2022 OITS International Conference on Information Technology (OCIT 2022)

Bhubaneswar, India 14 – 16 December 2022



IEEE Catalog Number: CFP22AV4-POD ISBN: 978-1-6654-9349-9

Copyright © 2022 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:
 CFP22AV4-POD

 ISBN (Print-On-Demand):
 978-1-6654-9349-9

 ISBN (Online):
 978-1-6654-9348-2

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



2022 OITS International Conference on Information Technology (OCIT) OCIT 2022

Table of Contents

Message from the General Chairsxvii	
Message from the Program Chairs xix	
Organizing Committee xxi	
Steering Committeexxiii	
Technical Program Committeexxiv	
Track Chairsxxvi	Tı
Artificial Intelligence, Machine Learning, and Deep Learning (AMD) Compound Sentence and Pronoun Generation in Sanyog: An Iconic Communication System for People with Speech and Motor Impairments	C
Abnormal ECG Detection using Optimized Boosting Tree Classifier	A
Optimization Methods for Soybean Crop Disease Classification: A Comparative Study	O
Detection of Lung Cancer using CT-Scan Image - Deep Learning Approach	D
Grocery Recommendation using Improvised Apriori Algorithm	G
Classification Model for Heart Disease Prediction using Correlation and Feature Selection Techniques	

Autoencoders Learning Sparse Representation	. 35
Analysis on Speech-Emotion Recognition with Effective Feature Combination	. 38
HybridSSCN: Analysis Of Hierarchical Feature Learning Architecture using Blended Conv3D And DepthwiseConv2D For Hyperspectral Image Classification	.43
An Adoptive Heart Disease Prediction Model using Machine Learning Approach	. 49
VocabGCN-BERT: A Hybrid Model to Classify Disaster Related Tweets	. 55
A Comparative Study Of Abstractiveness In Summarization Evaluation Praveenkumar Katwe (International Institute of Information Technology, India), Rakesh Chandra Balabantaray (International Institute of Information Technology, India), Kali Prasad Vittala (Global Customer Success, Informatica, India), Rohit Vardhan (International Institute of Information Technology, India), and Shravan Patil (International Institute of Information Technology, India)	.61
Performance Analysis of Various Cancers using Genetic Data with Variance Threshold	. 67
Personalized Instant Messaging UI Design for Elderly	. 73
Missing Link Identification from Node Embeddings using Graph Auto Encoders and its Variants Binon Teji (Sikkim University, India) and Swarup Roy (Sikkim University, India)	79
Alcohol Consumption Rate Prediction using Machine Learning Algorithms	85
Sleep Stress Level Classification Through Machine Learning Algorithms Abhyudaya Batabyal (KIIT Deemed to be University, India), Vinayak Singh (KIIT Deemed to be University, India), Mahendra Kumar Gourisaria (KIIT Deemed to be University, India), and Himansu Das (KIIT Deemed to be University, India)	. 91

Effort Estimation of Software Products by using UML Sequence Models with Regression Analysis	97
Pulak Sahoo (Silicon Institute of Technology, India), Dayal Kumar Behera (Silicon Institute of Technology, India), J. R. Mohanty (KIIT Deemed to be University, India), and Ch. Sanjeev Kumar Dash (Silicon Institute of Technology, India)	
Text Classification using Machine Learning Techniques: Comparative Analysis)2
eSeiz 2.0: An IoMT Framework for Accurate Low-Latency Seizure Detection using Pulse Exclusion Mechanism)8
Text Summarization using Textrank and Lexrank Through Latent Semantic Analysis	13
Hybrid Classification Method for Plant Disease Detection	ا9
Using of Machine Learning Techniques to Detect Credit Card Frauds 12 <i>Yogesh Gupta (BML Munjal University, Gurugram, India)</i>	24
ELMVDP: Extreme Learning Based Virtual Data Position Exploration and Incorporation Method for Escalation of Time Series Forecasting Accuracy	
Malayalam Character Recognition from Palm Leaves using Deep-Learning	34
Diabetic Retinopathy Detection using an Improved ResNet 50-InceptionV3 and Hybrid DiabRetNet Structures	ŧО
Towards Exploring Deep Features for Efficient Melanoma Diagnosis in Dermoscopic Images 14 Himanshu K Gajera (Sardar Vallabhbhai National Institute of Technology, India), Mukesh A. Zaveri (Sardar Vallabhbhai National Institute of Technology, India), and Deepak Ranjan Nayak (Malaviya National Institute of Technology, India)	ł6
Novel Particle Swarm Optimization Based Synthesis of an Optimal Beam Steerable Circular Antenna Array for Wireless Applications	52
Space and Applications of Artificial Intelligence	58

Detecting Long Non-Coding RNAs Responsible for Cancer Development	.64
Software Fault Prediction using Machine Learning Models	.70
Estimation of Air Quality Index of Brajarajnagar and Talcher Industrial Region of Odisha State: A Higher Order Neural Network Approach	.76
Comparative Performance Analysis of Genetic Algorithm and Differential Evolution for Optimization of Missile Gliding Trajectory	.81
Comparative Performance Analysis of Particle Swarm Optimization and Artificial Bee Colony Algorithm for Optimization of Missile Gliding Trajectory	.87
Covid-19 Identification Through Chest X-ray Images using Deep Learning Classifiers	.93
Semi Supervised Approach for Relation Extraction in Agriculture Documents	.99
Optimizing Defect Removal Efficiency by Defect Prediction using Machine Learning	<u>'</u> 05
Human Activity Recognition Based on Stacked Autoencoder with Complex Background Conditions	<u>'</u> 11

A Transfer Learning Approach for Diagnosis of COVID-19 Cases from Chest Radiography Im 217	ages
Amiya Kumar Dash (International Institute of Information Technology, India), Puspanjali Mohapatra (International Institute of Information	
Technology, India), and Niranjan Kumar Ray (KIIT Deemed to be University, India)	
Analysis of Multi-Class Weather Classification using Deep Learning Models and Machine Learning Classifiers	. 223
Silky Goel (University of Petroleum and Energy Studies, India), Snigdha Markanday (University of Petroleum and Energy Studies, India), and Shlok Mohanty (University of Petroleum and Energy Studies, India)	
Artificial Intelligence Based Indian Sign Language Recognition with Accelerated Performance Under HPC Environment Niranjan Panigrahi (Department of CSE, Center of Excellence, High Performance Computing Lab, Parala Maharaja Engineering College, India)	. 228
A Framework of Customer Review Analysis using the Aspect-Based Opinion Mining Approa 233 Subhasis Dasgupta (Praxis Business School, India) and Jaydip Sen	ch
(Praxis Business School, India)	
Neural Machine Translation for Kashmiri to English and Hindi using Pre-Trained Embedding 238	ζs
Shailashree K Sheshadri (Amrita School of Computing, India), Deepa	
Gupta (Amrita School of Computing, India), and Marta R Costa-Jussà (TALP Research Center, Universitat Politècnica de Catalunya - UPC, Spain)	
Semantic Segmentation of Retinal Vessels using Deep Learning Approach Aakarsh Arora (KIIT Deemed to be University, India), Utkrisht Singh (KIIT Deemed to be University, India), Mahendra Kumar Gourisaria (KIIT Deemed to be University, India), and Rajdeep Chaterjee (KIIT Deemed to be University, India)	244
Hybrid Regression Tree	250
Monalisa Jena (Fakir Mohan University, India), Asit Patra (Fakir Mohan University, India), Bijaya Kumar Sahoo (Fakir Mohan University, India), and Satchidananda Dehuri (Fakir Mohan University, India)	
Abstractive Summarization of Indian Legal Judgments Priyanka Prabhakar (Amrita Vishwa Vidyapeetham, India), Deepa Gupta (Amrita Vishwa Vidyapeetham, India), and Peeta Basa Pati (Amrita Vishwa Vidyapeetham, India)	256
Automate Descriptive Answer Grading using Reference Based Models	. 262
Classification of Agriculture Crops using Transfer Learning	268
A Distinguished Method for Network Intrusion Detection using Random Initialized Viterbi Algorithm in Hidden Markov Model	. 273

A Deep Learning Approach for Emotion Based Music Player	278
Natural Question Generation using Transformers and Reinforcement Learning	283
A Hybrid Evolutionary Model for Stock Price Prediction using Grey Wolf Optimizer	289
Somali Extractive Text Summarization Ahmed Iman Seid (KIIT Deemed to be University, India), Abdiqani Abdullahi Abdisalan (School of Computer Applications KIIT Deemed to be University, India), Mustafe Mohamed Abdulahi (School of Computer Applications KIIT Deemed to be University, India), Shantipriya Parida (SILO AI, Finland), and Satya Ranjan Dash (School of Computer Applications KIIT Deemed to be University, India)	. 295
Distributed Self Intermittent Fault Outlier Identification Technique for WSNs	. 301
Fractal Image Compression Based on Discrete Wavelet Transform	. 307
A Reinforced Active Learning Sampling for Cybersecurity NER Data Annotation	312
Novel Framework for Identifying Anomalies in High Volume of Data using Robust Machine Learning Algorithm	. 318
A Multi-Linguistic Fake News Detector on Hindi, Marathi and Telugu	. 324
Radial Basis Neural Networks for Class Discovery Ajit Kumar Behera (Silicon Institute of Technology, India), Jasaswi Prasad Mohanty (School of Computer Engineering KIIT Deemed to be University, India), Ch. Sanjeev Kumar Dash (Silicon Institute of Technology, India), and Satchidananda Dehuri (Fakir Mohan University, India)	. 330

Data Science (DSC)

Transformational Leadership Sasmita Rani Samanta (Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, India), Pradeep Kumar Mallick (KIIT Deemed to be University, India), and Jyotiranjan Gochhayat (Kalinga Institute of Industrial Technology (KIIT) Deemed to be University, India)	335
Symptoms Prediction of Tuberculosis using Soft Computing Technique	343
Prediction of Unemployment using Machine Learning Approach Moupali Sen (University of Engineering and Management, India), Shreya Basu (University of Engineering and Management, India), Arijit Chatterjee (University of Engineering and Management, India), Anwesha Banerjee (University of Engineering and Management, India), Saheli Pal (University of Engineering and Management, India), Pritam Kumar Mukhopadhyay (University of Engineering and Management, India), Stobak Dutta (University of Engineering and Management, India), and Arunabha Tarafdar (University of Engineering and Management, India)	348
Maize Plant Disease Classification using Optimized DenseNet121	353
School of Engineering, India)	
An Improvised Way To Automate Logistic Payment Block Process: A Case Study on R-Pa	
An Improvised Way To Automate Logistic Payment Block Process: A Case Study on R-Pa Block	359 usiness
An Improvised Way To Automate Logistic Payment Block Process: A Case Study on R-Pa Block	359 usiness
An Improvised Way To Automate Logistic Payment Block Process: A Case Study on R-Pa Block Sanjib Kumar Mishra (C.V. Raman Global University, India), Sasmita Mishra (C.V. Raman Global University, India), and Rojalina Priyadarshini (C.V. Raman Global University, India) An Automation Framework for Supply Chain Inventory Management using Predictive Ba Analytics Siddharth S. Rautaray (Kalinga Institute of Industrial Technology (Deemed to be University), India), Manjusha Pandey (Kalinga Institute of Industrial Technology (Deemed to be University), India), Indrashis Das (Kalinga Institute of Industrial Technology (Deemed to be University), India), Bharat Sharma (Kalinga Institute of Industrial Technology (Deemed to be University), India), and Sarita Mishra (Kalinga Institute of Industrial Technology (Deemed to be University),	usiness 364

Networking and Information Security (NIS)

Application of Random Forest Classifier for Prevention and Detection of Distributed Denial of Service Attacks
Power Solutions for Wireless Sensor Network
Device Discovery Approaches in D2D Communication: A Survey
Device Fingerprinting in Wireless Networks using Deep Learning
Improved Affinity Propagation Clustering for D2D Communication in 5G
Rabin Cryptosystem Based Biometric Privacy-Preserving User Authentication Scheme for IoT Devices over Cloud
AI-Based Block Identification and Classification in the Blockchain Integrated IoT
Edge Intelligence Based Mitigation of False Data Injection Attack In IoMT Framework
Performance Evaluation of DP-QPSK Modulation for Underwater Optical Wireless Communication using a Green Light Propagation
A Study on Performance Comparison of Algorithms for Detecting the Flooding DDoS Attack 43: Praful R. Pardhi (KIIT Deemed to be University Bhubaneswar, India; Shri Ramdeobaba College Of Engineering Management, India), Jitendra Kumar Rout (National Institute of Technology, India), and Niranjan Kumar Ray (KIIT Deemed to be University, India)
Systematic Survey on Security Issues in Cognitive Wireless Sensor Networks (CWSN)

Coverage of Targets in Mobile Sensor Networks with Limited Mobility	ŀ5
Sequential, Parallel, Distributed and Cloud Computing (PDC)	
A Systematic Literature Survey on Data Security Techniques in a Cloud Environment	51
Integrity Constraint Verification of Structured Query Language by Abstract Interpretation 45 Anwesha Kashyap (Indian Institute of Information Technology, India) and Angshuman Jana (Indian Institute of Information Technology, India)	57
A Novel Optimization Strategy For Computation Offloading in the UAV-Assisted Edge Computing	22
Khatsuria Yash Vijaybhai (National Institute of Technology Goa, India), Venkateswararao Kuna (National Institute of Technology Goa, India), Tejas Modi (National Institute of Technology Goa, India), and Pravati Swain (National Institute of Technology Goa, India)	,,,
Cloud GIS Model for Geospatial Bigdata Visualization Towards Smart City: A Case Study of Bhubaneswar, Odisha	59
Deadline-Sensitive Workflow Scheduling with On-Demand and Spot Instances in the Cloud 47 Anurina Tarafdar (University of Calcutta, India), Rajib K Das (University of Calcutta, India), and Sunirmal Khatua (University of Calcutta, India)	⁷ 4
Extended Folded Cube with Cross Connection: A New Fault Tolerant Interconnection Network	20
for Parallel Computing	5 U
Fog-QKD: Towards Secure Geospatial Data Sharing Mechanism in Geospatial fog Computing System Based on Quantum Key Distribution	35
Reverse ETL for Improved Scalability, Observability, and Performance of Modern Operational Analytics - A Comparative Review) 1
Efficient Task-Offloading in IoT-Fog Based Health Monitoring System 49 Arti Gupta (Indian Institute of information Technology, India) and Vijay Kumar Chaurasiya (Indian Institute of Information Technology, India)	€
ECG Compression using Decomposed Transform for E-Healthcare)1

Power, Smart Grid and Internet of Things (PSI)

Power Cognizant Optimization Techniques for Green Cloud Systems	7
An IOT Solution for Cattle Health Monitoring and Tracking	3
Adaptive Resource Provisioning for Smart Home using Fog Computing	9
Techno-Economic Analysis on Solar and Wind Assisted Standalone Microgrid	5
iHELM:An IoT-Based Smart Helmet for Real-Time Motorbike Accident Detection and Emergency Healthcare Services	
A Brief Analysis on Routing Models for Efficent Data Transmission in Smart Grid	7
Predicting Daily Household Energy Usages by using Model Agnostic Language for Exploration and Explanation	3
Artificial Intelligence and Computer Vision for Critical Application (ACVCA)	ıs
Facial Expression Recognition using DenseNet	8
Controller Free Hand Interaction in Virtual Reality	3

Transformer Based Technique for High Resolution Image Restoration	558
Comparative Analysis of ControlGAN and ControlGAN-GP Models Based Text-to-Image Synthesis	
Dikshya Surabhi Patra (Sambalpur University Institute of Information Technology, India) and Subhransu Padhee (Sambalpur University Institute of Information Technology, India)	504
Fast Image Convolution and Pattern Recognition using Vedic Mathematics on Field Programmable Gate Arrays (FPGAs) Jagadish Nayak (BITS Pilani Dubai Campus, UAE) and Smitha Bhat Kaje (BITS Pilani Dubai Campus, UAE)	569
A YCbCr Model Based Shadow Detection and Removal Approach On Camouflaged Images Isha Padhy (CV Raman Global University, CBIT, India), Priyadarshi Kanungo (CV Raman Global University, India), and Sampa Sahoo (CV Raman Global University, India)	574
Vision-Based Traffic Hand Sign Recognition for Driver Assistance	580
Vision-Based Detection of Hospital and Police Station Scene Jyoti Madake (Vishwakarma Institute of Technology, India), Shivani Shinde (Vishwakarma Institute of Technology, India), Abhijeet Shirsath (Vishwakarma Institute of Technology, India), Niranjan Tapasvi (Vishwakarma Institute of Technology, India), Shripad Bhatlawande (Vishwakarma Institute of Technology, India), and Swati Shilaskar (Vishwakarma Institute of Technology, India)	588
Visualization of 3D Point Clouds for Vehicle Detection Based on LiDAR and Camera Fusion Jyoti Madake (Vishwakarma Institute of Technology, India), Rushikesh Rane (Vishwakarma Institute of Technology, India), Rohan Rathod (Vishwakarma Institute of Technology, India), Alfisher Sayyed (Vishwakarma Institute of Technology, India), Shripad Bhatlawande (Vishwakarma Institute of Technology, India), and Swati Shilaskar (Vishwakarma Institute of Technology, India)	594
Blockchain Technology in IOT Based Emerging Applications (BTI	E A)
Deployment Automation For Blockchain Enabled IoMT Kalyan Srinivas Abburu (International Institute Of Information Technology - Bhubaneswar, India), Deepa Vikram (International Institute Of Information Technology - Bhubaneswar, India), Suraj Sharma (Guru Ghasidas Vishwavidyalaya, India), and Rakesh Kumar Lenka (International Institute Of Information Technology - Bhubaneswar, India)	599

Adoption of Blockchain-Fog-IoMT Framework in Healthcare 4.0 Digital Revolution Soubhagya Ranjan Mallick (IIIT Bhubaneswar, India), Suraj Sharma (IIIT Bhubaneswar, India), Pradyumna Kumar Tripathy (Silicon Institute of Technology, India), and Niranjan Kumar Ray (KIIT Deemed to be University, India)	603
A Reward-Based Framework for Recovery and Utilization of Recyclable Wastes using Blockchain Yagnyasenee Sen Gupta (NIT Silchar, India) and Shyamapada Mukherjee (NIT Silchar, India)	609
IncentiveChain: Blockchain Crypto-Incentive for Effective Usage of Power and Water in Smart Farming	614
Blockchain Base Solution for Trust Management Challenges Internet of Things Application Savithri Gajjala (Dr. YSR Architecture and Fine Arts University, India; Koneru Lakshmaiah Education Foundation, India) and N.Raghavendra Sai (Koneru Lakshmaiah Education Foundation, India)	6 2 0
PharmaChain 3.0: Blockchain Integrated Efficient QR Code Mechanism for Pharmaceutical Supply Chain Anand Kumar Bapatla (University of North Texas, USA), Saraju P. Mohanty (University of North Texas, USA), Elias Kougianos (University of North Texas, USA), and Deepak Puthal (Khalifa University, UAE)	625
Author Index	631