Thangavelusamy and Kripalakshmi Thiagarajan 127

Multi-classification of dragon fruits diseases: A Hybrid CNN-SVM approach
Shiva Mehta, Vinay Kukreja, Ankit Bansal, Kapil Kumar and Kushwant Kaur 133

Assessment of adulteration from food products using ASD Field Spec4
Vijay Dhangar, Pravin Dhole, Sulochana Shejul and Bharti Gawali 139

Detecting Deepfake Human Face Images using Transfer Learning: A Comparative Study
Harsh Vajpayee, Nitin Yadav, Ayush Raj and Sushant Jhingran 145

A Robust and Secure Image to Multi-Images Steganography
Pratik Singh, Shivani Pandey, Priya Kumari, Alok Singh Chauhan and Prashant Tomer 150

Structural Similarity Index based Evaluation of Dark Channel Prior Algorithm
Divya Sharma, Shilpa Sharma, Harshal Patil and Vaibhav Bhatnagar 155

DL4Cashew: Deep Learning Model For Cashew Trees Counting
BAYALA Thierry Roger, MALO Sadouanouan and KINDA Zakaria 159

A YOLO-based Method for improper behavior predictions
Mini Wang, Yongbing Zhao, Qing Wu and Guoqiang Chen 166

Applications of Explainable Artificial Intelligent Algorithms to Age-related Macular Degeneration Diagnosis: A Case Study Based on CNN, Attention, and CAM Mechanism
Mini Wang, Zhiyuan Lin, Junjie Zhou, Lumin Xing and PeiJin Zeng 170

Performance and Energy Aware Task Scheduling in Fog Computing
Sukhvinder Singh Nathawat and Ritu Garg 175

Clustering in Cognitive Radio Network Using Blockchain: Issues & Challenges
Utkarsh Upadhyay and Mahendra Kumar Murmu 180

Neighbour Discovery in Cognitive Radio Network using Blockchain: Design Issues & Challenges
Priyanka Kumari and Mahendra Murmu 184

Facial Emotion Detection using Deep Learning: A Survey
Saif Ansari, Praveen Kulkarni, Rajesh T. M and Gurudas V R 189

Performance Metrics Assessment In Sentimental Analysis Over Supervised Machine Learning Approaches
Nibedan Panda, Alok Jena and V Ramana Bendi 193

Estimation of Water Quality Parameters Using Water Indices and GEE
Adharsh Dasi, K. Suvarna Vani, Venkatasai Reddybathina, Anuja Charpe and Uday Kiran Tadikonda 199

Generative Adversarial Networks for Mitigating Bias in Disinformation
Rahee Walambe, Prince Chaudhary, Avani Bajaj, Ajayver Singh Rathore, Vidhi Jain and Ketan Kotecha 205

Artificial Intelligence Assistance in the Domain of Law
Samta Kathuria, Navneet Shankar Pandey, Poonam Rawat, Rajesh Singh, Gargi Pant and Gunjan Chhabra 211

Prediction of Stock Market Analysis by Artificial Intelligence
Samta Kathuria, Shweta Pandey, Prafful Negi, Pradeep Suri, Anil Kumar and Farman Ali 215

Right To Shelter: A Technological Perspective in Smart Homes Through Virtual Reality
Samta Kathuria, Jyoti Madolia, Poonam Rawat, Vikrant Pachouri, Gunjan Chhabra and Anita Gehlot 220

Financial Services 4.0 – Future Perspective based on Mixed Reality
Shweta Pandey, Nupur Goyal, Sanjay Singh Chauhan, Rajesh Singh, Kapil Joshi and Anil Kumar 224

Agriculture 4.0: Inculcation of Big Data and Internet of Things in Sustainable Farming
Shweta Pandey, Vikrant Pachouri, Anita Gehlot, Prafful Negi, Gunjan Chhabra and Kapil Joshi 228

Artificial Intelligence Indulgence in Banking and Financial Sectors
Shweta Pandey, Akshita Rana, Deepa Bisht, Rajesh Singh, Kapil Joshi and Gunjan Chhabra 232

Smart Intravenous Infusion Monitoring and Alert System using IoT-based Force Sensitive Resistor and Whatabot API
Krishna Sreekumar, Jeswin Francis and Boppuru Rudra Prathap 237

Hyperparameter Optimization of Machine Learning Models for Monitoring Menstrual Mental Health
Tisha Chawla, Shubh Mittal and Kathiravan Srinivasan 243

Dynamic Determinants of AI-Based Innovation Management Practices and Sustainable FinTech: Application Preferences of AI-Innovators
Manish Dadhich, Preeti Yadav, Abhineet Saxena, Rakesh Kumar Birda, Sumit Mathur and Kamal Kant Hiran 248

Depression Detection Through User's Social Network Interactions
Aaditya Narayan Subedy, Mohammad Arif Khan, Nitiwit Kuldiloke and Rahul Katarya 253

Factors Driving the Adoption of Agile Methodologies in the Construction Industry
Sanjaya Chathuranga, Ruwan Wickramarachchi and Shan Jayasinghe 259

Architectural Patterns for NFRs in Cloud Microservices
Archana Kumari, Babu Rao K and Mohan Kumar. S 265

Innovative Approaches for Accurate User Monitoring
Siddharth Naithani and Vijay Kumar 272

A Conceptual Comparison between Density-based Clustering algorithms
Skand Gupta and Vijay Chahar 277

Palmprint Identification Using Non-Imaging Database
Snehal S Datwase and Ratnadeep R Deshmukh 283

Pertaining analysis of fracture risk in Osteoporotic patients using Machine Learning Techniques
Neeta T R and Ramesh Chandra Poonia 288

Deep Learning Character Recognition of Handwritten Devanagari Script: A Complete Survey
Arpit Sharma and Mithun B N 293

A Comprehensive Review of Image Steganography Techniques
Indu Kumari and Rajesh Aggarwal 299

Detection of Guava Fruit Disease through a Unified Deep Learning Approach for Multi-classification
Raghav Jain, Pulkit Singla, Niharika, Rishabh Sharma, Vinay Kukreja and Ramanjeet Singh 305

Indian Coin Detection Algorithm Using MATLAB
Smriti Karn and Kavita Tewari 310

Analysis of Sentiments on Russia-Ukraine Conflict using Machine Learning Techniques
Sakshi Negi, Ishaan Dawar, Rishabh Prakash, Megha Bhushan, Prashant Tiwari and Ajay Kumar 315

Data Analysis and Machine Learning Observation on Production Losses in the Food Processing Industry
Hari Murthy, Vinay Jha Pillai, Kukatlapalli Pradeep Kumar, Boppuru Rudra Prathap, Michael Moses Thiruthuvanathan and Yogeshraj Urs C 321

Analyzing the Impact of BERT Embeddings on Rumor Debunking
Animesh Maudgil and Vijay Kumar 325

Sentiment Analysis of Russo-Ukrainian War using Twitter text Corpus
Srivathsan Mohan and Niharika P Kumar 330

Comparing Developmental Approaches for Game-Based Learning in Cyber-Security Campaigns
Sreehari Sreeraj and Gokulapriya R 335

Automatic Bird Species Recognition using audio and image data: A Short Review
Chinna Gopi Simhadri, Samparthi Kumar, Hari Kishan Kondaveeti and Yasaswini M 340

A Blockchain assisted fog computing framework for secure data sharing mechanism in smart home
Hemant Apat, Bibhudatta Sahoo, Sagarika Mohanty, Manas Mukul and Rabindra Barik 346

Node Overlapping Detection for Draggable Node-based Applications
Mitul Pobaru and Gokulapriya R 352

Optimizing Experimentation Time in A/B Testing: An Analysis of Two-Part Tests and Upper Bounding Techniques
Puneet Mahajan, Deepak Koushik, Sanjay Shetty and Meghamala Ulavapalle 357

Proactive Horizontal Pod Autoscaling in Kubernetes using Bi-LSTM
Soham Kakade, Gurutej Abbigeri, Om Prabhu, Akash Dalawayi, Narayan G, Somashekar patil Patil and Bhagya sunag 361

Scrutinization and Abstraction of Unstructured Electronic Health Records using Natural Language Processing and Deep Learning
Nancy Deborah R, Alwyn Rajiv S, Vinora A, Priyadharshini J, Priyanga P and Vidhya Lakshmi K 366

Multi-agent Systems for Resource Allocation in Cloud Computing
Gopal Krishna Shyam and Priyanka Bharti 372

Machine Learning Observation on the Prediction of Diabetes Mellitus Disease
Pabbati Dinesh, Kukatlapalli Pradeep Kumar, Sakala Lakshmi Priya and Anil Melwyn Rego 377

Model Order Reduction of Continuous Time Systems using Artificial Gorilla Troops Algorithm and Routh Approximation
Aditya Prasad Padhy, Kasinath Jena and Prateek Pratyasha 381

Resolving Single-Sentence Answers for the development of an Automated Assessment Process
Aarti Raut and Namrata Mahender 386

Establishing trust in 'Digital Cinema Initiative' compliant devices using permissioned blockchain
Sujal Goel, Shantanu Goyal, Kanhaiya Mohan, Shiv Sagar Shah and Preeti Kaur 391

Explainable IoT Forensics: Investigation on Digital Evidence
Achuth Gopinath, Kukatlapalli Pradeep Kumar, Shehan Saleem K M and Justin John 397

Deploying NLP techniques in Twitch application to comprehend online user behaviour
Monikka Reshmi Sethurajan and Natarajan K 403

A Compatible Hexadecimal Encryption-Booster Algorithm for Augmenting Security in the Advanced Encryption Standard
Vaheedbasha Shaik and Natarajan K 412

Design and Development of secure RFID Based Health Card for integrating Various Health Services
AV Omkar, Jhanvi Goyal, Ranaveer Ranjeet, Abdul Haq Nalband and Mohammed Riyaz Ahmed 418

LSTM Based Container Scheduling In Kubernetes
Pavani Patil, Srishti Abbigeri , Vinayak Sidramayyanmath, Shreyas Bhat, Narayan D.G and Somashekar Patil 423

LightUNet++: A Simplified UNet++ Architecture for Multimodal Biomedical Image Segmentation
Suchismita Das, Srijib Bose , Ritu , Rahul Jain and Minakhi Rout 428

A Deep Learning Approach to detect Plagiarism in Bangali Texual Content Using Similarity Algorithms
Ashraful Islam, Emtiasur Rahman, Abdullah Ahmed Chowdhury, Md. Abu Naser Mojumder 433

Volume Control feature for gesture recognition in Augmented and Virtual reality applications
Shruti Kansal, Hariharan Shanmugasundaram, Bhanu Prasad Andraju, Venkateswara Reddy, Sasi Kala Rani and Ponmalar A 438

Toxic Comment Classification Using S-BERT Vectorization and Random Forest Algorithm
Aparna Ashok Kumar, Peeta Basa Pati, Deepa K and S. Tresa Sangeetha 443

Transforming Pediatric Healthcare with CKD using AI: A Systematic Mapping
Fizhan Kausar and B Ramamurthy 449

An exploration of the impact of Feature quality versus Feature quantity on the performance of a machine learning model 456

Krupa Bhayani, Devansh Tanna, Vinod Maan, Dhiraj Sangwan and Sandeep Kumar

Survey of Crop Identification Using Hyperspectral Satellite Images 461
Monica Premakar, Srinath Doss and Kamal Kant Hiran

Mathematical Analysis of Two and Three Unit Standby System along with Goodwill Loss using Regenerative Point Technique 467
Vanita Garg

Sentiment and Emotion Analysis of Significant Diseases in India and Russia 472
Mausumi Goswami and Uday Sai Bandi

Sustainability Indicators and Ten Smart Cities Review 478
Asheeta Sao and Jyothi Gupta

Mischievous URL Prediction Through Supervised Machine Learning Algorithms 484
Rakhi Arora, Rishi Gupta and Pradeep Yadav

Insider Threat Classification Using KNN Machine-Learning Techniques 489
Nitin Dixit, Rishi Gupta and Pradeep Yadav

Track-C: Intelligent Data Analytics and Computing

Securing Data using Cryptography 494
Pemmaiah U T and Dr Devi A

Efficiency of Machine Learning and Ensemble Models on Network Intrusion Detection using KDDCup 99 Dataset 500
Nisha Varghese and Vivek R

Review on Brain Tumor Segmentation and Classification using Artificial Intelligence 505
Chandrakantha T S, Basavaraj N Jagadale, Madhuri G R, Omar Abdullah Murshed Alnaggar , Abhishek T E and Swaroopa H N

The Finest Convolutional Neural Network Model for Detecting Paddy Leaf Disease using Image Processing 511
Md. Abid Ashraf, Alima Begum Samia, Ashraful Islam, and Md. Abu Naser Mojumder

Analytical Methods of Machine Learning Model for E-Commerce Sales Analysis and Prediction 516
Anushka Xavier K, Chinthakunta Manjunath, Manohar M, Gurudas V R, Jayapandian N and Balamurugan M

Controlling the accuracy and efficiency of Collision detection in 2d games using Hitboxes 522
Paul Sajo, Gokulapriya R and Mithun B N

Joint Model for Extraction of Clinical Temporal Relationships at Document level through Deep Learning 527
Vijaya M Lakshmi Challa and Ramakrishnudu Tene

Predicting Rice Leaf Disease Outbreaks using CNN-SVM Models: A Machine Learning Approach 533
Shiva Mehta, Vinay Kukreja, Abhishek Bhattacherjee and Tejinder Pal Brar

Analytical Results of Heart Attack Prediction Using Data Mining Techniques 538
Shaleen Mishra, Abhijith S and Boppuru Prathap

Data Analysis on Hypothyroid Profiles using Machine Learning Algorithms 543
Leisha R, Katelyn Medows and Boppuru Prathap

Predictive Analysis of Stroke Prediction by using Machine Learning Implementations 549
Srikanta Kumar Mohapatra, Arpit Jain and Anshika

Preprocessing Big Data using Partitioning Method for Efficient Analysis 555
Melbin J Reena

Track-D: Intelligent Systems

Conversational Agent Architecture for OTT platform Confederation Consumer Hyper Personalization and Assistance 561
Gnaneswari G

IoT Based Intelligent Home Automation Using Automated Smart Devices 565
Nayana G H, Aravinda Koithyar, J Dhanush, R Vikas, Chandan Gowda M, Adarsh Kumar and Atithkumar Naik

A Specular Reflection Removal Technique in Cervigrams 570
Lalasa Mukku and Joythi Thomas

Diabetic Retinopathy Diagnosis Using Retinal Fundus Images through MobileNetV3 575
Yuktha Sejal and Michael Moses Thiruthuvanathan

Detection and Segmentation of Brain Tumor by Using Modified Watershed Algorithm and Thresholding to Reduce Over-Segmentation 580
Tahamina Yesmin, Dr. Harsh Lohiya , Pinaki Pratim Acharjya

Brain tumor detection using histogram equalization and deep learning 586
Geetha N, Vyshnavi S, Rithika VA and Shobika P

Spatio-temporal Standardized Precipitation Index Selection using Geospatial Technique 592
Ritu Khandelwal, Hemlata Goyal and Rajveer Singh Shekhawat

An Accurate Speech Emotion Analysis using Gradient Boosting and BiLSTM Techniques 597
Nikhil Gupta, Ineesh Raina, Gulshan Kumar and Geetanjali Rathee

Evaluating the Effectiveness of Tree-based Machine Learning Classifiers for Cybersecurity Threat Detection 603
Mahantesh M, Vijit Chary, M. Nithin Reddy, Rohith M and Shanthala P.T

ADAMAX-Based Optimization of Efficient Net V2 for NSFW Content Detection 609
Chayanika Arora, Gaurav Raj, Akshat and Aditya Saxena

Rhyme detection of Hindi and Rajasthani Poems using Statistical-Based Method 615
Ishant Kumar and Kamlesh Dutta

Basketball Shot Prediction Using 2nd Order Polynomial Regression 620
Neha Kadam, Varsha Kadam, Jyoti Madake and Shripad Bhatlawande

TSDRDL: Traffic Sign Detection and Recognition using Deep Learning Techniques 625
Praveen Tumuluru, Girija R, Vamsinath Javangula, Jonnala Varshitha, Ashritha Marupudi and Peeka Sujitha

HIGGA: An Hybridization Approach for classification model HD prediction using Machine learning 629
RITU AGGARWAL and Suneet Kumar

Crevice Identification: A survey on Surface Monitoring 634
Vaishnavi Kumbhar, Upendra Maurya, Rohit Bamble, Akanksha Daware and Prema Sahane

A Scoping review of Deep Reinforcement Learning methods in Visual Navigation 640
Dafni Rose, Suganthi J, Muthumari S and Prabhakarran Sethurathinam

Estimation of Community Water Consumption Using Multivariate Ensemble Approach. 646
Amar S Sajjanshetty, Mohan R, Sudipta Pahari, Jayanth V and Deepti C

E2D2: Elephant Emotion and Distraction Detection Framework using Edge-Enabled YOLOv5 Deep Learning Algorithm 651
YuJu Chiu, Shajulin Benedict and Micheal Gerndt

Exploration of CNN With Node – Centred Intrusion Detection Structure Plan for Green Cloud 657
G Tarun, K N V Sai Nikhil, Ch Rohit, K. Ch. Sri Kavya, Dr Ahammad and K Saikumar

Speech-enabled machine learning-based automated attendance monitoring system through face recognition 663
Dhanvina N, Mahesh N D and Snigdha Sen

Early Detection of Alzheimer's Disease using CNN with PSO for parameter optimization 669
Jayant Harwalkar, Hemankith Reddy, Shravani M, Neelesh Samptur and Kamatchi Priya L

Brain Tumor Detection Using Deep Learning Model 675
Joel Menachery, Ishan Kumar Anand and Michael Moses Thiruthuvanathan

Speech Recognition of Isolated Odia Digits Using Convolutional Neural Network 681
Bikash Ranjan Bag

Breast Cancer Classification Using Threshold Segmentation and Voting Classification Method 684
Arvind Bhatia and Ravinder Kaur

A Technology-based Safety Travel Companion for Women 691
Rutuja Kolekar and Pranita Ranade

Image Captioning using Deep Learning Techniques 697
Arunkumar Gopu, Pratyush Nishchal, Vishesh Mittal and Srinidhi Kuna

Customer Segmentation Analysis leveraging Machine Learning Algorithms 702
Hariram S, Raja Subramanian R, Kamalakannan P, Maturu Tejeswar Reddy, Dhanasekaran S and Ishvarya M

Permuted layer-based CNN for Emotion Detection with Multi-Modality Physiological Signals 710
Amrendra Tripathi and Tanupriya Choudhury

Accuracy Assessment of Machine Learning Algorithms in Assorting Agricultural Crops using Remote Sensing 715
Mayurkumar Raj, Kamal Pandey and Jatinderkumar Saini

Performance Assessment of Machine Learning Algorithms and Ensemble Techniques for Hand Gesture Recognition using Electromyographic Signals 724
Sushama Dhumal and Prashant Sharma

Facial Kinship Verification using Computational Approaches 730
Kusum and Vijay Kumar

Autism Spectrum Disorder: Automated Detection based on rs-fMRI images using CNN 736
Manjunath Ramanna Lamani, Julian Benadit P and Krishnakumar Vaithinathan

Hybrid Subset Feature Selection And Importance Framework 741
Chandravesh Chaudhari and Geetanjali Purswani

Image Synthesis Using GANs and Diffusion Models 747
Ayush Karn, Shubham Kumar, Sonu Kushwaha and Rahul Katarya

A comprehensive review on Compiler in Neural Networks 753
Zishnendu Sarker, Sristi Mitra and Sonal Gandhi

Multi Layered Cardiac Arrhythmia Detection Using RMSE Method 759
Raja A, Smitha K S, Prathibhavani P M and Venugopal K. R.

An Intelligent Machine Learning System for Real-Time Stress Management based on a Mini-Xception algorithm and deep neural network models 765
Varsha S K, Leena Sri and Anuvidhya K

Classifying the Severity of Apple Black Rot Disease with Deep learning: A Dual CNN and LSTM Approach 771
Vinay Kukreja, Rishabh Sharma, Tejinder Pal Brar and Abhishek Bhattacherjee

Identifying Question Intent Similarity Using Computational Techniques 776
Ginika Mahajan

Binary Artificial Hummingbird Algorithm: A Binary Version of Artificial Hummingbird Algorithm for Optimization Problems 781
Pratyksh Dhapola and Vijay Kumar

Three layered Multimodal Biometric Authentication on Smartphone using Keystroke Dynamics and Touch Dynamics 787
Pragya Vaishnav, Linesh Raja and Aniket Bhange

Parkinson's Disease Diagnosis Using Deep Convolutional Neural Networks 790
Atharva Ranade, Rohan Sodha, sahil sawant, Jignesh Sisodia and Dr. Dhananjay Kalbande

Evolving Deep Neural Network Architectures by Sine Cosine Algorithm for Healthcare 4.0 795
Sanja Golubovic, Luka Jovanovic, Branislav Radomirovic, Angelina Njegus, Miodrag Zivkovic and Nebojsa Bacanin

Brain Tumor Detection using Hyper Parameter Tuning and Transfer Learning 801
Noureen Nasar, Michael Moses Thiruthuvanathan and Alen Pauls

CPPER: A Controlled Partial Prioritized Experience Replay for Reinforcement Learning in its Multi-Agent extension 807
Tamal Sarkar

Advanced Convolutional Neural Network Model to Identify Melanoma Skin Cancer 813
Osim Kumar Pal, Dipta Paul, Ekram Hasan, Mahathir Mohammad, Md Abidul Hasan Bhuiyan and Foysal Ahammed

An advanced cuckoo search algorithm based-reliability improvement of an islanded microgrid 818
Duy Huynh, Loc Ho, Matthew Dunnigan and Corina Barbalata

Recommendations to increase the customer interaction of e-commerce applications with web usage mining 822
Pamuditha Rajapaksha and Dinesh Asanka

Genetic Algorithm based Feature Selection to Enhance Breast Cancer Classification 828
Utpal Kant Singh and Minakhi Rout

Machine Learning Model to Detect Chronic Leukemia in Microscopic Blood Smear Images 833
Ashwini P. Patil and Manjunatha Hiremath

Sentiment Analysis on Educational Tweets: A Case of National Education Policy 2020 837

Mohammad Mustafa Siddique and Sandeep Kumar

Modified Support Vector Machine to Improve Diabetic Disease Prediction 843
V Vijaya Kishore, V Kalpana and M Jayalakshmi

Twitter Sentiment Analysis using Machine Learning Techniques: A Case Study of ChatGPT 847
Sandeep Kumar and Rajani Kumari

Author Index 852