2023 IEEE 13th Annual Computing and Communication Workshop and Conference (CCWC 2023)

Virtual Conference 8-11 March 2023

Pages 1-667



IEEE Catalog Number: ISBN:

CFP23CWA-POD 979-8-3503-3287-2

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:CFP23CWA-PODISBN (Print-On-Demand):979-8-3503-3287-2ISBN (Online):979-8-3503-3286-5

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



Content

\$E\$\$10 570876249 570878904 570876652 570878963 570878452	A Coding Translation to Increase the Efficiency of Programmatic Data Analyses MGM for Aggregated General Distribution Queuing System in discrete time Radar Target Identification Using Multiclass Sparse Centroids Parallel Computing of the FFT and of Spectral Filtering With Few to No Complex-Valued Operations Is the Residential Sector Ready for Prescriptive Maintenance? A Short Analysis Distributed D2D Resource Allocation for	0001 0005 0009 0014
570878904 570876652 570878963 570878452	Efficiency of Programmatic Data Analyses MGM for Aggregated General Distribution Queuing System in discrete time Radar Target Identification Using Multiclass Sparse Centroids Parallel Computing of the FFT and of Spectral Filtering With Few to No Complex-Valued Operations Is the Residential Sector Ready for Prescriptive Maintenance? A Short Analysis	0005 0009 0014
570876652 570878963 570878452	Queuing System in discrete time Radar Target Identification Using Multiclass Sparse Centroids Parallel Computing of the FFT and of Spectral Filtering With Few to No Complex-Valued Operations Is the Residential Sector Ready for Prescriptive Maintenance? A Short Analysis	0009
570878963 570878452	Multiclass Sparse Centroids Parallel Computing of the FFT and of Spectral Filtering With Few to No Complex-Valued Operations Is the Residential Sector Ready for Prescriptive Maintenance? A Short Analysis	0014
570878452	Spectral Filtering With Few to No Complex-Valued Operations Is the Residential Sector Ready for Prescriptive Maintenance? A Short Analysis	
	Prescriptive Maintenance? A Short Analysis	0022
570878590	Distributed D2D Resource Allocation for	
	Reducing Interference in Ultra-Dense Networks With Generic Imperfection	0029
SESSIC	ON 2: ALGORITHMS AND THEORY	
570879050	Performance Analysis of Self-Learning Forwarding Algorithms for Vehicle-To- Vehicle Networks on Named Data Networking (NDN)	0035
570879369	Electric Vehicle (EV) Preventive Diagnostic System: Solution for Thermal Management of Battery Packs Using AIOT	0041
570879371	Career Support Platform for Older Adults Powered by Al	0047
570879491	Watson-Crick Grammar and Its Label Languages	0054
570879637	Investigating the Performance of Steepest Descent, Newton-Raphson, and Fletcher- Reeves Algorithms in Unconstrained Minimization Problems	0061
	ואווווווווווווווווווווווווווווווווווווו	
5	70879637	70879637 Investigating the Performance of Steepest Descent, Newton-Raphson, and Fletcher-

03.1	1570880863	Face Recognition Based on Point Cloud Data Captured by Low-Cost mmWave Radar Sensors	0076
03.2	1570879067	Autonomous Vehicle Driving Path Control With Deep Reinforcement Learning	0084
03.3	1570879071	Process Proportional-Integral PI Control With Deep Reinforcement Learning	0093
03.4	1570875785	Reinforcement Learning for a Raspberry Pi Smart Car for Lane Detection Using OpenCV	0102
03.5	1570882596	Investigating the Usability Issues in Mobile Applications Reviews Using A Deep Learning Model	0108
03.6	1570880169	Hybrid Quantum-Classical Machine Learning for Near Real-Time Space to Ground Communication of ISS Lightning Imaging Sensor Data	0114
	SESSION 4: BI	IG DATA AND BIOMEDICAL COMPUTI	NG
04.1	1570876225	Optimizing Edge-Cloud Synergy for Big Data Analytics	0123
04.2	1570875444	The Link Between a User's Religion and Mis/Disinformation Vulnerability	0129
04.3	1570879034	Blockchain Development in Colab: An Ethereum-Based Bicycle Registry System	0134
04.4	1570879543	Multi-Source Pandemic Data Visualizationand Synchronization for Information Extraction	0140
04.5	1570879584	Preliminary Analysis of Multimodal Datasets for Detecting Online COVID Misinformation	0147
04.6	1570879269	EEG and fNIRS Analysis Using to Determine Stress Levels Resulting From Reaction Time Tests	0154
S	ESSION 5: ARTIFIC	TAL INTELLIGENCE AND MACHINE L	EARNING
05.1	1570879671	Using Reinforcement Learning to Train GenerativeAdversarial Networks for Image Generation	0160
05.2	1570876810	An Enhanced Segmentation and Deep LearningArchitecture for Early Diabetic Retinopathy Detection	0168
05.3	1570879275	Explainable Neural Network Recognition of Handwritten Characters	0176
05.4	1570879001	A Systematic Review on Artificial Intelligence Models Applied to Prediction in Finance	0183

05.5	1570879252	Deep Learning Applications in BCI Based Lie Detection	0189		
SESSION 6: CLOU	<u> </u>	NG ,COMPUTATIONAL INTELLIGENC ARCHITECTURE	E AND COMPUTER		
06.1	1570879515	Development of A Smart Non-Invasive Glucose Monitoring System With SpO2 and BPM for Diabetic Patient	0193		
06.2	1570879914	Smart Supply Chain Management With Attribute-Based Encryption Access Control	0198		
06.3	1570880955	Latency and Reliability Aware SDN Controller: A Role Delegation Function as aService	0205		
06.4	1570875559	Higher Order Sliding Mode Control for Speed Control of BLDC Motor	0212		
06.5	1570879010	FPGA-Based Digital FIR Filters With Small Coefficients and Large Data Input	0218		
SESSION	N 7: ARTIFIC	IAL INTELLIGENCE AND MACHINE L	EARNING		
07.1	1570879263	Incorporating an Integrated Software System for Stroke Prediction Using Machine Learning Algorithms and Artificial Neural Network	0222		
07.2	1570878344	Generatively Augmented Neural Network Watchdogfor Image Classification Networks	0229		
07.3	1570875590	Sensor Tracking System Using Radar and ObjectDetection	0238		
07.4	1570875591	Image Segmentation and Anomaly Detection Using Doppler Data From Coffee-Can Radar	0242		
07.5	1570880400	Inductive Link Prediction Banking Fraud Detection System Using Homogeneous Graph-Based MachineLearning Model	0246		
07.6	1570879305	Camera With Artificial Intelligence of Things (AIoT) Technology for Wildlife Camera Trap System	0252		
07.7	1570877931	Road Curb Detection Based on a Deep LearningFramework	0259		
SESSION 8	SESSION 8: COMPUTER GRAPHICS, SIMULATION AND CRYPTOGRAPHY				
08.1	1570880584	Design of an Automated Digital Water Tank Heating System	0263		
08.2	1570879329	Metal-Organic Frameworks and Porphyrins for Water Filtration Using Density Functional Theory	0268		
08.3	1570877920	Implementing Privacy on Public DigitalDisplays Using Smart Glasses	0274		

08.4	1570879339	Study on Modified Public Key Cryptosystem Based on ElGamal and Cramer-Shoup Cryptosystems	0280
08.5	1570879617	Security Analysis of Ransomware: A DeepDive Into WannaCry and Locky	0285
08.6	1570880061	Towards Information Security Using GNU Privacy Guard	0295
SESSION 9	: EMBEDDEI	O SYSTEMS, GREEN AND WIRELESS C	COMPUTING
09.1	1570873076	Out-Of-Band Analysis of GFDM SystemsBased on Different Self-Interference Types	0301
09.2	1570875077	Adaptive Token Circulation to Avoid Malicious UEs Hoarding Tokens and Assure D2D Relay Efficiency	0306
09.3	1570878340	Zero-Effort Two-Factor Authentication Using Wi-Fi Radio Wave Transmission and Machine Learning	0313
09.4	1570880508	Optimizing Smart Home Performance and User Convenience With RSSI-Based Proximity Detection	0319
SESSION	N 10: ARTIFIC	TAL INTELLIGENCE AND MACHINE L	EARNING
10.1	1570874335	Classification of Road Objects Using ConvolutionalNeural Networks	0326
10.2	1570878873	An IoT Intrusion Detection System Based on TON_IoT Network Dataset	0333
10.3	1570879285	Airbnb Rental Price Prediction Using Machine Learning Models	0339
10.4	1570878327	Machine Learning in Embedded Systems: Limitations, Solutions and Future Challenges	0345
10.5	1570880964	Prompting Large Language Models With the Socratic Method	0351
10.6	1570878330	Machine Learning Based Intrusion Detection for IoTEdge Devices	0361
SESSION	11: ARTIFIC	CIAL INTELLIGENCE AND MACHINE L	EARNING
11.1	1570879294	Recent Advances in Cybersecurity and Fraud Detection in Financial Services: A Survey	0368
11.2	1570880386	Recent Advances in Artificial Intelligence EnabledTutoring Systems: A Survey	0375
11.3	1570875577	Classification Challenges and Analysis of Traffic Patterns for Highly Congested Areas in < <area/> >	0382
11.4	1570878341	Applying Deep Reinforcement Learning for Detection of Internet-Of-Things Cyber Attacks	0389

11.5	1570878540	IoT Security: AI Blockchaining Solutions and	0396
11.5		Practices	0370
11.6	1570881016	Forecasting of Air Quality Index in San FranciscoUsing Machine Learning	0402
11.7	1570879041	Pragmatic Domestic Electrical Load Disaggregation	0412
SESSION	12: MULTIP	PROCESSOR , NLP AND PARALLEL ALC	GORITHMS
12.1	1570878824	Canny Edge Detection on GPU Using CUDA	0419
12.2	1570875665	Consumer Review Analysis Using NLP andData Mining	0426
12.3	1570875864	Evaluating Question Generation Models Using QA Systems and Semantic Textual Similarity	0431
12.4	1570876401	Transformation of Visual Information Into Bangla Textual Representation	0436
12.5	1570880731	An Efficient Parallel Divide-And-Conquer Algorithm for Generalized Matrix Multiplication	0442
	1570872409	Assessing the Impact of Matched Fragments'	
12.6	1570872409	Relative Locations on Application Artifact Inference	0450
		Relative Locations on Application Artifact	
		Relative Locations on Application Artifact Inference	
SESSION	13: ARTIFIC	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers	LEARNING
SESSION 13.1	13: ARTIFIC 1570876735	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images	LEARNING 0458
13.1 13.2	13: ARTIFIC 1570876735 1570876543	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers Predicting EURO Games Using an Ensemble Technique Involving Genetic Algorithms and	0458 0465
13.1 13.2 13.3	1570876735 1570876543 1570873921	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers Predicting EURO Games Using an Ensemble Technique Involving Genetic Algorithms and Machine Learning Deep Learning for Predictive Alerting and	0458 0465 0470
13.1 13.2 13.3	1570876735 1570876543 1570873921 1570878958	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers Predicting EURO Games Using an Ensemble Technique Involving Genetic Algorithms and Machine Learning Deep Learning for Predictive Alerting and Cyber-Attack Mitigation A Review on Breaking the Limits of Time Series	0458 0465 0470 0476
13.1 13.2 13.3 13.4 13.5	1570876735 1570876543 1570873921 1570878958 1570879196	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers Predicting EURO Games Using an Ensemble Technique Involving Genetic Algorithms and Machine Learning Deep Learning for Predictive Alerting and Cyber-Attack Mitigation A Review on Breaking the Limits of Time Series Forecasting Algorithms A Comparison Study on Al Language Detector	0458 0465 0470 0476 0482
13.1 13.2 13.3 13.4 13.5	1570876735 1570876735 1570876543 1570873921 1570878958 1570879196	Relative Locations on Application Artifact Inference CIAL INTELLIGENCE AND MACHINE I Informational Query Detection on Social Media Posts in Bengali Language Using Machine Learning and Transfer Learning Techniques Classification of Lung Chest X-Ray Images UsingDeep Learning With Efficient Optimizers Predicting EURO Games Using an Ensemble Technique Involving Genetic Algorithms and Machine Learning Deep Learning for Predictive Alerting and Cyber-Attack Mitigation A Review on Breaking the Limits of Time Series Forecasting Algorithms A Comparison Study on Al Language Detector	0458 0465 0470 0476 0482

14.3	1570879224	The Metaverse and Conversational AI as a Threat Vector for Targeted Influence	0504
14.4	1570879270	Data Analytics of Network Intrusion Based on Deep Neural Networks With Weights Initialized by Stacked Autoencoders and Deep BeliefNetworks	0511
14.5	1570879243	Analysis of Well-Known DNS Over HTTPS Resolvers	0516
14.6	1570879601	Template Attack Against AES in Counter Mode With Unknown Initial Counter	0525
SESSION	15: ARTIFIC	CIAL INTELLIGENCE AND MACHINE I	LEARNING
15.1	1570873464	MediSearch: Advanced Medical Web Search Engine	0534
15.2	1570874316	Mobile App for the Information Management of Pre-Existing Diseases Towards Preventing COVID-19 Severity	0541
15.3	1570874693	Performance Analysis of TensorFlow2 Object Detection API Models for Engineering Site Surveillance Applications	0547
15.4	1570874694	Forecast Analysis of Visibility for Airport Operations With Deep Learning Techniques	0553
15.5	1570880562	A Gradient Boosting Classifier to Predict Electric Power Consumption by Nuclear Power Plant	0559
15.6	1570875455	Application of LSTM Auto Encoder in Hardware Trojan Detection	0566
16.1	1570875203	Red Team Ethical Physical Penetration Testing Simulations Using Open Source Intelligence	0572
16.2	1570879609	Spectral Clustering of Virus Spread Through Computer Network	0579
16.3	1570873387	Eyes on the Road: A Survey on Cyber Attacks and Defense Solutions for Vehicular Ad-Hoc Networks	0585
16.4	1570879039	Cybersecurity in Malware Research	0593
16.5	1570879278	Activity-Attack Graphs for Intelligence- Informed Threat COA Development	0598
16.6	1570879281	Review of Ransomware Attacks and a Data Recovery Framework Using Autopsy Digital Forensics Platform	0605
16.7	1570878814	File Allocation Chronology and Its Impact on Digital Forensics	0612

SESSION	17: ARTIFIC	CIAL INTELLIGENCE AND MACHINE	LEARNING
17.1	1570875908	Automation of Buildings Using Sign Interpretation Language to Include People With Hearing Disabilities	0619
17.2	1570876056	Ensemble of Gated Recurrent Unit and Convolutional Neural Network Sarcasm Detection in Bangla	0624
17.3	1570876068	A New Potential-Based Reward Shaping for Reinforcement Learning Agent	0630
17.4	1570876082	A Transfer Learning Approach for Efficient Classification of Waste Materials	0636
17.5	1570876934	Optimize Path Planning for Drone-Based Wireless Power Transfer System by Categorized Reinforcement Learning	0641
17.6	1570876955	A Comparative Study of Machine Learning Algorithms for Detecting Breast Cancer	0647
SESSION 18:	INFORMATIO	ON THEORY , QoS AND WIRELESS CO	MMUNICATION
18.1	1570879448	System-Information Rationing of Digital Twins Accuracy	0653
18.2	1570880791	PAM Constellations Minimizing Symbol-Error Probability With Constrained Peak-To-Average Power Ratios	0661
18.3	1570880733	Bounds on Pairwise Error Probability for LDPC Coded CF-mMIMO System	0668
18.4	1570879610	Effect of Node Position and Human Activity on BER Performance and Data Throughput in Off- Body Medical Body Area Networks	0674
18.5	1570883591	Analyzing Affect During Virtual Meetings to Improve Quality of Interaction	0678
18.6	1570879597	PAPR Reduction Techniques for MC-CDMA System	0682
18.7	1570880739	System Monitoring and Data Logging Using PLX-DAQ for Solar-Powered Oil Well Pumping	0690
SESSION	19: ARTIFIC	CIAL INTELLIGENCE AND MACHINE	LEARNING
19.1	1570877919	Data Science Analysis of Malicious Advertisements and Threat Detection Automation for Cybersecurity Progress	0695
19.2	1570878112	Electroencephalogram-Based Emotion Recognition With Hybrid Graph Convolutional Network Model	0705
19.3	1570878133	Unsupervised Network Intrusion Detection Using Convolutional Neural Networks	0712

	•		
19.4	1570878265	Speech Emotion Recognition for Psychotherapy: An Analysis of Traditional Machine Learning and Deep Learning Techniques	0718
19.5	1570878277	Detecting Hate Speech on Social Media With Respect to Adolescent Vulnerability	0724
19.6	1570878326	Wildfire Time Estimation Using a Machine Learning Algorithms Interaction Mechanismfor Endemic Tree Species Recognition	0729
SESSIO	N 20: ARTIFIC	CIAL INTELLIGENCE AND MACHINE I	LEARNING
20.1	1570878507	A Machine Learning Model to Provide Early Warnings of Parkinson's Disease From Wearable Sensor	0734
20.2	1570878517	Soft Voting Strategy for Multi-Modal Emotion Recognition Using Deep-LearningMethods - Facial Images and EEG	0738
20.3	1570878518	A Framework Pipeline to Address Imbalanced Class Distribution Problem inReal-World Datasets	0746
20.4	1570878680	Non-Intrusive Load Monitoring Method for Appliance Identification Using RandomForest Algorithm	0754
20.5	1570878712	The Impact of Dynamic Adjustment of Swarm Behavior on Particle Swarm Optimization Performance Using Benchmark Functions	0758
20.6	1570878802	Automatic Detection of Microplastics in the Aqueous Environment	0768
SES	SION 21: BION	MEDICAL COMPUTING ,CLOUD COMP	UTING
21.1	1570879259	Design and Implementation Improvements for RFID Based Tactile Communication Devices	0773
21.2	1570879552	Introducing the Scientific Image Analysis Application: A Free and User-Friendly Program for Extracting Bioinformatics From Digital Images	0778
21.3	1570876129	A Survey on Data Integrity Attacks and DDoS Attacks in Cloud Computing	0788
21.4	1570879256	Using Cuckoo Filters to Improve Performance in Object Store-Based Very Large Databases	0795
21.5	1570877594	Development of an Movil IoT System Using ESP8266 for the Detection of Pollutants in the Environment	0801
21.6	1570879407	Cloud Service Misconfigurations: Emerging Threats, Enterprise Data Breaches and Solutions	0806

SESSION	22: ARTIFIC	CIAL INTELLIGENCE AND MACHINE I	LEARNING
22.1	1570878806	Multi-Agent-Based Simulation ofIntelligent Network System	0813
22.2	1570878964	Classification of Potato Disease With Digital Image Processing Technique: AHybrid Deep Learning Framework	0820
22.3	1570878986	Smartphone Context Event Sequence Prediction With POERMH and TKE-Rules Algorithms	0827
22.4	1570878990	Detecting Network Transmission Anomalies Using Autoencoders-SVM Neural Network on Multi-Class NSL-KDD Dataset	0835
22.5	1570879040	Wind Speed Forecasting for Designing Sustainable Wastewater Treatment Plants	0844
22.6	1570879043	Large-Scale Investigations of AAC Usage Patterns: Trends, Autism, and Stacked Autoencoders	0851
SESSION	23: ARTIFIC	CIAL INTELLIGENCE AND MACHINE I	LEARNING
23.1	1570879100	Sentiment Analysis of Social Media Comments in Mauritius	0860
23.2	1570879449	Machine Learning Based Cost Prediction for Acquiring New Customers	0866
23.3	1570879213	An Overview of Bengali Speech Recognition: Methods, Challenges, and Future Direction	0873
23.4	1570879220	A Multi-Modal Deep Learning Approach for Predicting Dhaka Stock Exchange	0879
23.5	1570879226	IoBT Intrusion Detection System Using Machine Learning	0886
23.6	1570879249	Active Learning Framework for Long-Term Network Traffic Classification	0893
23.7	1570879646	Explainable Autonomic Cybersecurity for Industrial Control Systems	0900
SESSION 24: CO	MPUTER AR	CHITECTURE AND VLSI, GRAPHICS, S MODELING	IMULATION AND
24.1	1570874690	Design of Energy Efficient Ring Oscillator and Full Adder Circuit Using Compact Modelof MoS2 Channel TFET	0907
24.2	1570875075	Experimental Analyses of a Noise-Based True Random Number Generator	0915
24.3	1570879019	Adaptive DFE Utilizing Fixed Step ErrorSignal for Multi-Gbps Serial Links	0919

24.4	1570879020	Sign-Sign LMS-Based Adaptive Decision Feedback Equalizer for 4PAM Multi-GpbsSerial	0923
		Links	
24.5	1570878948	Process Variation's Effect on Various Threshold Voltage Assignments in 6T SRAM Designs Using 12nm FinFET Technology	0928
24.6	1570879561	A Look Into the Vulnerabilities of ADS-B	0933
24.7	1570879080	Grouping Patients for Ridesharing in Non- Emergency Health Care Services	0939
S	ESSION 25: ARTIFIC	CIAL INTELLIGENCE AND MACHINE L	EARNING
25.1	1570879266	OC-SMOTE-NN: A Deep Learning-Based Approach for Imbalanced Classification	0943
25.2	1570879283	A Comparative Study of Machine Learning Classifiers to Analyze the Precision of Myocardial Infarction Prediction	0949
25.3	1570879317	Data Complexity for Identifying Suitable Algorithms	0955
25.4	1570879334	A Survey of Advanced Methods for Efficient Text Summarization	0962
25.5	1570879353	A Study of Text Summarization in the Medical Domain Using BERT and Its Variants	0969
25.6	1570879365	A Semi-Supervised Multi-Spike Learning Algorithm for Deep Spiking Neural Networks	0976
25.7	1570879631	Hearth Disease Detection Using ML	0983
	SESSION 26:	MOBILE AND WIRELESS COMPUTING	3
26.1	1570875628	Capacity Bounds Analysis of 5G Networks in Different Propagation Environments	0988
26.2	1570878172	Smart Cup for a Smart Pill Dispenser for Verification of Pill Consumption	0994
26.3	1570879045	Proposal of Client-Server Based Vertical Handover Scheme Using Virtual Routers for Edge Computing in Local 5G Networks and WLANs	0999
26.4	1570880690	User Optimum Locations in Cellular Networks for Tradeoff of Throughput and User Satisfaction	1005
26.5	1570880792	A Blockchain Application on Bootstrapping Mobile Nodes Within VANET	1011
26.6	1570883567	Benchmark Signals With Inter-Harmonics for the Development of Harmonic Estimation Methods	1017

26.7	1570879607	60 GHz Wi-Fi as A Tractor-Trailer Wireless Harness	1023	
SESSION 27: Al	RTIFICIAL IN	NTELLIGENCE AND MACHINE LEARN	ING, SECURITY	
27.1	1570879298	Post Prioritization Techniques to Improve Code Coverage for SARSA Generated Test Cases	1029	
27.2	1570879307	Secure Access Control for Healthcare Information Systems: A Body AreaNetwork Perspective	1036	
27.3	1570880497	Multi-Path Data Transmission to ProtectData in Transit	1046	
27.4	1570879455	CNN Based Study of Improvised FoodImage Classification	1051	
27.5	1570879457	Medical Radiology Image Processing for Pneumonia Detection Using Convolutional Neural Network	1058	
27.6	1570879475	Deep Semi-Supervised Learning With Contrastive Learning in Large Vocabulary Automatic Chord Recognition	1065	
		SESSION 28: ROBOTICS AND SECURIT	Y	
28.1	1570880297	A Review of Current Techniques for Robotic Arm Manipulation and Mobile Navigation	1070	
28.2	1570878134	Symbolic and Flat Affect Humanoid Head Design for Modular Humanoid Robots	1076	
28.3	1570878349	Cable-Driven Parallel Robot for Warehouse Monitoring Tasks	1085	
28.4	1570879614	Automation of Agave Americana L Fiber forthe Production of Reinforced Earthenware Blocks	1091	
28.5	1570879633	Mechatronic Design for Load-Bearing Masonry Construction Based on BIM Methodology	1098	
28.6	1570878334	A Blockchain-Based IoT Security Solution Using Multichain	1105	
SESSION 29: SYSTEMS AND SOFTWARE ENGINEERING, COGNITIVE NETWORKS AND CONTROL SYSTEMS				
29.1	1570879036	Integration of an IoT System for Monitoring the Thermal Comfort of a Barn With a Trombe Wall in the High Andean Areas	1112	
29.2	1570878190	FLODAREM: Intelligent Flood Detection and Dam Reservoir Monitoring System	1117	
29.3	1570878361	A Quantum Key Distribution Network Routing Performance Based on Software-Defined Network	1121	

29.4	1570879342	Infrastructure-As-Code in Open-Networking: Git, Ansible, and Cumulus-Linux Case Study	1126
29.5	1570879555	Avionics Design of a Sub-Orbital Launch and Recovery System	1132

SESSION 3	0: ARTIFICIA	AL INTELLIGENCE AND MACHINE LEARNING			
30.1	1570879505	A Discriminative DeepLab Model (DDLM) forSurface Anomaly Detection and Localization	1137		
30.2	1570879523	Analysis of Automated Skin Disease ClassificationExploiting Different Machine Learning Techniques	1145		
30.3	1570879553	A Low Parametric CNN Based Solution to EfficientlyDetect Brain Tumor Cells From Ultrasound Scans	1152		
30.4	1570879599	Identification of Motifs in Aptamers Using MEMEAnalysis to Aid Design of Aptasensors	1159		
30.5	1570879600	Predicting Motifs and Secondary Structure of Steroid Aptamers Using APTANI	1163		
30.6	1570879612	Fixed Wing UAV-Based Non-Terrestrial Networks for 5G Millimeter Wave Connected Vehicles	1167		
SESSION 31: SECURITY, AI ,SIGNAL AND IMAGE PROCESSING					
31.1	1570879657	Automatic Color Classification of Carrot (DaucusCarota) in Farming 4.0	1174		
31.2	1570880877	DS-HPE: Deep Set for Head Pose Estimation	1179		
31.3	1570879064	The Precise 3D Reconstruction of Human FacesBased on 2D Photograph	1185		
31.4	1570879567	Probability Density Functions of the Subspace-Based Direction of Arrival Estimators	1191		
31.5	1570876367	A Robust Sparse Fractal Array	1198		
31.6	1570876260	Continuous Time Digital Signal Processing and Signal Reconstruction	1205		
32.1	1570875259	Age of Information in Multichannel SlottedALOHA: Should Collided Users Send First?	1212		
32.2	1570880642	Full-Duplex mmWave Massive MIMO Systems With A Joint Self-Interference Cancellation Design Based on Zero-Space Projection and Angular Excluding	1218		
32.3	1570879638	A Survey of Data Dissemination Schemes inSecure Inter- Vehicle Communications	1224		

32.4	1570878726	Ultra-Wideband Edge Trimmed Bowtie Antenna for X-Band Radar Communication	1231
32.5	1570879241	New Reward-Clipping Mechanism in Deep-Learning Enabled Internet of Things in 6G toImprove Intelligent Transmission Scheduling	1236
32.6	1570878221	Compact Low-Pass Filtering-ResponseWilkinson Power Divider With Wide Harmonic Suppression	1243
32.7	1570878750	Performance of Battery-Free BackCom in Uplink NOMA Systems With Joint Detection	1250

SESSION 33: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING					
33.1	1570880926	Econometrics and Manufacturing Industries Retail Volumes Forecast	1256		
33.2	1570880936	Big Data Approach for IoT Botnet Traffic Detection Using Apache Spark Technology	1260		
33.3	1570880957	Predicting Chronic Kidney Disease Using Machine Learning Algorithms	1267		
33.4	1570880959	Interpretable Bangla Sarcasm Detection Using BERT and Explainable AI	1272		
33.5	1570881041	Short-Term Load Forecasting and Probability Estimation of V2G Connection Using MachineLearning	1279		
33.6	1570881073	Towards Inclusive Privacy Consenting for GDPR Compliance in Public Visual Surveillance Systems	1287		
33.7	1570879615	Machine Learning Based Pedestrian Detection and Tracking for Autonomous Vehicles	1294		
SESSION 34: CONTROL SYSTEMS , HUMAN COMPUTER INTERACTION					
34.1	1570877615	Proactive Actuator Update Management for Reliability Enhancement in Cyber-Physical Systems	1300		
34.2	1570880108	Design & Verification of AMBA AHB-Lite Memory Controller	1307		
34.3	1570881021	Design of an Automation System for the Production of Soil- Cement Blocks	1313		
34.4	1570875790	Exploring Technical Capabilities of UnmannedAerial Vehicles	1320		
34.5	1570881012	Mechatronic Design and Monitoring of a Tuned Mass Damper for Structural Vibration Isolation	1326		