

2023 International Conference on Computational Science and Computational Intelligence (CSCI 2023)

**Las Vegas, Nevada, USA
13 – 15 December 2023**

Pages 1-597



**IEEE Catalog Number: CFP2371X-POD
ISBN: 979-8-3503-7230-4**

**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:	CFP2371X-POD
ISBN (Print-On-Demand):	979-8-3503-7230-4
ISBN (Online):	979-8-3503-6151-3
ISSN:	2769-5670

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

2023 International Conference on Computational Science and Computational Intelligence (CSCI) **CSCI 2023**

Table of Contents

Message from the Co-Chairs	xI
Conference Committee	xlii
Program Committee	xliii

Research Track on Artificial Intelligence (CSCI-RTAI) Regular Research Papers

Siamese Networks for Autonomous Classification of Battlefield Ground Vehicles Using Acoustic Data	1
<i>Yao Houkpati (Bowie State University, USA), Kenneth M' Bale (Bowie State University, USA), Marvin Conn (US Army Research Lab, DEVCOM, USA), Geoffrey Goldman (US Army Research Laboratory, DEVCOM, USA), Tung-Duong Tran-Luu (US Army Research Laboratory, DEVCOM, USA), Sreenivasan Ramasamy Ramamurthy (Bowie State University, USA), and Darsana Josyula (Bowie State University, USA)</i>	
Examining GPT-4's Capabilities and Enhancement with SocraSynth	7
<i>Edward Y. Chang (Stanford University)</i>	
Large Language Model-Based Representation Learning for Entity Resolution Using Contrastive Learning	15
<i>Bi Foua (University of Arkansas at Little Rock, USA), John Talburt (University of Arkansas at Little Rock, USA), and Xiaowei Xu (University of Arkansas at Little Rock, USA)</i>	
Microarchitecture Characterization and Analysis of Emerging Neuro-Symbolic A.I. Workloads	23
<i>Patrick M. Stockton (The University of Texas at San Antonio, Texas), Cory Davis (The University of Texas at San Antonio, Texas), and Eugene John (The University of Texas at San Antonio, Texas)</i>	
Train Once, Match Everywhere: Harnessing Generative Language Models for Entity Matching	30
<i>Bi Foua (University of Arkansas at Little Rock, USA), Xingqiao Wang (University of Arkansas at Little Rock, USA), John Talburt (University of Arkansas at Little Rock, USA), and Xiaowei Xu (University of Arkansas at Little Rock, USA)</i>	

The Utility of Feature Reuse: Transfer Learning in Data-Starved Regimes	37
<i>Rashik Shadman (Clarkson University, USA), M. G. Sarwar Murshed (University of Wisconsin-Green Bay, USA), Edward Verenich (Air Force Research Lab, USA), Alvaro Velasquez (University of Colorado Boulder, USA), and Faraz Hussain (Clarkson University, USA)</i>	
A Deep Reinforcement Learning Based Approach for Bridge Health Maintenance	43
<i>Divija Swetha Gadiraju (University of Nebraska), Surya Rajalakshmi Muthiah (University of Nebraska), and Deepak Khazanchi (University of Nebraska)</i>	
Enhancing Drug Safety Documentation Search Capabilities with Large Language Models: A User-Centric Approach	49
<i>Jeffery Painter (GlaxoSmithKline, USA), Olivia Mahaux (GlaxoSmithKline, Belgium), Marco Vanini (GlaxoSmithKline, Belgium), Vijay Kara (GlaxoSmithKline, UK), Christie Roshan (GlaxoSmithKline, UK), Marcin Karwowski, Venkateswara Rao Chalamalasetti (GlaxoSmithKline, USA), and Andrew Bate (GlaxoSmithKline, UK)</i>	
A Method for Recovering on Unsupervised Domain Adaptation Models Compression	57
<i>Shou-Ping Wang (National Tsing Hua University, Taiwan), Erh-Chung Chen (National Tsing Hua University, Taiwan), Meng-Hsuan Yang (National Tsing Hua University, Taiwan), and Che-Rung Lee (National Tsing Hua University, Taiwan)</i>	
A Novel Use of Reinforcement Learning for Elevated Click-Through Rate in Online Advertising	64
<i>Umair Haider (Atilim University, Turkey) and Beytullah Yildiz (Atilim University, Turkey)</i>	
Mid-Term Seasonal Arctic Sea Ice Concentration Forecasting Based on CNN-ConvLSTM and Wavelet Multi-Scale Deep Learning Algorithms	71
<i>Andrew Li (Western Connecticut State University, USA) and Xiaodi Wang (Western Connecticut State University, USA)</i>	
LSTM-CNN Network for Audio Signature Analysis in Noisy Environments	78
<i>Praveen Damacharla (Kineticai Inc., USA), Hamid Rajabalipanah (Iran University of Science and Technology, Iran), and Mohammad Hosein Fakheri (Iran University of Science and Technology, Iran)</i>	
The Challenge of Partial Grounding in Constraint Compliance	83
<i>Steven Jones (Center for Integrated Cognition, USA) and Robert Wray (Center for Integrated Cognition, USA)</i>	
Creation and Analysis of a Natural Language Understanding Dataset for DoD Cybersecurity Policies (CSIAC-DoDIN V1.0)	91
<i>Ernesto Quevedo (Baylor University), Ana Paula Arguelles (Baylor University), Alejandro Rodriguez (Baylor University), Jorge Yero (Baylor University), Dan Pienta (University of Tennessee), Tomas Cerny (University of Arizona), and Pablo Rivas (Baylor University)</i>	
Spatio-Temporal Attention Graph Neural Network for Remaining Useful Life Prediction	99
<i>Zhixin Huang (Intelligent Embedded Systems, University of Kassel, Germany), Yujiang He (Intelligent Embedded Systems, University of Kassel, Germany), and Bernhard Sick (Intelligent Embedded Systems, University of Kassel, Germany)</i>	

Prediction of Credit Defaults Based on Weight Dimensionality Reduction Neural Network and M-Band Discrete Wavelet Transform	106
<i>Alejandro Mayorga (Western Connecticut State University, United States), Letian Wang (Western Connecticut State University, China), Xiaodi Wang (Western Connecticut State University, United States), and Wenke Sun (Western Connecticut State University, China)</i>	
Three-way Clustering: An Advanced Soft Clustering Approach	113
<i>JingTao Yao (University of Regina, Canada)</i>	
Leadership Challenges and Strategies in the Era of AI Transformation	119
<i>Satpreet Singh (National University)</i>	
Voice Signature Recognition for UAV Pilots Identity Verification	125
<i>Mokhles M. Abdulghani (Jackson State University, Mississippi), Wilbur L. Walters (Jackson State University, Mississippi), and Khalid H. Abed (Jackson State University, Mississippi)</i>	
Classification of Information Display Types Using Graph Neural Networks	130
<i>Yuehan Yin (La Salle University, USA), Michael P. McGuire (Towson University, USA), Yahya Alqahtani (Jazan University, Saudi Arabia), Jinjuan Heidi Feng (Towson University, USA), and Joyram Chakraborty (Towson University, USA)</i>	
Leveraging Chatbots for Mental Health Enhancement	137
<i>Anthony Diaz (Kean University, USA) and Daehan Kwak (Kean University, USA)</i>	
Decoding the Obfuscated: Advanced NER Techniques on Commercial Sex Advertisement Data	144
<i>Alejandro Rodriguez Perez (Baylor University), Pablo Rivas (Baylor University), Javier Turek (Intel Labs), Korn Sooksatra (Baylor University), Ernesto Quevedo (Baylor University), Gisela Bichler (California State University), Tomas Cerny (University of Arizona), Laurie Giddens (University of North Texas), and Stacie Petter (Wake Forest University)</i>	
Neural Network Structure for Tracking the Climate Temperature Change	152
<i>Irina Topalova (University of Telecommunication and Post, Bulgaria) and Pavlinka Radoyska (University of Telecommunication and Post, Bulgaria)</i>	
A Transfer Learning-Based New User Recognition for Minimizing Retraining Time in Edge Deep Learning	158
<i>Dong Hyuk Heo (Kyungpook National University, Republic of Korea) and Soon Ju Kang (Kyungpook National University, Republic of Korea)</i>	
Evaluating Ensembled Transformers for Multilingual Code-Switched Sentiment Analysis	165
<i>Saurav K. Aryal (Howard University, USA), Howard Prioleau (Howard University, USA), Gloria Washington (Howard University, USA), and Legand Burge (Howard University, USA)</i>	
SOCIALBERT A Transformer Based Model used for Detection of Social Engineering Characteristics.	174
<i>Michael Abobor (Bowie State University, USA) and Darsana P. Josyula (Bowie State University, USA)</i>	

Methodologies for Email Spam Classification Using Large Language Models	179
<i>Alejandro De La Noval (Florida International University, College of Engineering and Computing, USA), Diana Gutierrez (Florida International University, College of Engineering and Computing, USA), Jayesh Soni (Florida International University, College of Engineering and Computing, USA), Himanshu Upadhyay (Florida International University, College of Engineering and Computing, USA), Alexander Perez-Pons (Florida International University, College of Engineering and Computing, USA), and Leonel Lagos (Florida International University, College of Engineering and Computing, USA)</i>	
Scoping Review on Image-Text Multimodal Machine Learning Models	186
<i>Maisha Binte Rashid (Baylor University) and Pablo Rivas (Baylor University)</i>	
Benchmarking Current State-of-the-Art Transformer Models on Token Level Language Identification and Language Pair Identification	193
<i>Howard Prioleau (Howard University, USA) and Saurav K. Aryal (Howard University, USA)</i>	
An Evaluation of Tiered Machine Learning Framework to Predict Science Achievement Among Singapore Students	200
<i>Khanh Lin Nguyen (University of the Pacific, USA), Ta'Rhonda Mayberry (University of the Pacific, USA), Yang Liu (Shanghai Maritime University, China), Myint Swe Khine (Curtin University, Australia), and Vivek Pallipuram (University of the Pacific, USA)</i>	
Text Summarization Evaluation Using Semantic Probability Distributions	207
<i>Anh Le (Henry M. Gunn High School, USA), Fred Wu (West Virginia State University, USA), Lan Vu (Broadcom Inc, USA), and Thanh Le (UEH University, Vietnam)</i>	
Attribution Scores of BERT-Based SQL-Query Automatic Grading for Explainability	213
<i>Korn Sooksatra (Baylor University, USA), Bikram Khanal (Baylor University, USA), Pablo Rivas (Baylor University, USA), and Donald R. Schwartz (Marist College, USA)</i>	
Improving Public Health Policies with Indoor Air Quality Predictive Models	221
<i>Ariel Isaac Posada Barrera (Universidad Popular Autónoma del Estado de Puebla (UPAEP), Mexico), Laura Margarita Rodríguez Peralta (Universidad Popular Autónoma del Estado de Puebla (UPAEP), Mexico), Éldman de Oliveira Nunes (Centro Universitário SENAI/CIMATEC, Brasil), Paulo Nazareno Maia Sampaio (Universidade Salvador (UNIFACS), Brasil), and Fabian Leonardo Cuesta Astudillo (Universidad Politécnica Salesiana \ Ecuador; Universidad Popular Autónoma del Estado de Puebla (UPAEP), Mexico)</i>	
Systematic Literature Review of Machine Learning for IoT Security	227
<i>Prathibha Kiran Yemmanuru (University of Cincinnati, USA), Jones Yeboah (University of Cincinnati, USA), and Esther N. G. Khakata (University of Cincinnati, USA)</i>	
Artificial Intelligence in Cybersecurity: A Dual Nature Technology	234
<i>Abdulrahman Yarali (Murray State University, USA) and Christie Gora (University of Cumberlands, USA)</i>	

Students' Flexibility in Online Education Using Machine Learning	241
<i>Narendra Thokala (University of Cincinnati, USA), Jones Yeboah (University of Cincinnati, USA), and Isaac Kofi Nti (University of Cincinnati, USA)</i>	
Text Stream Classification: Literature Review and Current Trends	248
<i>Najet Medssia (University of Tunis El Manar, Tunisia), Minyar Sassi Hidri (Imam Abdulrahman Bin Faisal University, Saudi Arabia), and Ali Frihida (University of Tunis El Manar, Tunisia)</i>	
Leveraging Large Language Models for Web3D: Applications, Challenges, and Future Directions	254
<i>Vinayak Tanksale (Ball State University)</i>	
A Comparative Study of Machine Learning Techniques for Nuanced Weather Prediction	260
<i>Prashanth Reddy Gangula (University of Cincinnati, USA), Jones Yeboah (University of Cincinnati, USA), and Isaac Kofi Nti (University of Cincinnati, USA)</i>	
The Risks and Vulnerabilities of Artificial Intelligence Usage in Information Security	266
<i>Mohammed Mahmoud (University of Jamestown, USA)</i>	
Opinion Mining of Online Shopping Products Reviews Using Machine Learning	270
<i>Aashritha Arra (University of Cincinnati, USA), Jones Yeboah (University of Cincinnati, USA), and Isaac Kofi Nti (University of Cincinnati, USA)</i>	
A Training Sample Size Estimation for the Bayes Classifier	277
<i>Addisson Salazar (Universitat Politècnica de València, Spain), Luis Vergara (Universitat Politècnica de València, Spain), and Alberto Gonzalez (Universitat Politècnica de València, Spain)</i>	
Smart Temperature Management in Buildings Using Predictive Analysis by Machine Learning Algorithms	284
<i>Ritika Dharmkar (University of Cincinnati, USA), Jones Yeboah (University of Cincinnati, USA), and Isaac Kofi Nti (University of Cincinnati, USA)</i>	
Generative & Responsible AI – LLMs use in Differential Governance	291
<i>Atif Mohammad (Global Technology Solutions), Ram Agarwal (Global Technology Solutions), and Tony Columbo (Global Technology Solutions)</i>	

Research Track on Artificial Intelligence (CSCI-RTAI) Short Research Papers

Toward Gamification Design of Molecular-Level Filters Through Reinforcement Learning of Blackjack	296
<i>Ron Coleman (Marist College, Computer Science Dept) and Bashir Dahir (Marist College, Computer Science Dept)</i>	
CNN-DRL for Scalable Actions in Finance	302
<i>Sina Montazeri (University of North Texas, USA), Akram Mirzaeinia (Not affiliated, United Arab Emirates), Haseebullah Jumakhan (Not affiliated, United Arab Emirates), and Amir Mirzaeinia (University of North Texas, USA)</i>	

Enhancing the K-Means Algorithm Using Cluster Adjustment	307
<i>Fadi Yamout (Lebanese International University, Lebanon)</i>	
CNN- DRL with Shuffled Features in Finance	312
<i>Sina Montazeri (University of North Texas, USA), Akram Mirzaeinia (No Affiliated, United Arab Emirates), and Amir Mirzaeinia (University of North Texas, USA)</i>	
Using Deep Learning for Spatial and Temporal Analysis of Wildfire Start and Progression	318
<i>Pratyush Muthukumar (California State University Los Angeles, CA), Janmesh Kalra (California State University Los Angeles, CA), Shaurya Pathak (California State University Los Angeles, CA), Dawn Comer (City of Los Angeles, CA), Navid Amini (California State University Los Angeles, CA), Jeanne Holm (City of Los Angeles, CA), and Mohammad Pourhomayoun (California State University Los Angeles, CA)</i>	
Explainable LightGBM Approach for Predicting Myocardial Infarction Mortality	323
<i>Ana Leticia Garcez Vicente (University of São Paulo, Brazil), Roseval Donisete Malaquias (University of São Paulo, Brazil), and Roseli Aparecida Francelin Romero (University of São Paulo, Brazil)</i>	

Research Track on Artificial Intelligence (CSCI-RTAI) Poster/Extended Abstracts

Offline Multi-Agent Reinforcement Learning in Custom Game Scenario	329
<i>Indu Shukla (United States Army Corps of Engineers, United States), William R. Wilson (Louisiana Tech University, United States), Althea C. Henslee (United States Army Corps of Engineers, United States), and Haley R. Dozier (United States Army Corps of Engineers, United States)</i>	
An Endless Outpainting Tool Based on Stable Diffusion	332
<i>Peter Garrity (Wentworth Institute of Technology, USA) and Leonidas Deligiannidis (Wentworth Institute of Technology, USA)</i>	

Research Track on Computational Intelligence (CSCI-RTCI) Regular Research Papers

Predicting Elliott Flat and Zigzag Internal Shapes by Statistical Learning on Fibonacci Ratios	334
<i>Rafael Ribeiro dos Santos (University of Sao Paulo (USP), Brazil), Vanderlei Bonato (University of Sao Paulo (USP), Brazil), and Geraldo Nunes Silva (Sao Paulo State University (UNESP), Brazil)</i>	
MLMVN as a Frequency Domain Convolutional Neural Network	341
<i>Igor Aizenberg (Manhattan College, USA) and Alexander Vasko (Uzhhorod National University, Ukraine)</i>	
Using Explainable AI and Genetic Algorithms to Drive the Discovery of Novel Antiviral Molecules	348
<i>Vishakha Singh (IIT (BHU) Varanasi, India), Ritesh Sharma (Manipal Institute of Technology, India), Sushant Kumar (IIT (BHU) Varanasi, India), and Sanjay Kumar Singh (IIT (BHU) Varanasi, India)</i>	

Artificial Intelligence - Enabled Deep Learning Model for Diabetes Prediction Using Deep Belief Network with Bayesian Optimization	353
<i>Jide Ebenezer Taiwo Akinsola (First Technical University, Nigeria), Sunday Adeola Ajagbe (First Technical University, Nigeria), Emmanuel Ajayi Olajubu (Obafemi Awolowo University, Nigeria), Azeezat Oluwayemisi Lawal (First Technical University, Nigeria), Ganiyu Adesola Aderounmu (Obafemi Awolowo University, Nigeria), and Matthew Olusegun Adigun (University of Zululand, South Africa)</i>	
Improving Ensemble Regression Models Using Hybrid General Optimization Algorithm and Weighted Schema Based on Proportionate Selection	359
<i>Faisal Alkhateeb (University Of Bahrain-Bahrain and Yarmouk University-Irbid-Jordan)</i>	
Multi-Agent Reasoning with Large Language Models for Effective Corporate Planning	365
<i>Wen-Kwang Tsao (Trend Micro)</i>	
Problem-Solving Using Logic and Reasoning, Mathematics, Algorithms, Python and Generative AI	371
<i>Weizheng Gao (Elizabeth City State University, USA), Julian D. Allagan (Elizabeth City State University, USA), Shanzhen Gao (Virginia State University, USA), Jianning Su (Georgia State University, USA), Olumide Malomo (Virginia State University, USA), Ephrem Eyob (Virginia State University, USA), and Adeyemi Adekoya (Virginia State University, USA)</i>	

Research Track on Computational Intelligence (CSCI-RTCI) Short Research Papers

A Smart Particle Filter Technology for Battery State Estimation and Life Prediction	378
<i>Mohamed Ahwiadi (Lakehead University, Canada) and Wilson Wang (Lakehead University, Canada)</i>	
Water Quality Index (WQI) Prediction Using Machine Learning Algorithms	383
<i>Kunyanuth Kularbphetong (Suan Sunandha Rajabhat University, Thailand), Phanu Waraporn (Suan Sunandha Rajabhat University, Thailand), Nareenart Raksuntorn (Suan Sunandha Rajabhat University, Thailand), Rujijan Vivhivanives (Suan Sunandha Rajabhat University, Thailand), Chanyapat Sangsuwon (Suan Sunandha Rajabhat University, Thailand), and Chongrag Boonseng (King Mongkut's Institute of Technology Ladkrabang, Thailand)</i>	
Study on Filter Shape for Bio-Signals Training Data in CNN-Based HAR	388
<i>Gerelbat Batgerel (Soonchunhyang University, South Korea) and Chunki Kwon (Soonchunhyang University, South Korea)</i>	

Research Track on Computational Science (CSCI-RTCS) Regular Research Papers

Quantum Neural Network Classification-Based Cyber Threat Detection in Virtual Environment	391
<i>Saroapriya Tripathi (Florida International University, USA), Himanshu Upadhyay (Florida International University, USA), and Jayesh Soni (Florida International University, USA)</i>	

Practical Quantum Search by Variational Quantum Eigensolver on Noisy Intermediate-Scale Quantum Hardware	397
<i>Chen-Yu Liu (National Taiwan University, Taiwan)</i>	
Endurance-Aware Deep Neural Network Real-Time Scheduling on ReRAM Accelerators	404
<i>Shi Sha (Wilkes University, United States), Xiaokun Yang (University of Houston-Clear Lake, United States), Trent M. Szczecinski (Wilkes University, United States), Daniel Whitman (Wilkes University, United States), Wujie Wen (Wilkes University, United States), and Gang Quan (Florida International University, United States)</i>	
Understanding the Computational Complexity of Diverse Classes of Turing and Super-Turing Computational Models	411
<i>Ghada Abdelmoumin (Howard University, USA), Chunmei Liu (Howard University, USA), and Danda Rawat (Howard University, USA)</i>	
Improved Implementation and Analysis of an Algorithm to Count Graphical Partitions	420
<i>Kai Wang (Georgia Southern University, USA)</i>	
New Methods to Solve Difference Equations Automatically	427
<i>Jun Zhang (University of Maryland Eastern Shore, USA), Willie Brown (University of Maryland Eastern Shore, USA), and Ruzong Fan (Georgetown University, USA)</i>	
The Traveling Salesman Problem on the Hyperbolic Plane	433
<i>D. Ficzer (Department of Telecommunications and Artificial Intelligence), G. Hollósi (Department of Telecommunications and Artificial Intelligence), A. Frankó (Department of Telecommunications and Artificial Intelligence), P. Varga (Department of Telecommunications and Artificial Intelligence), and J. Biró (Department of Telecommunications and Artificial Intelligence; Budapest University of Technology and Economics, Hungary)</i>	
The Efficiency of Six Sigma in the Pharmaceutical Industry	438
<i>Ethan Bell (Bemidji State University, USA), Benjamin Vossen (Bemidji State University, USA), Ethan Tobin (Bemidji State University, USA), Derian Gerdes (Bemidji State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
An Efficient Dynamical Programming Algorithm for Bin Packing Problem	443
<i>Catherine Huyghe (University of Picardie Jules Verne, France), Stéphane Nègre (University of Picardie Jules Verne, France), and Mélanie Fontaine (University of Picardie Jules Verne, France)</i>	
Six Sigma Effectiveness for IT Businesses	450
<i>Ryan Erickson (Bemidji State University, USA), Mitchell Holmberg (Bemidji State University, USA), Thomas Rychart (Bemidji State University, USA), Tyler Busta (Bemidji State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
Feasible Applications of Quantum Computing in Varying Fields	454
<i>Elias Chamma (Bemidji State University, USA), Amber McGee (Bemidji State University, USA), Austin Gillmann (Bemidji State University, USA), Isaac McNallan (Bemidji State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	

Generating Pell Numbers	460
<i>Weizheng Gao (Elizabeth City State University), Julian Allagan (Elizabeth City State University), Shanzhen Gao (Virginia State University), Jianning Su (Georgia State University), Olumide Malomo (Virginia State University), Ephrem Eyob (Virginia State University), and Adeyemi Adekoya (Virginia State University)</i>	
Simulation and Visualization of Intelligent MIMO-ANFIS-Based Control System in Virtual Reality Using MATLAB and V-Rep	466
<i>Mokhles M. Abdulghani (Jackson State University, Mississippi), Wilbur L. Walters (Jackson State University, Mississippi), and Khalid H. Abed (Jackson State University, Mississippi)</i>	
LSU Factorization	472
<i>Gennadi Malaschonok (National University of Kyiv-Mohyla Academy, Ukraine)</i>	
Six Sigma and the Video Game Industry	479
<i>Zachary Nichols (Bemidji State University, USA), Yengchee Lor (Bemidji State University, USA), Wenjie Lin (Bemidji State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
Six Sigma in the Right to Repair	485
<i>Jordan Veldkamp (Bemidji State University, USA), Maxwell Fuller (Bemidji State University, USA), Harrison Segero (Bemidji State University, USA), Lucas Pritchett (Bemidji State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
Quantum Computing in Cryptography	490
<i>Deepika Kumari (Clark University, USA), Amrutha Namburi (Clark University, USA), Kvl Tanuj (Clark University, USA), Raju Rangu (Clark University, USA), Navyashree Kudhipudi Muniswamy Naidu (Clark University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	

Research Track on Computational Science (CSCI-RTCS) Short Research Papers

Data Clustering and Visualization with Recursive Goemans-Williamson MaxCut Algorithm	496
<i>An Ly (Claremont Graduate University, USA), Raj Sawhney (Claremont Graduate University, USA), and Marina Chugunova (Claremont Graduate University, USA)</i>	
Accelerating the Convergence in the Identification of PV Cells Parameters	501
<i>Carmen Elena Stoenoiu (Technical University of Cluj-Napoca, Romania) and Lorentz Jäntschi (Technical University of Cluj-Napoca, Romania)</i>	
Augmented Reality-Based Visualization and Simulation of Autonomous Unmanned Aerial Vehicle Control System	505
<i>Mokhles M. Abdulghani (Jackson State University, Mississippi), Wilbur L. Walters (Jackson State University, Mississippi), and Khalid H. Abed (Jackson State University, Mississippi)</i>	
Time and Space Tradeoffs in Point Location	510
<i>Mounika Gonuguntla (University of Missouri at Kansas City, USA) and Yijie Han (University of Missouri at Kansas City, USA)</i>	

Research Track on Computational Science (CSCI-RTCS) Poster/Extended Abstracts

Modeling and Simulation of Dynamic Roadwheel Relationships for Tracked Vehicles Using Machine Learning	513
<i>Jeremy Mange (US Army–Ground Vehicle Systems Center, USA) and Jacob Brendle (US Army–Ground Vehicle Systems Center, USA)</i>	
Positive and Negative Effects of Muscle Force Assistance on Muscle Metabolic Cost During Normal Walking	516
<i>Oh-Seok Kwon (Division of Intelligent Robot, DGIST, Republic of Korea), Sang-Ho Lee (Division of Intelligent Robot, DGIST, Republic of Korea), and Dong-Ha Lee (Division of Intelligent Robot, DGIST, Republic of Korea)</i>	

Research Track on Computational Biology (CSCI-RTCB) Regular Research Papers

Deep Sensitivity Analysis for Objective-Oriented Combinatorial Optimization	519
<i>Ganga Gireesan (Mississippi State University, USA), Nisha Pillai (Mississippi State University, USA), Michael J Rothrock (USDA-ARS, USA), Bindu Nanduri (Mississippi State University, USA), Zhiqian Chen (Mississippi State University, USA), and Mahalingam Ramkumar (Mississippi State University, USA)</i>	
Deep Learning on Hi-C Contact Data Predicts Biological Replicates	526
<i>Alejandro Rodriguez Perez (Baylor University, USA) and Mary Lauren Benton (Baylor University, USA)</i>	
Physiological Responsiveness to VR and Non-VR Environments	533
<i>Alfia Parvez (University of Minnesota Duluth, USA), Sakina Rao (University of Minnesota Duluth, USA), and Arshia Khan (University of Minnesota Duluth, USA)</i>	
An AI Interface System to NCBI SRA Experiment Data to Support Computational Biology Research	540
<i>Anh Le (Gunn High School, USA) and Lan Vu (Broadcom Inc, USA)</i>	
A Deep Learning-Based Model for Gene Regulatory Network Inference	546
<i>Jialu Ma (University of Arkansas at Little Rock, USA), Nathan Epperson (University of Arkansas at Little Rock, USA), John Talburt (University of Arkansas at Little Rock, USA), and Mary Qu Yang (University of Arkansas at Little Rock, USA)</i>	
Parameter Estimation in Biochemical Models Using Moment Approximations	551
<i>Kannon Hossain (The University of Alabama, USA) and Roger B. Sidje (The University of Alabama, USA)</i>	
Analysis of Single-Cell RNA Sequencing Data Unveils Novel Immune Prognostic Biomarkers	558
<i>Wenjuan Zhang (University of Arkansas Little Rock and Univ. of Arkansas for Medical Sciences, USA), Alex Lee (University of Arkansas Little Rock, USA), and Mary Qu Yang (University of Arkansas Little Rock and Univ. of Arkansas for Medical Sciences, USA)</i>	

Gender Differences in Emotional Responses to Stress During Problem Solving	564
<i>Yagna Manasa Boyapati (University of Minnesota Duluth, USA) and Arshia Khan (University of Minnesota Duluth, USA)</i>	
The Most Frequent Gene Tree Based on Phylogenomic Data Reveals Insights into the Origins of Land Vertebrates	571
<i>Yunfeng Shan (Normal University, China; Department of Genomics, iREG, Canada), Habib Ali (Khwaja Fareed University of Engineering and Information Technology, Pakistan), Luwei Tang (Normal University, China), Xiaoliang Wang (Normal University, China), Yongsheng Xie (Normal University, China), and Youjun Zhou (Normal University, China)</i>	

Research Track on Computational Biology (CSCI-RTCB) Short Research Papers

Investigation into the Impact of Varying Inulin Levels on the Survival of Probiotic Microorganisms	577
<i>Jaruwan Chutrtong (Suan Sunandha Rajabhat University, Thailand), Kunyanuth Kularbphetong (Suan Sunandha Rajabhat University, Thailand), and Supatchalee Sirichokworrakit (Suan Sunandha Rajabhat University, Thailand)</i>	

Research Track on Computational Biology (CSCI-RTCB) Poster/Extended Abstracts

Machine Learning-Based Artifact Detection for Long-Read Sequencing Data	582
<i>Felix Mbuga (San José State University, USA), Kathy Lam (San José State University, USA), and Wendy Lee (San José State University, USA)</i>	

Research Track on Big Data and Data Science (CSCI-RTBD) Regular Research Papers

Towards Federated Decentralized Querying on Knowledge Graphs	585
<i>Siraj Munir Munir (University of Urbino Carlo Bo, Italy) and Stefano Ferretti Ferretti (University of Urbino Carlo Bo, Italy)</i>	
CENSUS-HWR: A Large Training Dataset for Offline Handwriting Recognition	592
<i>Chetan Joshi (Brigham Young University), Lawry Sorenson (Brigham Young University), Ammon Wolfert (Brigham Young University), Mark Clement (Brigham Young University), Joseph Price (Brigham Young University), and Kacey Buckles (University of Notre Dame)</i>	
Efficient Crop Classification Using Optical and Radar Big Data: A Time and Cost Reduction Approach	598
<i>Hashim Abu-Gellban (Department of Computer Science, Grand Canyon University, USA) and Essa Imhmed (Department of Mathematical Sciences, Eastern New Mexico University, USA)</i>	

A Markov-Based Economic Recession Modeling Through Financial Outcomes: Before and During the COVID-19 Pandemic	605
<i>Ray R. Hashemi (Georgia Southern University, USA), Omid M. Ardakani (Georgia Southern University, USA), Daniel Bekker (Georgia Southern University, USA), and James D. Griffith (Georgia Southern University, USA)</i>	
Big Data in Healthcare: Acquisition, Management, and Visualization Using System Dynamics	611
<i>Ashiat Ashake Adeogun (College of Basic and Applied Sciences, Healthcare Informatics, Middle Tennessee State University, United States) and Misagh Faezipour (Department of Engineering Technology, Middle Tennessee State University, United States)</i>	
Analyzing and Modeling Riyadh's Human Mobility Patterns	619
<i>Meshal Alnefaie (Florida Institute of Technology, USA) and Ivica Kostanic (Florida Institute of Technology, USA)</i>	
New York City Mobility Analytics Index and the Relationship with Economic Activity	627
<i>Kyle Whitt (New York University, United States) and Anasse Bari (New York University, United States)</i>	
Data Exploration, Preparation, and Pilot Studies for Building a Knowledge Model of the Cayo Santiago Rhesus Monkeys	633
<i>Martin Q. Zhao (Mercer University, USA), Mehakpreet Kaur (Mercer University, USA), Soumik Kundu (Mercer University, USA), and Qian Wang (TAMU School of Dentistry, USA)</i>	
Data Imputation Under Similarity Rule Constraints Using Fuzzy Multi-Objective Programming ...	639
<i>Mohammadreza Safi (University of Windsor, Canada), Saeed Mozaffari (University of Windsor, Canada), Majid Ahmadi (University of Windsor, Canada), and Shahpour Alirezaee (University of Windsor, Canada)</i>	
Crime Data Visualization Using Virtual Reality and Augmented Reality	646
<i>Sri Chandra Dronavalli (University of North Texas, USA), Rishitha Reddy Pesaladinne (University of North Texas, USA), and Sharad Sharma (University of North Texas, USA)</i>	
Logistic Regression and Statistical Regularization Techniques for Risk Classification of Coronary Artery Disease Using Cytokines Transported by High Density Lipoproteins	652
<i>Seema Singh Saharan (University of California, USA; UC Berkeley Extension, USA), Pankaj Nagar (University of Rajasthan, India), Kate Townsend Creasy (University of California, USA), Eveline O. Stock (University of California, USA), James Feng (University of California, USA), Mary J. Malloy (University of California, USA), and John P. Kane (University of California, USA)</i>	
Optimization of Smoking Classification by Applying Neural Network with Variable Importance Using Cytokine Biomarkers	661
<i>Seema Singh Saharan (University of California, USA; UC Berkeley Extension, USA), Pankaj Nagar (University of Rajasthan, India), Kate Townsend Creasy (University of California, USA), Eveline O. Stock (University of California, USA), James Feng (University of California, USA), Mary J. Malloy (University of California, USA), and John P. Kane (University of California, USA)</i>	

Morocco's Football Triumph in the 2022 FIFA World Cup: A Data-Driven Analysis of Sociocultural Impact Using Big Data Analytics	671
<i>Anasse Bari (New York University, United States, United States), Edward Hou (New York University, United States), Charles Wang (New York University, United States), Caitlyn Cui (New York University, United States), Emos Ker (New York University, United States), Alex Manko (New York University, United States), Nawaf Alabdullah (New York University, United States), Ali Alshehhi (New York University, United States), Kelly Lawlor (New York University, United States), Sebastian Straesser (New York University, United States), and Advait Abrol (New York University, United States)</i>	
Intent Classification: French Recruitment Chatbot Use Case	681
<i>Nadira Boudjani (SogetiLabs, France), Viviane Colas (SogetiLabs, France), and Azade Fotouhi (SogetiLabs, France)</i>	
Smoking Classification Using Novel Plasma Cytokines by Implementing Machine Learning and Statistical Methods	686
<i>Seema Singh Saharan (University of California, USA; UC Berkeley Extension, USA), Pankaj Nagar (University of Rajasthan, India), Kate Townsend Creasy (University of California, USA), Eveline O. Stock (University of California, USA), James Feng (University of California, USA), Mary J. Malloy (University of California, USA), and John P. Kane (University of California, USA)</i>	
Time Expression Normalization with Meta Time Information	695
<i>Mengyu An (Beijing Institute of Technology, China), Chenyu Jin (Beijing Institute of Technology, China), Xiaoshi Zhong (Beijing Institute of Technology, China; NORINCO Group Co. Ltd., China), and Erik Cambria (Nanyang Technological University, Singapore)</i>	
Not as Simple as It Looked: Are We Concluding for Biased Arrest Practices?	703
<i>Murat Ozer (University of Cincinnati, USA), Halil Akbas (Troy University, USA), Ismail Onat (University of Scranton, USA), Mehmet Bastug (University of Scranton, USA), Arif Akgul (Indiana State University, USA), Nelly Elsayed (University of Cincinnati, USA), Zag ElSayed (University of Cincinnati, USA), Multu Koseli (Chicago State University, USA), and Niyazi Ekici (Western Illinois University, USA)</i>	

Research Track on Big Data and Data Science (CSCI-RTBD) Short Research Papers

Enhancing Data Quality with Label Noise Detection	710
<i>Wanwan Zheng (Nagoya University, Japan)</i>	
Automatic Speech Recognition in Diverse English Accents	714
<i>Hashir Mohyuddin (Kean University, USA) and Daehan Kwak (Kean University, USA)</i>	

Research Track on Social Network Analysis, Social Media, and Mining (CSCI-RTNA) Regular Research Papers

A Study of User Perceptions of News Media Labeling to Limit the Spread of Misinformation	719
<i>Jessica Sietsema (University of Michigan - Flint, USA), Khalil Ghoseyni (University of Michigan - Flint, USA), Chase Condron (University of Michigan - Flint, USA), Kimberly Saks (University of Michigan - Flint, USA), and Matthew Spradling (University of Michigan - Flint, USA)</i>	
A Topic Clustering Method to Identify Online Threats Against Soft Targets	727
<i>Marco San Biagio (Engineering Ingegneria Informatica S.p.A., Italy), Marco Cipolla (Engineering Ingegneria Informatica S.p.A., Italy), Ernesto La Mattina (Engineering Ingegneria Informatica S.p.A., Italy), and Vito Morreale (Engineering Ingegneria Informatica S.p.A., Italy)</i>	
The Influence of Social Media on Body Image	734
<i>Fadi Yamout (Lebanese International University, Lebanon) and Alia Ghaddar (Lebanese International University, Lebanon)</i>	
Experimental Predictive Analytics Algorithms to Detect Fake News: A Survey	740
<i>Sana Sajjad (New York University, USA) and Anasse Bari (New York University, USA)</i>	
Emotion Analysis on COVID-Related Twitter Tweets	747
<i>Maliha Haider (Kean University, USA) and Daehan Kwak (Kean University, USA)</i>	
Challenging Traditional Polls: 2023 Ecuadorian Regional Elections, Could Shameful Votes be Uncovered Through Sentiment Analysis?	753
<i>Rubén Pacheco-Villamar (Universidad Espíritu Santo, Ecuador), Carlos Chiriboga-Calderón (Soluciones Wandarina S. A., Ecuador), Joaquín López-Chávez (Universidad Católica de Cuenca, Ecuador), José López-Fierro (Soluciones Wandarina S. A., Ecuador), and Saríah López-Fierro (Utah State University, USA)</i>	
Sentiment Analysis of Twitter Posts on Global Conflicts	759
<i>Ujwal Sasikumar (Conestoga College ITAL, Canada), Ank Zaman (Dept. of Physics and Computer Science, Wilfrid Laurier University, Canada), Abdul-Rahman Mawlood-Yunis (Dept. of Physics and Computer Science, Wilfrid Laurier University, Canada), and Prosenjit Chatterjee (Dept. of Computer Science and Cyber Security, Southern Utah University, USA)</i>	
Cybersecurity Risks in the Deployment and Use of Digital Business Cards: Implications for Organizations and End-Users	765
<i>Dale Rutherford (University of Arkansas at Little Rock, USA) and Ningning Wu (University of Arkansas at Little Rock, USA)</i>	
Evaluating Uber Customers' Perception Through Machine Learning Techniques: A Case Study in Ecuador	771
<i>María Becerra-Salas (Pontificia Universidad Católica del Ecuador, Ecuador) and Henry N. Roa (Pontificia Universidad Católica del Ecuador, Ecuador)</i>	

Research Track on Social Network Analysis, Social Media, and Mining (CSCI-RTNA) Short Research Papers

An Analytics Framework for Analyzing Social Network News	777
<i>Fu-Shing Sun (Ball State University) and Miao Guo (University of Connecticut, USA)</i>	

Research Track on Cyber Warfare, Cyber Defense, and Cyber Security (CSCI-RTCW) Regular Research Papers

A Machine Learning Approach to Threat Hunting in Malicious PDF Files	782
<i>Haydar Teymourlouei (Bowie State University, USA) and Vareva E. Harris (University of Phoenix, USA)</i>	
Obfuscated Ransomware Family Classification Using Machine Learning	788
<i>William Cassel (California State University San Marcos, USA) and Nahid Ebrahimi Majd (California State University San Marcos, USA)</i>	
VoIP Steganography using iLBC Start State Residuals	793
<i>Ting-Xiao Miaw (National Chi Nan University, Taiwan) and Quincy Wu (National Chi Nan University, Taiwan)</i>	
Fortifying Network Security: Pioneering Digital Twin Technology for Proactive Anomaly Detection	801
<i>Patrick Ansah (Kalinga Institute of Industrial Technology, India), Sumit Kumar Tetarave (Kalinga Institute of Industrial Technology, India), Jyoti Kumari (Byjus Future School, India), and Caroline John (University of West Florida, USA)</i>	
Understanding Cyber Threats: Patterns, ISP Characteristics, Industry Targets, and Geographic Correlations	811
<i>Surya Rohith Akella (University of Cincinnati, US), Divya Lalitha Vydula (University of Cincinnati, US), Murat Ozer (University of Cincinnati, USA), Yasin Kose (Friedrich-Alexander-Universität, Germany), Mehmet Bastug (University of Scranton, USA), Ismail Onat (University of Scranton, USA), Nelly Elsayed (University of Cincinnati, USA), Zag ElSayed (University of Cincinnati, USA), and Mutlu Koseli (Chicago State University, USA)</i>	
Defending Quantum Neural Networks Against Adversarial Attacks with Homomorphic Data Encryption	816
<i>Ellen Wang (Western Connecticut State University, USA), Helena Chaine (Western Connecticut State University, USA), Xiaodi Wang (Western Connecticut State University, USA), Avi Ray (New York University, USA), and Tyler Wooldridge (Western Connecticut State University, USA)</i>	
A Literature Survey and Analysis of Defending Cyber Attacks Targeting IoT in Critical Infrastructure	823
<i>Ali Al-Sinayyid (West Virginia State University, USA), Kadiyala Sasidhar (West Virginia State University, USA), Md Julifiker Ali Jewel (West Virginia State University, USA), and Venkatesh Mannuru (West Virginia State University, USA)</i>	
Covert, Secure and Private Communications in Software Defined Networking	830
<i>Artrim Kjamilji (Istanbul Ticaret University, Turkey)</i>	

Named Entity Recognition from Biomedical Data	838
<i>Maged Refaat (Computer Science and Engineering Dept., American Univ. in Cairo (AUC), Egypt), Ahmed Rafea (Computer Science and Engineering Dept., American Univ. in Cairo (AUC), Egypt), and Nada Gaballah (Computer Science and Engineering Dept., American Univ. in Cairo (AUC), Egypt)</i>	
Advancements in Fake News Detection Using Machine and Deep Learning Models: Comprehensive Literature Review	845
<i>Bushra Alkomah (University of Idaho, USA) and Frederick Sheldon (University of Idaho, USA)</i>	
Analytical Study for Cybersecurity Attacks and Defenses Characteristics	853
<i>Ali Al-sinayyid (West Virginia State University, USA), Venkatesh Mannuru (West Virginia State University, USA), Md Julfiker Ali Jewel (West Virginia State University, USA), and Kadiyala Sasidhar (West Virginia State University, USA)</i>	
Cyber Extortion Unveiled: The Evolution, Tactics, Challenges, and Future of Ransomware	861
<i>Salahaldeen Duraibi (Jazan University, Saudi Arabia), Chamandeep Kaur (Jazan University, Saudi Arabia), and A.B. Pawar (Kopargaon Savitribai Phule Pune University, India)</i>	
Defending Characteristics and Attribution Analysis for Phishing Attacks	868
<i>Ali Alsinayyid (West Virginia State University, USA), Md Julfiker Ali Jewel (West Virginia State University, USA), Venkatesh Mannuru (West Virginia State University, USA), and Kadiyala Sasidhar (West Virginia State University, USA)</i>	
Machine Learning Systems for Connected Vehicles	875
<i>Allen Austen Riffie (University of West Florida, USA), Ben Cyphers (University of West Florida, USA), Guillermo Francia (University of West Florida, USA), and Dallas Snider (University of West Florida, USA)</i>	
The Involvement of Quantum Computing in the Realm of Cybersecurity	881
<i>Mohammed Mahmoud (University of Jamestown, USA)</i>	
Information Security Paradigm Shift for a Connected World	887
<i>Choong-Hee Han (Chonnam National University & Korea Power Exchange, Republic of Korea), Jae-Woo Lee (Dongguk University, Republic of Korea), and Adhikari Naresh (Slippery Rock University, United States)</i>	
Employing Quantum Mechanics for Quantum Cryptography	894
<i>Rasika Abhang (Clark University, USA), Naveen Anugu (Clark University, USA), Sowmya Bale (Clark University, USA), Geethanjali Beeram (Clark University, USA), Zurendra Sai Raj Bhattu (Clark University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
Ensuring Data Security in eLearning Challenges and Solutions	900
<i>Shirin Jorayevea (California State University, USA) and Mohammad Eyadat (California State University, USA)</i>	

Research Track on Cyber Warfare, Cyber Defense, and Cyber Security (CSCI-RTCW) Short Research Papers

Detect & Adapt: A Resiliency Enhancement Mechanism for Space Computing Platforms	907
<i>Shafkat Islam (Purdue University, USA), Nagender Aneja (Purdue University, USA), Ruy de Oliveira (Federal Institute of Mato Grosso - IFMT, Brazil), Sandhya Aneja (Marist College, USA), Bharat Bhargava (Purdue University, USA), Jason Hamlet (Sandia National Laboratory, USA), and Chris Jenkins (Sandia National Laboratory, USA)</i>	
Attack Target Detection Using Machine Learning on SCADA Gas Pipeline Data	910
<i>Michelle Buslon (University of Nevada, USA), Chol Hyun Park (University of Nevada, USA), Yoohwan Kim (University of Nevada, USA), and Ju-Yeon Jo (University of Nevada, USA)</i>	
Detecting Cyber Threats with Limited Dataset Using Generative Adversarial Network on SCADA System	915
<i>Chol Hyun Park (University of Nevada, Las Vegas, USA), Ju-Yeon Jo (University of Nevada, Las Vegas, USA), and Yoohwan Kim (University of Nevada, Las Vegas, USA)</i>	

Research Track on Mobile Computing, Wireless Networks, and Security (CSCI-RTMC) Regular Research Papers

Simulation Model for a Bent Pipe Satellite Network Using DVB-S2/RCS2 Standards	920
<i>Gustavo Chafra (Pontificia Universidad Católica del Ecuador, Ecuador), Nelson Salgado (Pontificia Universidad Católica del Ecuador, Ecuador), and Juan Chafra (Pontificia Universidad Católica del Ecuador, Ecuador)</i>	
A 5G/6G Infrastructure for Secure, High-Performance, Low-Latency Application Services	926
<i>Jeffrey Wallace (Rocket Technology Systems LLC, United States), Miroslav Vukovic (Rocket Technology Systems LLC, United States), Toni Karimovic (Rocket Technology Systems LLC, United States), William Edwards (RF Researcher, United States), Junaid Islam (RF Researcher, United States), Boris Snajder (Orqa, Inc., United States), Srdjan Kovacevic (Orqa, Inc., United States), and Angelica Valdivia Wallace (Rocket Technology Systems LLC, United States)</i>	
Wireguard: An Efficient Solution for Securing IoT Device Connectivity	934
<i>Haseebullah Jumakhan (Independent Researcher, United Arab Emirates) and Amir Mirzaeinia (University of Northern Texas, United States)</i>	
Active Admission Control in a P2P Distributed Environment for Capacity Efficient Livestreaming in Mobile Wireless Networks	941
<i>Andrei Negulescu (Santa Clara University, USA) and Weijia Shang (Santa Clara University, USA)</i>	
An Intrusion Detection System in Mobile Adhoc Network Using RSA and Block Based Algorithm	949
<i>S. Venkatesan (Madurai Kamaraj University, India) and M. Ramakrishnan (Madurai Kamaraj University, India)</i>	

Research Track on Internet of Things & Internet of Everything (CSCI-RTOT) Regular Reseach Papers

Processing Model for Fog Computing Applied to Internet of Medical Things (IoMT)	957
<i>Leonardo Juan Ramirez Lopez (Universidad Militar Nueva Granada, Colombia), Engler Ramirez Maldonado (Universidad Militar Nueva Granada, Colombia), and Wilson Mauro Rojas Reales (Universidad El Bosque, Colombia)</i>	
Data Protection and Recovery Plan for Securing Home IoT Domain	964
<i>Syed Rizvi (Pennsylvania State University, USA), James Davis (Pennsylvania State University, USA), Shane Reigert (Pennsylvania State University, USA), and Mark Ihnat (Pennsylvania State University, USA)</i>	
A Contemporary Research Study on Web Scraping and Innovation	971
<i>Katherine Roth (North Dakota State University, USA), Kambiz Farahmand (North Dakota State University, USA), Md Al-Amin (North Dakota State University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	

Research Track on Internet of Things & Internet of Everything (CSCI-RTOT) Short Reseach Papers

ISAC: IoT-Enabled Smart Attendance Check	978
<i>Zachary Biernat (University of Hartford, USA), Alana Cedeno (University of Hartford, USA), and Andrew Jung (University of Hartford, USA)</i>	
IoT Lightweight Session Key Exchange to Improve Security Scheme	983
<i>Ahmad AlKurdi (Kuwait University, Kuwait) and Sa'ed Abed (Kuwait University, Kuwait)</i>	
An Enhanced Lightweight Hash-Chain-Based Multi-Node Mutual Authentication Algorithm for Large and Dense IoT Networks	988
<i>Shengli Yuan (University of Houston-Downtown, USA), Randy Phan-Huynh (University of Houston-Downtown, USA), and Tyler Thornton (University of Houston-Downtown, USA)</i>	

Research Track on Smart Cities and Smart Mobility (CSCI-RTSC) Regular Research Papers

Algorithm For Concept Drift Detection In Autonomic Smart Buildings	992
<i>Mikhail Genkin (Trent University, Canada) and J.J. McArthur (Toronto Metropolitan University, Canada)</i>	
Situational Awareness and Feature Extraction for Indoor Building Navigation Using Mixed Reality	1000
<i>Rishitha Reddy Pesaladinne (University of North Texas, USA), Maruthi Prasanna Chellatore (University of North Texas, USA), Sri Chandra Dronavalli (University of North Texas, USA), and Sharad Sharma (University of North Texas, USA)</i>	

Blockchain-Based Zero Trust on the Edge	1006
<i>Cem Bicer (TU Wien, Austria), Ilir Murturi (TU Wien, Austria), Praveen Kumar Donta (TU Wien, Austria), and Schahram Dustdar (TU Wien, Austria)</i>	
Sustainability of Nature Parks by Changing Tourist Behavior Using Donations and Generative AI	1014
<i>Riku Sato (Akita Prefectural University, Japan), Yoshiaki Shimazaki (Akita Prefectural University, Japan), and Takayasu Yamaguchi (Akita Prefectural University, Japan)</i>	
Utilizing a Spatial Grid for Automated Parking Space Vacancy Detection	1022
<i>Tristram Dacayan (Kean University, USA), Eric Ponte (Kean University, USA), Kuan Huang (Kean University, USA), and Daehan Kwak (Kean University, USA)</i>	

Research Track on Smart Cities and Smart Mobility (CSCI-RTSC) Short Research Papers

Efficiency and Fairness in P2P Transactions with Variable Pricing for Electricity	1029
<i>Eiichi Kusatake (Soka University, Japan) and Norihiko Shinomiya (Soka University, Japan)</i>	
Digital Technological Innovation in the City of Santo Domingo - Ecuador	1034
<i>Nelson Salgado-Reyes (Pontificia Universidad Católica del Ecuador, Ecuador), Gustavo Chafla (Pontificia Universidad Católica del Ecuador, Ecuador), Javier Guña-Moya (Pontificia Universidad Católica del Ecuador, Ecuador), and Jaime Meza (Universidad Técnica de Manabí, Ecuador)</i>	

Research Track on Cloud Computing and Data Centers (CSCI-RTCC) Regular Research Papers

A Hybrid Intrusion Detection System Leveraging XGBoost and RNNs for Enhanced Anomaly Detection in Cloud Data Centers	1039
<i>Asaad Althoubi (Kent State University, USA) and Hassan Peyravi (Kebn State University, USA)</i>	
Fusing SynerGATE for Improved Anomaly Detection in Cloud Data Centers	1047
<i>Asaad Althoubi (Miami University, USA)</i>	
SDN-Based Critical Infrastructure Resilience: A Smart Grid Perspective	1054
<i>Steve C. Chiu (Idaho State University, USA)</i>	
Enhancing Cloud Service Failure Prediction via Temporal Relationship Distillation	1061
<i>Sharmen Akhter (Computer Science and Engineering, Kyung Hee University, South Korea), Md Imtiaz Hossain (Computer Science and Engineering, Kyung Hee University, South Korea), Md Delowar Hossain (Computer Science and Engineering, Kyung Hee University, South Korea), Nosin Ibna Mahbub (Computer Science and Engineering, Kyung Hee University, South Korea), and Eui-Nam Huh (Computer Science and Engineering, Kyung Hee University, South Korea)</i>	

On Premise Data Center vs CLOUD	1068
<i>Mihail Gaianu (West University of Timisoara, Romania)</i>	

Research Track on Parallel & Distributed Computing (CSCI-RTPD) Regular Reseach Papers

Understanding Quantum Parallelism Through Programming	1072
<i>Janche Sang (Cleveland State University, USA) and Chansu Yu (Cleveland State University, USA)</i>	
Steady-State Thermal Modeling for Embedded Applications	1079
<i>Sarah Azaizeh (Wilkes University, United States), Olivia Marsh (Wilkes University, United States), Daniel Whitman (Wilkes University, United States), Robert Taylor (Wilkes University, United States), and Shi Sha (Wilkes University, United States)</i>	
Continuous Integration and Continuous Delivery with Microcontrollers Applications	1085
<i>Fernando G. Tinetti (Facultad de Informática, UNLP, CIC Provincia de Buenos Aires, Argentina), Alejo Alfredo Santi (Facultad de Informática, Universidad Nacional de La Plata, Argentina), and Mariano Méndez (Facultad de Informática, Universidad Nacional de La Plata, Argentina)</i>	
Accelerated Gauss-Huard Algorithm on Hybrid GPU-CPU: Look-Ahead with the Delayed Algorithm Approach	1091
<i>Hisham G. Elzayyadi (Cairo University), Wafaa S. Sayed (Cairo University), Mona A. El Naggar (Cairo University), and Maha A. Hassanein (Cairo University)</i>	
Enhancing Blockchain Network Scalability Through Parallelization and Aggregation Techniques: A Survey	1098
<i>Ruth Olusegun (Bowie State University, USA) and Bo Yang (Bowie State University, USA)</i>	
Implementation of a Hardware Accelerator with FPU-Based Euler and Modified Euler Solver for an Ordinary Differential Equation	1106
<i>Soham Bhattacharya (Rowan University, USA) and Dwaipayan Chakraborty (Rowan University, USA)</i>	

Research Track on Parallel & Distributed Computing (CSCI-RTPD) Short Reseach Papers

Access Pattern Characterization of Last-Level Cache for Effective Replacement	1113
<i>Shafayat Anik (University of Colorado Colorado Springs (UCCS)) and Byeong Lee (University of Colorado Colorado Springs (UCCS))</i>	

Research Track on Signal & Image Processing, Computer Vision & Pattern Recognition (CSCI-RTPC) Regular Research Papers

DeepCT-SI: Deep Learning Algorithm for Computed Tomography Source Identification	1117
<i>Farid Ghareh Mohammadi (Mayo Clinic, USA) and Ronnie Sebro (Mayo Clinic, USA)</i>	
Robust Image Watermarking Based on Cross-Attention and Invariant Domain Learning	1125
<i>Agnibh Dasgupta (University of Nebraska at Omaha, USA) and Xin Zhong (University of Nebraska at Omaha, USA)</i>	
Combined Medical Image Super-Resolution and Modality Translation Using GAN Transformer-Based Model	1133
<i>Melika Abdollahi (Ontario Tech University, Canada), Heidar Davoudi (Ontario Tech University, Canada), and Mehran Ebrahimi (Ontario Tech University, Canada)</i>	
Linear Transformations in Masked Face Recognition: Bridging the Representation Gap	1139
<i>Eslam Ali (Cairo University, Egypt), Ahmed Elsheikh (Cairo University, Egypt), and Maha A. Hassanein (Cairo University, Egypt)</i>	
Real-Time Object Detection to Identify Adults and Children Using YOLO Algorithm	1146
<i>Abdulghani M. Abdulghani (Jackson State University, Mississippi), Mokhles M. Abdulghani (Jackson State University, Mississippi), Wilbur L. Walters (Jackson State University, Mississippi), and Khalid H. Abed (Jackson State University, Mississippi)</i>	
LF-YOLOv7: Improved YOLOv7 Based on Lightweight Modules and Novel Feature Fusion for Object Detection on Drone-Captured Scenarios	1152
<i>Wangyu Jiang (Fujian University of Technology, China), Le Wang (Fujian University of Technology, China), Guojun Mao (Fujian University of Technology, China), Meng Sun (Fujian University of Technology, China), Fayaz Ali Dharejo (Khalifa Univeristy, UAE), and Ghulam Ali Mallah (Shah Abdul Latif University, Pakistan)</i>	
The Reverse-Transition Weighting Filter for Effective Edge Detection for Noisy Color Images	1160
<i>Seth Richey (Mississippi State University, USA), Luke Hand (Mississippi State University, USA), Owen Burton (Mississippi State University, USA), J. Brittin Perdue (Mississippi State University, USA), Penelope Prochnow (Mississippi State University, USA), Jason Shin (Mississippi State University, USA), and Seongjai Kim (Mississippi State University, USA)</i>	
Automatic Fruit Grading Using Recurrent Neural Networks	1167
<i>Jo-Neil Naicker (University of Kwa-Zulu Natal, South Africa) and Serestina Viriri (University of Kwa-Zulu Natal, South Africa)</i>	

GERRS: Removing Ghost Effects from Real-World Scenarios in 3D Pose Estimation via Zero-Shot Inference Approach	1177
<i>Md Imtiaz Hossain (Computer Science and Engineering, Kyung Hee University, South Korea), Sharmen Akhter (Computer Science and Engineering, Kyung Hee University, South Korea), Md Nosin Ibna Mahbub (Computer Science and Engineering, Kyung Hee University, South Korea), Md Delowar Hossain (Computer Science and Engineering, Kyung Hee University, South Korea), Sungjun Yang (SIGONGtech, South Korea), and Eui-Nam Huh (Computer Science and Engineering, Kyung Hee University, South Korea)</i>	
An Experiment on Defect Detection in Active Thermography Using Classifier Fusion	1184
<i>Addisson Salazar (Universitat Politècnica de València, Spain), Rocco Zito (Università della Calabria, Italy), Stefano Laureti (Università della Calabria, Italy), Marco Ricci (Università della Calabria, Italy), and Luis Vergara (Universitat Politècnica de València, Spain)</i>	
Steganalysis of Medical Radiographs for Radiographic Machine Identification	1189
<i>Farid Ghareh Mohammadi (Mayo Clinic, USA) and Ronnie Sebro (Mayo Clinic, USA)</i>	
Ultrasound Imaging Based on Mean and Standard Deviation	1197
<i>Cuijuan Lou (Henan University of Technology, China)</i>	
StainSegNet: Stain Normalization and Segmentation – Driven Colorectal Tumor Tissues Classification	1202
<i>Ponnarasee B K (Amrita Vishwa Vidyapeetham, India), Lalithamani N (Amrita Vishwa Vidyapeetham, India), and Adeyemi Abel Ajibesin (American University of Nigeria)</i>	
Thermal Face Image Classification Using Deep Learning Techniques	1208
<i>Prosenjit Chatterjee (Dept. of Computer Science and Cyber Security, Southern Utah University, USA) and Ank Zaman (Dept. of Physics and Computer Science, Wilfrid Laurier University, Canada)</i>	
Realtime Sign Language Recognition Using Computer Vision and AI	1214
<i>Gabriel Serrano (Kean University, USA) and Daehan Kwak (Kean University, USA)</i>	
Semantic Similar Image Search: A Command-Line Tool Based on CLIP	1221
<i>Yurij Mikhalevoich (Lightning AI, United Arab Emirates)</i>	
Comparative Study of Data Augmentation Approaches for Improving Medical Image Classification	1226
<i>Khadija Rais (Echahid Cheikh Larbi Tebessi University, Algeria), Mohamed Amroune (Echahid Cheikh Larbi Tebessi University, Algeria), Mohamed Yassine Haouam (Echahid Cheikh Larbi Tebessi University, Algeria), and Issam Bendib (Echahid Cheikh Larbi Tebessi University, Algeria)</i>	
Localization of Left Ventricular Epicardium and Endocardium Using Convolutional Neural Network and Transfer Learning	1235
<i>A F M Saifuddin Saif (West Virginia University Institute of Technology, USA) and Trung Duong (Colorado State University-Pueblo, USA)</i>	
Wavelet-Feature Greedy Clustering for Remote Sensing Identification	1241
<i>Zhaohui Wang (North Carolina A&T State University, USA)</i>	

KALI: A Hand Gesture Based Approach to Control PowerPoint Presentation	1246
<i>Tathagata Bhattacharya (n/a), Akil Kumar Vujjini (n/a), and Vinay Alsa (n/a)</i>	
Real-Time Suspicious Activity Detection on ATMs Using Multimodel YOLO Object Detection	1254
<i>Akshith Simha Katragada (California State University, East Bay), Kavya Vuribindi (California State University, East Bay), and Varick L. Erickson (California State University, East Bay)</i>	
Simplex Projection Based Dimension Reduction for Multiclass Classification	1259
<i>Hong Zhang (Georgia Southern University, USA)</i>	
Biometric Authentication Comparison: Toward Secure Human Recognition	1264
<i>Fatma Mallouli (Deanship of Preparatory Year and Supporting Studies, Imam Abdulrahman Bin Faisal University, Saudi Arabia), Nesrine Khelifi (Deanship of Preparatory Year and Supporting Studies, Imam Abdulrahman Bin Faisal University, Saudi Arabia), Aya Hellal (Deanship of Preparatory Year and Supporting Studies, Imam Abdulrahman Bin Faisal University, Saudi Arabia), Imen Ferjani (Deanship of Preparatory Year and Supporting Studies, Imam Abdulrahman Bin Faisal University, Saudi Arabia), Nada Chaabane (Computer Science Department, Applied College, Imam Abdulrahman Bin Faisal University, Saudi Arabia), Mejda Dakhlaoui (Financial Sciences Department, Applied College, Imam Abdulrahman Bin Faisal University, Saudi Arabia), and Houda Chamakhi (Department of Quantitative Methods, College of Business Administration, Imam Abdulrahman Bin Faisal University, Saudi Arabia)</i>	

Research Track on Signal & Image Processing, Computer Vision & Pattern Recognition (CSCI-RTPC) Short Research Papers

Deblurring ICF Images Using Hybrid Iterative Regularization Techniques	1271
<i>Tuwanda McKenzie (Benedict College, USA) and Naima Naheed (Benedict College, USA)</i>	
Satellite Images Analysis and Classification Using Deep Learning-Based Vision Transformer Model	1275
<i>Adekanmi Adeyinka Adegun (University of KwaZulu-Natal, South Africa), Serestina Viriri (University of KwaZulu-Natal, South Africa), and Jules-Raymond Tapamo (University of KwaZulu-Natal, South Africa)</i>	
3Describe-Creating Tangible AR (Augmented Reality) Objects Using Depth Camera	1280
<i>Kevin Zhang (University of British Columbia, Canada), Mike Tianci Ye (Saint George's School, Canada), Chris Cheng Zhang (Canada Youth Robotics Club, Canada), Rongdi Ni (Jilin International Studies University, China), Yitong Liu (Jiangsu University of Science and Technology, China), and Anqi Xing (Pennsylvania State University, USA)</i>	
Object Localization Using Vision Transformer with a Loss Function Based on IOU and Mean Squared Error	1284
<i>Hong Cheng (Southern Arkansas University, USA) and Wen Cheng (Southern Arkansas University, USA)</i>	
Blood Cell Detection Using Deep Learning on Mobile Platforms	1289
<i>Nihar Jain (Chirec International School, India) and Fahim Hasan Khan (University of California, USA)</i>	

Generative Adversarial Networks in Image Generation and Recognition	1294
<i>Anoushka Popuri (Francis Howell School District, MO) and John Miller (Francis Howell School District, MO)</i>	

Research Track on Signal & Image Processing, Computer Vision & Pattern Recognition (CSCI-RTPC) Poster/Extended Abstracts

Design a Hardware Applying Fog Removal Algorithm Using Median Dark Channel Prior for Autonomous Driving Car	1298
<i>Chang-Yong Lee (Kumoh National Institute of Technology, Korea), Heon-Bin Jang (Kumoh National Institute of Technology, Korea), Yeong-Seok Kim (Kumoh National Institute of Technology, Korea), and Yong-Hwan Lee (Kumoh National Institute of Technology, Korea)</i>	
Research on Real-Time Image Stitching for Wafer Defect Inspection	1300
<i>So-Young Kwon (Kumoh National Institute of Technology, Korea), Young-Hyung Kim (Kumoh National Institute of Technology, Korea), Dong-Soo Jung (Syisolution, Korea), and Yong-Hwan Lee (Kumoh National Institute of Technology, Korea)</i>	
Enhanced Database Training for Small Object Detection	1302
<i>Chia-Ying Chang (Bachelor of Program in Scientific Agriculture, National Pingtung University of Science and Technology, Taiwan)</i>	

Research Track on Health Informatics and Medical Systems (CSCI-RTHI) Regular Research Papers

A Machine Learning Pipeline to Analyse Multispectral and Hyperspectral Images	1306
<i>Damiano Azzolini (University of Ferrara, Italy), Alice Bizzarri (University of Ferrara, Italy), Michele Fraccaroli (University of Ferrara, Italy), Francesco Bertasi (University of Ferrara, Italy), and Evelina Lamma (University of Ferrara, Italy)</i>	
TransONet: Automatic Segmentation of Vasculature in Computed Tomographic Angiograms Using Deep Learning	1312
<i>Alireza Bagheri Rajeoni (University of South Carolina, USA), Breanna Pederson (University of South Carolina, USA), Ali Firooz (University of South Carolina, USA), Hamed Abdollahi (University of South Carolina, USA), Andrew K. Smith (University of South Carolina, USA), Daniel G. Clair (Vanderbilt University, USA), Susan M. Lessner (University of South Carolina, USA), and Homayoun Valafar (University of South Carolina, USA)</i>	
Advancing Child and Maternal Health: A System Dynamics Exploration of Policy Interventions to Tackle Socioeconomic Disparities	1318
<i>Ashiat Ashake Adeogun (Middle Tennessee State University, United States) and Misagh Faezipour (Middle Tennessee State University, United States)</i>	

The Impact of Family History Technology on Social and Emotional Well-Being	1326
<i>Mark Clement (Brigham Young University, USA), Joseph Price (Brigham Young University, USA), Kacey Buckles (University of Notre Dame, USA), Nat Poulson (Brigham Young University, USA), Joseph Steed (Brigham Young University, USA), Emma Ausman (Brigham Young University, USA), Ammon Quackenbush (Brigham Young University, USA), Lawry Sorenson (Brigham Young University, USA), Kymberly Larson (Brigham Young University, USA), and Brandon Southwick (Brigham Young University, USA)</i>	
Autonomous Emergency Triage Support System	1332
<i>Ol'Tunde Ashaolu (York and Scarborough Teaching Hospitals, NHS Foundation Trust / Hull-York Medical School, UK), William Lyons (University of York, UK), Ioannis Stefanakos (University of York, UK), Radu Calinescu (University of York, UK), Ibrahim Habli (University of York, UK), Victoria Hodge (University of York, UK), Chiara Picardi (University of York, UK), Katherine Plant (University of Southampton, UK), and Beverley Townsend (University of York, UK)</i>	
Image Compression and Decompression Framework Based on Latent Diffusion Model for Breast Mammography	1338
<i>InChan Hwang (Kennesaw State University, USA) and MinJae Woo (Kennesaw State University, USA)</i>	
Exploring Concepts for Pipeline-Driven Mobile Health Data Dashboards: Insights from Personal Projects and GitHub Contributions	1344
<i>Carsten Vogel (University of Würzburg, Germany), Michael Stach (University of Würzburg, Germany), Johannes Allgaier (University of Würzburg, Germany), Jens Scheible (Ulm University, Ulm, Germany), Fabian Hofmann (Ulm University, Ulm, Germany), and Rüdiger Pryss (University of Würzburg, Germany)</i>	
An Improved Time-Based Encryption Key Rotation Scheme for Healthcare Databases	1351
<i>Ellie Pin-Yu Chen (National Chi Nan University, Taiwan), Quincy Wu (National Chi Nan University, Taiwan), and Meng-Shuo Shen (Puli Christian Hospital, Taiwan)</i>	

Detection Transformer for Teeth Detection, Segmentation, and Numbering in Oral Rare Diseases: Focus on Data Augmentation and Inpainting Techniques	1358
<i>Hocine Kadi (Research and Innovation Department Capgemini Engineering Illkirch-Graffenstaden, France), Théo Sourget (Department of Computer Science Université Rouen Normandie Rouen France), Marzena Kawczynski (Reference Center for Rare Oral and Dental Diseases Hôpitaux Universitaires de Strasbourg Strasbourg, France), Sara Bendjama (Reference Center for Rare Oral and Dental Diseases Hôpitaux Universitaires de Strasbourg Strasbourg, France), Bruno Grollemund (Reference Center for Rare Oral and Dental Diseases Hôpitaux Universitaires de Strasbourg Strasbourg, France), and Agnès Bloch-Zupan (1) Université de Strasbourg, Faculté de Chirurgie Dentaire, Strasbourg, France 2) Hôpitaux Universitaires de Strasbourg, Pôle de Médecine et Chirurgie Bucco-dentaires, Centre de référence des maladies rares orales et dentaires, CRMR-O-Rares, Filière Santé Maladies rares TETE COU, European Reference Network ERN CRANIO, Strasbourg, France 3) Université de Strasbourg, CNRS- UMR7104, INSERM U1258, Institut de Génétique et de Biologie Moléculaire et Cellulaire (IGBMC), Illkirch, France)</i>	
Ensembling and Modeling Approaches for Enhancing Alzheimer’s Disease Scoring and Severity Assessment	1364
<i>Saurav K. Aryal (Howard University, USA), Ujjawal Shah (Howard University, USA), Howard Prioleau (Howard University, USA), and Legand Burge (Howard University, USA)</i>	
Allergic Contact Dermatitis Detection with Machine Learning	1371
<i>Kyriakos S. Panagiotidis (National Technical University of Athens, Greece), Ioannis A. Vezakis (National Technical University of Athens, Greece), Aikaterini Kyritsi (National and Kapodistrian University of Athens, Greece), Anna Tagka (National and Kapodistrian University of Athens, Greece), Ioannis Kakkos (National Technical University of Athens, Greece), and George K. Matsopoulos (National Technical University of Athens, Greece)</i>	
Prediction of Genetic Biomarkers from RNA-Seq Dataset of Colon Cancer	1378
<i>Tijesunimi Adeyemi (Morgan State University, Maryland), Deborah Ezekiel (Morgan State University, Maryland), Sergio Diaz (University of Maryland Baltimore County, Maryland), Felix Sabb (Baltimore County Public School, Maryland), Abdullah Abdul (Morgan State University, Maryland), Fitzroy Nembhard (Florida Institute of Technology, Maryland), and Roshan Paudel (Morgan State University, Maryland)</i>	
Amazing Power of DINOv2 for Automatic Diagnosis of 12-Lead ECG	1386
<i>Kushal Pal Singh (Indian Institute of Technology Delhi, India), Chandra B. (Indian Institute of Technology Delhi, India), Prem Kumar Kalra (Indian Institute of Technology Delhi, India), and Rajiv Narang (All India Institute of Medical Sciences, India)</i>	
Predicting the Blood Glucose Level using Transformers	1392
<i>Edgar Acuna (University of Puerto Rico) and Roxana Aparicio (University of Puerto Rico)</i>	
SocraHealth: Enhancing Medical Diagnosis and Correcting Historical Records	1400
<i>Jocelyn J. Chang (Tufts University) and Edward Y. Chang (Stanford University)</i>	

Vision Health Monitoring System for Pilots	1406
<i>Abdulrahman M. Abdulghani (Jackson State University, Mississippi), Mokhles M. Abdulghani (Jackson State University, Mississippi), Wilbur L. Walters (Jackson State University, Mississippi), and Khalid H. Abed (Jackson State University, Mississippi)</i>	
ECGformer: Leveraging Transformer for ECG Heartbeat Arrhythmia Classification	1412
<i>Taymaz Akan (Louisiana State University Health Sciences Center, USA), Sait Alp (Erzurum Technical University, Turkey), and Mohammad Alfrad Nobel Bhuiyan (Louisiana State University Health Sciences Center, USA)</i>	
Permanence and Uniqueness of EEG Brain Sig`nals as a Biometric Signature, Part-I: Template-Based Techniques	1418
<i>Ömer Muhammet Soysal (Southeastern Louisiana University, USA) and Muhammed Esad Oztemel (Louisiana State University, USA)</i>	
Interpretable Data Driven Classifiers: A Proposal for Autism Diagnosis of Children Using Ensemble Learning	1424
<i>Abdulhamid M. A. Alsbakhi (University of Huddersfield, UK; Canadian University Dubai, UAE), Joan Lu (University of Huddersfield, UK), Fadi Thabtah (ASDTests, New Zealand), and James Dyer (University of Huddersfield, UK)</i>	
Statistical Analysis of Cross-Correlation Index for Identifying Abnormal ECG Signals	1432
<i>Joana Florescano Olguin (Autonomous University of Baja California, México), Daniela M. Martinez (Autonomous University of Baja California, México), Norma A. Barboza Tello (Autonomous University of Baja California, México), and Irma Uriarte Ramírez (Autonomous University of Baja California, México)</i>	
Brain-Inspired Visual Odometry: Balancing Speed and Interpretability Through a System of Systems Approach	1437
<i>Habib Boloorchi Tabrizi (Oklahoma State University, USA) and Christopher Crick (Oklahoma State University, USA)</i>	
A Visualization Model for Classification of Human Personality Through Bio-Electric Current Pattern Analysis	1444
<i>Janghwan Kim (Hongik University, Republic of Korea), Woosung Jang (Hongik University, Republic of Korea), and Robert Young Chul Kim (Hongik University, Republic of Korea)</i>	
Impact of MBSR Therapy on Stress in People with Cognitive Impairments, a Prisma Guided Review	1449
<i>Alfia Parvez (University of Minnesota Duluth, USA) and Arshia Khan (University of Minnesota Duluth, USA)</i>	
Demystifying Quantum Blockchain for Healthcare	1456
<i>Keerthana Dasari (Clark University, USA), Sai Preetham Dongari (Clark University, USA), Adharsh Reddy Chirra (Clark University, USA), Sai Swetha Devoreddy (Clark University, USA), Harshith Reddy Boddireddy (Clark University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
Exploring Permanence and Uniqueness of EEG Brain Signals as a Biometric Signature, Part-II: Statistical Techniques	1461
<i>Muhammed Esad Oztemel (Louisiana State University, USA) and Ömer Muhammet Soysal (Southeastern Louisiana University, USA)</i>	

Quantum Computing Potentials for Drug Discovery	1467
<i>Sai Krishna Kandula (Clark University, USA), Nagaveni Katam (Clark University, USA), Pranav Reddy Kangari (Clark University, USA), Adithya Hijmal (Clark University, USA), Rakesh Gurrala (Clark University, USA), and Mohammed Mahmoud (University of Jamestown, USA)</i>	
An Approach with Machine Learning for Heart Disease Risk Prediction	1474
<i>Fathe Jeribi (Jazan University, Saudi Arabia), Chamandeep Kaur (Jazan University, Saudi Arabia), and A.B. Pawar (Savitribai Phule Pune University, India)</i>	
A Systematic Review on Machine Learning (ML) and Artificial Intelligence (AI) In Understanding and Assessing Women’s Health	1480
<i>Jones Yeboah (University Of Cincinnati, USA), Sophia Bampoh (Cleveland Clinic Florida, USA), Foster Addo Yeboah (University of Cincinnati, USA), and Isaac Kofi Nti (University Of Cincinnati, USA)</i>	

Research Track on Health Informatics and Medical Systems (CSCI-RTHI) Short Research Papers

Health Informatics for Contact Tracing in a Pandemic Response: A Perspective	1484
<i>Lateefat Amao (Middle Tennessee State University, United States) and Misagh Faezipour (Middle Tennessee State University, United States)</i>	
One vs All Approach for Nested Named Entity Recognition in the French Medical Text	1488
<i>Hocine Kadi (Research and Innovation Department Capgemini Engineering Illkirch-Graffenstaden, France) and Mathieu Boyer (Research and Innovation Department Capgemini Engineering Illkirch-Graffenstaden, France)</i>	
Follow-up Evaluation to Explore Disparities Between Android and iOS Users Utilizing the TrackYourTinnitus Mobile Health Platform	1493
<i>Michael Winter (Institute of Clinical Epidemiology and Biometry, University of Würzburg, Germany), Winfried Schlee (Institute for Information and Process Management, Eastern Switzerland University of Applied Sciences, Switzerland), Thomas Probst (Division of Psychotherapy, Department of Psychology, Paris Lodron University Salzburg, Austria), Michael Stach (Institute of Clinical Epidemiology and Biometry, University of Würzburg, Germany), and Rüdiger Pryss (Institute of Clinical Epidemiology and Biometry, University of Würzburg, Germany)</i>	
Wearable Technology for Fall Prevention-Data Collection Method and Hardware Optimization ..	1498
<i>Chris Cheng Zhang (Canada Youth Robotics Club, Canada), Mark Yining Liu (Sir Winston Churchill Secondary School, Canada), Kevin Zhang (University of British Columbia, Canada), Xinrui Dai (Communication University of China, China), Chenran Wang (Saint Patrick Regional Secondary School, Canada), and Yanyu Wang (Saint Patrick Regional Secondary School, Canada)</i>	

Early Detection of Pressure Ulcers: Considering Dynamic Phenomena and Temperature.	1503
<i>Nicolas Gillard (Capgemini Engineering, France), Pauline Coignard (Centre Mutualiste de Rééducation et de Réadaptation Fonctionnelles de Kerpape, France), Jacques Kerdraon (Centre Mutualiste de Rééducation et de Réadaptation Fonctionnelles de Kerpape, France), and Willy Allegre (CoWork'HIT, France)</i>	
Medical Care Application Development Through Android Studio	1507
<i>Jason Lee (Worcester State University, USA) and Nada Alsallami (Worcester State University, USA)</i>	

Research Track on Health Informatics and Medical Systems (CSCI-RTHI) Poster/Extended Abstracts

Evaluating and Reducing AI Model Group Disparity: An Analysis of COVID Test Outcomes in Children	1511
<i>Alexander Libin (Georgetown University, USA), Jonah T. Treitler (Thomas Jefferson High School for Science and Technology, USA), and Yijun Shao (Washington University, USA)</i>	
Well-Being of Sedentary Workers: A Novel Approach Based on Circadian Rhythms Monitoring ..	1514
<i>Sawsen El Hadj (Capgemini Engineering, France), Yasmina Berkani (Capgemini Engineering, France), Solène Le Bars (Capgemini Engineering, France), and Rodrigo Balp (Capgemini Engineering, France)</i>	
Mobile Wellness Program for Nurses with Rotating Shifts Using Social Messenger Service: A Proposed Design	1517
<i>Sang-Ho Lee (Division of Intelligent Robot & Convergence Research Advanced Centre for Olfaction, DGIST, Republic of Korea), Sanghun Yun (Division of Electronics and Information System, DGIST, Republic of Korea), Dong-Ha Lee (Division of Intelligent Robot, DGIST, Republic of Korea), Oh-Seok Kwon (Division of Intelligent Robot, DGIST, Republic of Korea), and Jinung An (Division of Intelligent Robot, DGIST, Republic of Korea)</i>	

Research Track on Software Engineering (CSCI-RTSE) Regular Research Papers

A Method for ODD Specification and Verification with Application for Industrial Automated Driving Systems	1519
<i>Adina Aniculaesei (Technische Universität Clausthal, Institute for Software and Systems Engineering, Germany), Christian Schindler (Technische Universität Clausthal, Institute for Software and Systems Engineering, Germany), Christoph Knieke (Technische Universität Clausthal, Institute for Software and Systems Engineering, Germany), Andreas Rausch (Technische Universität Clausthal, Institute for Software and Systems Engineering, Germany), Daniel Rohne (Volkswagen AG, ADMT-GP/O, Germany), and Andreas Richter (Volkswagen AG, ADMT-GP/O, Germany)</i>	

Identifying Code Quality Issues for Undergraduate Students Using Static Analysis and NLP	1527
<i>Essa Imhmed (Department of Mathematical Sciences, Eastern New Mexico University, USA), Edgar Ceh-Varela (Department of Mathematical Sciences, Eastern New Mexico University, USA), and Scott Kilgore (Department of Mathematical Sciences, Eastern New Mexico University, USA)</i>	
DEF-PIPE: Domain Specific Language Visualization for Big Data Pipelines	1534
<i>Amirhossein Layegh Kheirabadi (Royal Institute of Technology - KTH, Sweden), Vlado Mitrovic (Royal Institute of Technology - KTH, Sweden), Khoa Dinh (Royal Institute of Technology - KTH, Sweden), Yilin Chang (Royal Institute of Technology - KTH, Sweden), and Mihhail Matskin (Royal Institute of Technology - KTH, Sweden)</i>	
Web System for Visualizing and Executing Methods on Web Objects in XML	1541
<i>Betzabet García-Mendoza (Universidad Autónoma Metropolitana, Mexico), José M. Hernández-Salinas (Universidad Autónoma Metropolitana, Mexico), and Carlos R. Jaimez-González (Universidad Autónoma Metropolitana, Mexico)</i>	
Modeling MAC Permissions Using Trust-Based Access Control and Actions	1547
<i>Marcel Danilescu (ASWIC Ltd., România) and Laura Danilescu (University of Galati, România)</i>	
Manoel: Automatic Approach to the Execution of Manual Tests	1552
<i>Lorena P. de Figueiredo (SIDIA R&D Institute, Brazil), Thiago T. Gavanski (SIDIA R&D Institute, Brazil), Jonathan P. Gomes (SIDIA R&D Institute, Brazil), Dinara M. Araujo (SIDIA R&D Institute, Brazil), Rene L. de Almeida (SIDIA R&D Institute, Brazil), Welton De A. Seabra (SIDIA R&D Institute, Brazil), Andre F. Da Cruz (SIDIA R&D Institute, Brazil), and Erick C. Bezerra (SIDIA R&D Institute, Brazil)</i>	
Utilizing Reusable Test-Ready Models of Smart Home Systems for Testing KNX Devices	1558
<i>Nouf Aljaffan (King Saud University, Saudi Arabia), Lamees Ahazaa (Al-Imam Mohammad Ibn Saud Islamic University, Saudi Arabia), and Afnan Albahli (Princess Nourah Bint Abdulrahman University, Saudi Arabia)</i>	
Converting WOX Objects to YAML Documents	1565
<i>Vivian P. Reynoso-Sánchez (Universidad Autónoma Metropolitana, Mexico), Betzabet García-Mendoza (Universidad Autónoma Metropolitana, Mexico), Carlos R. Jaimez-González (Universidad Autónoma Metropolitana, Mexico), and Wulfrano A. Luna-Ramírez (Universidad Autónoma Metropolitana, Mexico)</i>	
Defending the Heap: Diagnosing Undefined Behavior in Dynamic Memory with Jkmallocc	1572
<i>Jakob Kaivo (West Virginia University, US) and Thomas Devine (West Virginia University, US)</i>	
Cartoon Extraction Mechanism via UML Model Based on Natural Language Requirement Specs .	1578
<i>Janghwan Kim (Hongik University, Republic of Korea), Chansol Park (Hongik University, Republic of Korea), Woosung Jang (Hongik University, Republic of Korea), and Robert Young Chul Kim (Hongik University, Republic of Korea)</i>	

A Survey of Agile vs. Traditional Methods on Project Risk Management	1583
<i>Ibrahim Ibaad Syed (University of Houston - Clear Lake, USA), Uppunuthula Vishal Goud (University of Houston – Clear Lake, USA), and Soma Datta (University of Houston – Clear Lake, USA)</i>	
Efficacy of Static Analysis Tools for Software Defect Detection on Open-Source Projects	1588
<i>Jones Yeboah (University of Cincinnati, USA) and Saheed Popoola (University Of Cincinnati, USA)</i>	

Research Track on Software Engineering (CSCI-RTSE) Short Research Papers

We’re Drowning in Errors	1594
<i>Max Maurer (IBM Corporation, USA) and Peter Maurer (Baylor University, USA)</i>	
Semantic Blockchain Software Tools and Services for Trustworthy Applications - ONTOCHAIN .	1598
<i>Klevis Shkempi (University of Ljubljana, Slovenia), Petar Kočovski (University of Ljubljana, Slovenia), Thanasis G. Papaioannou (Athens University of Economics and Business, Greece), Caroline Barelle (European Dynamics, Luxembourg), Anthony Simonet-Boulogne (iExec SARL, France), Marco Ciaramella (IntelliSemantic srl, Italy), and Vlado Stankovski (University of Ljubljana, Slovenia)</i>	
Development of a Data Sonification Tool to Transcend Standard Visualization Analyses	1603
<i>Jacob Elbirt (Worcester State University, USA) and Ali Al-Faris (Worcester State University, USA)</i>	
Mobile Application Development for Required Daily Nutrition Intake Calculation for Thai Elderly	1607
<i>Nuntaporn Aukkanit (Saun Sunandha Rajabhat University, Thailand), Shutchapol Chopvitayakun (Saun Sunandha Rajabhat University, Thailand), Supatchalee Sirichokworrakit (Saun Sunandha Rajabhat University, Thailand), Jaruwat Chutrtong (Saun Sunandha Rajabhat University, Thailand), and Kunyanuth Kularbphetong (Saun Sunandha Rajabhat University, Thailand)</i>	

Research Track on Software Engineering (CSCI-RTSE) Poster/Extended Abstracts

A Prompt-Based Approach for Software Development	1612
<i>Mohammed Hamdi (Oakland University, USA) and Lewy D. Kim (Stoney Creek High School, USA)</i>	

Research Track on Education (CSCI-RTED) Regular Research Papers

Student Mastery or AI Deception? Analyzing ChatGPT's Assessment Proficiency and Evaluating Detection Strategies	1615
<i>Kevin Wang (University of British Columbia, Canada), Seth Akins (University of British Columbia, Canada), Abdallah Mohammed (University of British Columbia, Canada), and Ramon Lawrence (University of British Columbia, Canada)</i>	
Design and Delivery of Online Scaffolding Support in Quantitative Subjects	1622
<i>Mary Ruth Freislich (University of New South Wales, Australia) and Alan Bowen-James (Crown Institute of Higher Education, Australia)</i>	
Using Assignment Incentives to Reduce Student Procrastination and Encourage Code Review Interactions	1628
<i>Kevin Wang (University of British Columbia, Canada) and Ramon Lawrence (University of British Columbia, Canada)</i>	
Undergraduate Service Course Research Infusion	1634
<i>Muhittin Yilmaz (Texas A&M University-Kingsville, USA)</i>	
An Extended Framework of Factors Across CAPE that Support K-12 Computer Science Education	1642
<i>Monica M. McGill (CSEdResearch.org, USA), Isabella Gransbury (North Carolina State University, USA), Sarah Heckman (North Carolina State University, USA), Leigh Ann DeLyser (CSforALL, USA), and Jennifer Rosato (University of Minnesota - Twin Cities, USA)</i>	
Improving the Accessibility of Online Training: A Usability Evaluation of NetAcad Training for Users with Disabilities	1649
<i>Heba Ismail (Abu Dhabi University, United Arab Emirates), Ahmad Jasmy (Abu Dhabi University, United Arab Emirates), and Mohammad Rasool (Abu Dhabi University, United Arab Emirates)</i>	
Towards a Task Mining Recording Tool for the Automated Generation and Recording of xAPI Statements for Virtual Learning Environments	1656
<i>Ramona Srbecky (University of Hagen, Germany) and Matthias Hemmje (University of Hagen, Germany)</i>	
A Data Governance Literature Review in Education Sector	1662
<i>Maassoumeh Javadi (Fairleigh Dickinson University, Canada), Mandy S. M. Chung (Fairleigh Dickinson University, Canada), Nushin G. Fard (Fairleigh Dickinson University, Canada), and Mohammed Miskat (Fairleigh Dickinson University, Canada)</i>	
Leveraging LLMs and MLPs in Designing a Computer Science Placement Test System	1670
<i>Yi Li (Boston College, USA), Riteng Zhang (Boston College, USA), Danni Qu (Boston College, USA), and Maira Marques Samary (Boston College, USA)</i>	
Student Dropout Prediction in High Education, Using Machine Learning and Deep Learning Models: Case of Ecuadorian University	1677
<i>Gonzalo Dávila (Universidad Técnica Particular de Loja, Ecuador), Juan Haro (Universidad Técnica Particular de Loja, Ecuador), Alexandra González-Eras (Universidad Técnica Particular de Loja, Ecuador), Omar Ruiz Vivanco (Universidad Técnica Particular de Loja, Ecuador), and Daniel Guamán Coronel (Universidad Técnica Particular de Loja, Ecuador)</i>	

ChatGPT Implications on Higher Education: Educational Apocalypse or Educational Reboot? A Developing Countries Perspective	1685
<i>Olalekan Samuel Ogunleye (University of Mpumalanga, South Africa)</i>	
Tokenization of Digital Assets for Ethical and Equitable Model Training in an AI-Based Proctoring Application	1691
<i>Dragan Boscovic (Arizona State University, USA), Kashish Khullar (Arizona State University, USA), Pooja Bharathi Oguri (Arizona State University, USA), Pratyush Pandey (Arizona State University, USA), Mahdi Eghbali (Arizona State University, USA), Mike Olsen (Proctorio Inc., USA), and Milan Dordevic (Proctorio Inc., USA)</i>	
Curriculum for a New Five-Year Academic Program in Intelligent Systems Engineering and Software Engineering	1700
<i>Ashu M. G. Solo (Maverick Trailblazers Inc., U.S.A.)</i>	
Introducing Automatic Verification Strategy in Online Study of Computational Science	1708
<i>Jun Zhang (University of Maryland Eastern Shore, USA), Ruzong Fan (Georgetown University, USA), and Fangyang Shen (City University of New York, USA)</i>	
A Computer Based Evaluation System: Design, Implementation and Results on General Chemistry	1714
<i>Carmen Elena Stoenoiu (Technical University of Cluj-Napoca, Romania) and Lorentz Jäntschi (Technical University of Cluj-Napoca, Romania)</i>	
Understanding Teamwork in Dynamic Contexts: An Study in a Software Engineering Project Course	1721
<i>Maira Marques Samary (Boston College), Sergio Ochoa (Universidad de Chile), Luis Silvestre (Universidad de Talca), and Roc Meseguer (Universitat Politècnica de Catalunya)</i>	
Gamification Strategy for Learning Assessment in the Careers of the University Technological Institutes	1729
<i>Raisa Emilia Bernal Cerza (Instituto Superior Tecnológico Rumiñahui, Ecuador), Segundo Moisés Toapanta T (Instituto Tecnológico Superior Rumiñahui, Ecuador), Ignacio García Álvarez (Instituto Tecnológico Superior Rumiñahui, Ecuador), Carlos Esteban Gómez Avilés (Instituto Tecnológico Superior Rumiñahui, Ecuador), María José Rivera Gutiérrez (Instituto Tecnológico Superior Rumiñahui, Ecuador), Alain Quintana Bornot (Instituto Tecnológico Superior Rumiñahui, Ecuador), Estefany E. Nenger León (Instituto Tecnológico Superior Rumiñahui, Ecuador), and Eriannys Zharayth Gómez Díaz (Instituto Tecnológico Superior Rumiñahui, Ecuador)</i>	
Standard-Based Study for a Usability Engineering Online Blueprint Course in Conjunction with a Questionnaire	1734
<i>Mohammed Mahmoud (University of Jamestown, USA)</i>	

Analysis for Information Security in Virtual Environments for a Higher Education Institution	1739
<i>Carmén Inés Huerta Suárez (Instituto Tecnológico Superior Rumiñahui, Ecuador), Segundo Moisés Toapanta T (Instituto Tecnológico Superior Rumiñahui, Ecuador), Eriannys Zharayth Gómez Díaz (Instituto Tecnológico Superior Rumiñahui, Ecuador), Angel Ernesto Huerta Vélez (Instituto Tecnológico Superior Rumiñahui, Ecuador), Carmita Inés Suarez (Instituto Tecnológico Superior Rumiñahui, Ecuador), and Marcelo Zambrano Vizuite (Instituto Tecnológico Superior Rumiñahui, Ecuador)</i>	

Research Track on Education (CSCI-RTED) Short Research Papers

Design of an Introductory Java Parallel Programming Course for Non-Java Students	1746
<i>Xuguang Chen (Saint Martin's University)</i>	
Resources for Encouraging Academically Challenged Students and Their Impact	1750
<i>Dewan Tanvir Ahmed (University of North Carolina at Charlotte, USA)</i>	
Teaching and Learning Sorting Algorithms Using Animation	1755
<i>Yong Liang (Georgia Southern University)</i>	
RecPlugin : New Functionality for Learning Resources Recommendation	1760
<i>Corinne Amel Zayani (Sfax University, Tunisia), Mohamed Rekik (Sfax University, Tunisia), Leila Ghorbel (Monastir University, Tunisia), and Ronan Champagnat (La Rochelle University, France)</i>	
Examining the Potential of Micro-Aerial Vehicles for Tree Inspections as Climate Change Education Tools	1765
<i>Thomas Menkhoff (Singapore Management University, Singapore), Benjamin Gan (Singapore Management University, Singapore), and Shaohui Foong (Singapore University of Technology & Design, Singapore)</i>	
Developing a Usability Engineering Online Blueprint Course for Computer Science and Other Related Majors	1771
<i>Mohammed Mahmoud (University of Jamestown, USA)</i>	
Implementing AI in Physics Lessons in the High School	1775
<i>Nikos Bessas (University of Thessaly, Greece), Eleni Tzanaki (University of Thessaly, Greece), Dionisios Vavougiotis (University of Thessaly, Greece), and Vassilis Plagianakos (University of Thessaly, Greece)</i>	
Development of Skills in Learning a Foreign Language Under a Steam Approach	1780
<i>Néstor Andrés Díaz Ortiz (Fundación Universitaria del Area Andina, Colombia), Martha Jeannette Diaz Peña (Fundación Universitaria del Area Andina, Colombia), and Flor Emélida Hortua Mora (Fundación Universitaria del Area Andina, Colombia)</i>	
M-Learning Excellence: Personalized Mobile Learning for University Students via an Android App	1785
<i>Shutchapol Chopvitayakun (Suan Sunandha Rajabhat University, Thailand), Danucha Khamsakdee (Suan Sunandha Rajabhat University, Thailand), and Nuntaporn Aukkanit (Suan Sunandha Rajabhat University, Thailand)</i>	

Embracing ChatGPT in the Teaching and Learning of Finite Element Analysis in Engineering
Courses 1791
Qiang Xu (University of Huddersfield, United Kingdom) and Joan Lu
(University of Huddersfield, United Kingdom)

Author Index