CSCI 2020 CONFERENCE SCHEDULE

The 2020 International Conference on Computational Science and Computational Intelligence

https://www.american-cse.org/csci2020/
December 16 - 18, 2020
Luxor (an MGM Resorts International), 3900 Las Vegas Blvd South,
Las Vegas, Nevada 89119, USA

Note that the title of presentations and authors' names that appear in the schedule below were extracted from the papers that were submitted to the EVALUATION web site. The official published proceedings/book will have any and all changes/revisions that authors may have done to the title and/or authors lists in the final version of their manuscripts.

Please note that the protocol for Social Distancing will be followed and also there will be a daily fast COVID-19 testing available for all CSCI attendees (at no cost to them). The COVID-19 lab staff are stationed in the Egyptian Ballroom (located a few yards from the conference rooms.)

ALL TIMES ARE GIVEN IN TERMS OF USA PACIFIC TIME ZONE.

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Luxor (an MGM Resorts International), 3900 Las Vegas Blvd South,
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December 16

DECEMBER 16, 2020
THERE ARE TWO SETS OF CONCURRENT SESSIONS ON December 16, 2020; ONE SET OF SESSIONS (ON-SITE PRESENTATIONS) WILL BE HELD IN BALLROOMS GALLERIA B-C AND THE OTHER SET OF SESSIONS WILL BE ONLINE (THE ZOOM LINK IS ALREADY PROVIDED TO SPEAKERS AND ALL REGISTERED AUTHORS).

06:30 – 10:30am: On-Site COVID-19 Testing for all attendees (logistical information will be emailed)

07:30a - 05:00p: **REGISTRATION**
(LOCATION: Lotus Ballroom 1)

ON-SITE PRESENTATIONS & ACTIVITIES (DECEMBER 16)
==========

10:00am … **BOXED BREAKFAST + REFRESHMENTS**
10:30 – 11:00am: **OPENING REMARKS + BOXED BREAKFAST - December 16, 2020, Wednesday;**
CSCI 2020 Steering Committee representative,
Prof. Hamid R. Arabnia
Department of Computer Science, University of Georgia, USA;
Editor-in-Chief, The Journal of Supercomputing (Springer);
Editor, Transactions of Computational Science & Computational Intelligence (Springer)
(LOCATION: Ballrooms Galleria B-C)

SESSION 1-WED: **DATA SCIENCE, INTERNET OF THINGS AND APPLICATIONS**
Co-Chairs: Prof. Ruby Mehrubeoglu* and Prof. Pablo Rivas**
***College of Science and Engineering,**
Texas A&M University - Corpus Christi, Texas, USA
****Baylor University, Texas, USA**
December 16, 2020 (Wednesday); 11:00am – 01:00pm
(LOCATION: Ballrooms Galleria B-C)

11:00 – 11:30am: Discovering a Learning Module for Poker's Rule through
Data Mining Algorithms
Tsenguun Tsogbadrakh, Amal Alhosban
Department of Computer Science, Engineering and Physics,
University of Michigan - Flint, Michigan, USA
SPEAKER: Tsenguun Tsogbadrakh

11:30a – 12:00p: Proposal of Heartbeat-transmitting Application for
Long-distance Communication
Yui Tanaka, Takayuki Fujimoto
Toyo University, Tokyo, Japan
SPEAKER: Ms. Yui Tanaka

December 16

12:00 – 12:30pm: Impact of Weather Conditions on the COVID-19 Pandemic in the United States: A Big Data Analytics Approach
Farid Ghareh Mohammadi, Farzan Shenavarmasouleh, M. Hadi Amini, Hamid R. Arabnia
Department of Computer Science, University of Georgia, USA; School of Computing and Information Sciences, College of Engineering and Computing Sustainability, Optimization, and Learning for InterDependent Networks Laboratory (solid lab), Florida International University, Miami, Florida, USA
SPEAKER: Farid GharehMohammadi

12:30 – 01:00pm: "Touch a paper" System Design for Reading Utilizing Physical Touch
Yulana Watanabe, Takayuki Fujimoto
Graduate School of Information Sciences and Arts, Toyo University, Tokyo, Japan
SPEAKER: Ms. Yulana Watanabe

01:00 – 02:00pm: LUNCH (On Your Own)

SESSION 2-WED: HPC, PARALLEL & DISTRIBUTED PROCESSING AND INTERNET OF THINGS
Chair: Dr. Douglas D. Hodson
US Air Force Institute of Technology (AFIT), USA
December 16, 2020 (Wednesday); 02:00pm - 03:00pm
(LOCATION: Ballrooms Galleria B-C)

02:00 – 02:20pm: Visualized Model using a Tree Structure for a Transmedia Storytelling Project Design
Shunsuke Aoki, Takayuki Fujimoto
Graduate School of Information Sciences and Arts, Toyo University, Tokyo, Japan
SPEAKER: Shunsuke Aoki

02:20 – 02:40pm: Visual verification of the Use of Educational Space as Advertising Medium in Consideration of Display Position
Kanata Itoh, Takayuki Fujimoto
Graduate School of Information Sciences and Arts, Toyo University, Tokyo, Japan
SPEAKER: Kanata Itoh

02:40 – 03:00pm: Data-Saving office System That Can Be Stored on a Floppy Disk
Miki Sunakawa, Takayuki Fujimoto
Graduate School of Information Sciences and Arts, Toyo University, Tokyo, Japan
SPEAKER: Ms. Miki Sunakawa

03:00 - 03:30pm: BREAK (Refreshments)

SESSION 3-WED: COMPUTATIONAL SCIENCE, HPC, AI, AND APPLICATIONS
Chair: Dr. Douglas D. Hodson
US Air Force Institute of Technology (AFIT), USA
December 16, 2020 (Wednesday); 03:30pm – 05:40pm
(LOCATION: Ballrooms Galleria B-C)

03:30 - 04:00pm: Using Serde to Serialize and Deserialize DIS PDUs
Noah W. Scott, Douglas D. Hodson, Richard Dill,
Michael R. Grimaila
Air Force Institute of Technology, Wright
Patterson AFB, Ohio, USA
SPEAKER: Dr. Douglas Hodson
(Pre-recorded presentation is also available - refer
to the Book of Abstracts).

04:00 - 04:30pm: A Framework for Modeling a Real-Time Radar System
Brennen T. Garland, Douglas D. Hodson*, Scott L. Nykl,
Richard Dill, Michael R. Grimaila
Air Force Institute of Technology, Wright
Patterson AFB, Ohio, USA
SPEAKERS: Dr. Michael Grimaila / Dr. Richard Dill
(Pre-recorded presentation is also available - refer
to the Book of Abstracts).

04:30 - 05:00pm: Recursive MaxSquare: Cache-friendly, Parallel, Scalable
in situ Rectangular Matrix Transposition
Claudio A. Parra*, Travis Yu, Kyu Seon Yum,
Arturo Garza, Isaac D. Scherson
Department of Computer Science - Systems, University
of California, Irvine, California, USA
SPEAKER: Claudio A. Parra

05:00 - 05:20pm: Design of Humanity by the Concept of Artificial Personalities
Taishi Nemoto, Takayuki Fujimoto
Graduate School of Information Sciences and Arts,
Toyo University, Tokyo, Japan
SPEAKER: Taishi Nemoto

05:20 – 05:40pm: Application of Deep Learning and Video Captioning
Soheyla Amirian, Hamid R. Arabnia, et al.
Department of Computer Science, University of
Georgia, USA
SPEAKER: Ms. Soheyla Amirian

07:00 - 08:30pm: CONFERENCE RECEPTION DINNER
(Protocol to be observed: Social Distancing)
December 16, 2020 (Wednesday); 07:00pm - 08:30pm
(LOCATION: Velvet Room Blue)

ONLINE PRESENTATIONS (DECEMBER 16)
==========
The online presentations are scheduled from 07:00am till 09:00pm daily - this is to serve online speakers, online attendees, and participants who are residing in different time zones. The conference has also granted the request from the administrations of 8 institutions to live stream the online sessions for their classroom sessions (one connection per institution).

SESSION 1-ONLINE: CYBER WARFARE, CYBER DEFENSE, & CYBER SECURITY
Chairs: Steering Committee
December 16, 2020 (Wednesday); 07:00am - 09:00am
(ONLINE - ZOOM)

07:00 – 07:20am: Cloud Incident Response: Challenges and Opportunities
Murat Ozer, Said Varlioglu, Bilal Gonen, Victor Adewopo, Nelly Elsayed, Selcuk Zengin
School of Information Technology, University of Cincinnati, Ohio, USA
SPEAKER: Said Varlioglu

07:20 – 07:40am: Creating a Real-Time Geocoding System: Implications of Open Source for the Public Safety
Murat Ozer, Michael Zidar, Rustu Deryol, Said Varlioglu, Ibrahim Sevki Eldivan, Halil Akbas
School of Information Technology, University of Cincinnati, Ohio, USA; Department of Criminology, University of South Florida, Sarasota, Florida, USA; Lodi, New Jersey, USA; Antroplogy Sociology Criminology, Troy University, Troy, Alabama, USA
SPEAKER: Dr. Murat Ozer

07:40 – 08:00am: OctoBot: Human Activity Orchestration System for Cybersecurity Experiment and Exercise
Aris Cahyadi Risdianto, Ee-Chien Chang
School of Computing, National University of Singapore (NUS), Singapore

08:00 - 08:20am: Optimizing Cyber Security Education: Implementation Of Bloom's Taxonomy for the Future Cyber Security Workforce
Nageswaree Kodai Ramsoonder, Selvamanee Kinnoo, Craig Valli, Nicola F. Johnson
Security Research Institute, Edith Cowan University, Australia
SPEAKER: Ms. Anna Griffin

08:20 - 08:40am: Detection and Defense from False Data Injection Attacks in Aviation Cyber-Physical Systems Using Artificial Immune Systems
Abdulaziz A. Alsulami, Saleh Zein-Sabatto
Department of Electrical and Computer Engineering, Tennessee State University, Nashville, Tennessee, USA
SPEAKER: Abdulaziz Alsulami

08:40 - 09:00am: Analytical Framework for National Cyber-security and Corresponding Critical Infrastructure: A Pragmatistic Approach
Marc Wright, Hassan Chizari, Thiago Viana
School of Computing and Engineering, University of Gloucstershire, Cheltenham, United Kingdom, UK
SPEAKER: Marc Wright

December 16

SESSION 2-ONLINE: CLOUD COMPUTING, DATA CENTERS, MOBILE COMPUTING, SOCIAL NETWORKS
Chairs: Steering Committee
December 16, 2020 (Wednesday); 09:00am - 10:20am
(ONLINE - ZOOM)

09:00 - 09:20am: Understanding Violence Against Women in Digital Space from a Data Science Perspective
Gregorio Arturo Reyes Gonzalez
Tecnologico de Monterrey, School of Engineering and Sciences, Monterrey, NL, Mexico
SPEAKER: Gregorio Arturo Reyes Gonzalez

09:20 - 09:40am: Controller Area Network Security Requirements
Vinayak Tanksale
Electrical and Computer Engineering, Purdue University, West Lafayette, Indiana, USA
SPEAKER: Vinayak Tanksale

09:40 - 10:00am: A Novel Cloud Authentication Framework
Latifa Khalid ALnwihel, Abdul Raouf Khan
Department of Computer Science, King Faisal University, Alahsa, Saudi Arabia
SPEAKER: Ms. Latifa Khalid Alnwihel

10:00 - 10:20am: Lightweight Multi-factor Authentication for Underwater Wireless Sensor Networks
Ahmed Al Guqhaiman, Oluwatobi Akanbi, Amer Aljaedi, C. Edward Chow
Department of Computer Science, University of Colorado Colorado Springs, Colorado, USA; Department of Computer Networks and Communications, King Faisal University, Hofuf, Saudi Arabia; College of Computing and Information Technology, University of Tabuk, Saudi Arabia
SPEAKER: Ahmed Al Guqhaiman

SESSION 3-ONLINE: COMPUTATIONAL AND ARTIFICIAL INTELLIGENCE, DATA SCIENCE
Chairs: Steering Committee
December 16, 2020 (Wednesday); 10:20am - 12:00pm
(ONLINE - ZOOM)

10:20 - 10:40am: A Conceptual Model for Real-Time Binaural-Room Impulse Responses Generation using ANNs in Virtual Environments: State of the Art
Daniel A. Sanaguano, Jose Lucio Naranjo, and Roberto A. Tenenbaum
Escuela Politecnica Nacional, Quito, Ecuador; Universidade Federal de Santa Maria, Santa Maria, Brazil
SPEAKER: Daniel Sanaguano

10:40 - 11:00am: Bilateral Trade Flow Prediction Models Enhanced by Wavelet and Machine Learning Algorithms
Evdokia Maria Kottou, Tyler Andrew Grubelich, Xiaodi Wang
Department of Mathematics, Western Connecticut State University, Connecticut, USA; Farmington High School, Connecticut, USA
SPEAKERS: Tyler Grubelich / Ms. Evdokia Kottou

11:00 - 11:20am: Discovery of Burglary Hotspots and Extraction of their Features
Andrew Little, Ray R. Hashemi, Jeffrey Young
Department of Computer Science, Georgia Southern University, Savannah, Georgia, USA; Department of Computer Science, Clemson University, Clemson, South Carolina, USA
SPEAKER: Dr. Ray Hashemi

11:20 - 11:40am: A Summary Evaluation Method Combining Linguistic Quality and Semantic Similarity
Xingwen Wang, Bo Liu, Libin Shen, Yong Li, Rentao Gu, and Guangzhi Qu
Beijing University of Technology, Beijing, P. R. China; Beijing University of Posts and Telecommunications, Beijing, P. R. China; Oakland University, Rochester, Michigan, USA
SPEAKER: Xingwen Wang

11:40a - 12:00p: An Auto Optimized Payment Service Requests Scheduling Algorithm via Data Analytics through Machine Learning
George Wanganga, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA
SPEAKER: George Wanganga

SESSION 4-ONLINE: CLOUD COMPUTING, DATA CENTERS, AND DATA SCIENCE
Chairs: Steering Committee
December 16, 2020 (Wednesday); 12:00pm - 01:40pm
(ONLINE - ZOOM)

12:00 - 12:20pm: Predicting Large-scaled, Cloud-hosted Virtual World Resource Demands for Automated Load Balancing
Nikki Sharma, Kelly Rivera, Anastasia Angelopoulou, and Sean Mondesire
College of Science, St. Thomas University, Miami, Florida, USA; College of Science, Columbus State University, Columbus, Georgia, USA
SPEAKER: Ms. Kelly Rivera

12:20 - 12:40pm: A Mediated Multi-RNN Hybrid System for Prediction of Stock Prices
Ray R. Hashemi, Omid M. Ardakani, Azita A. Bahrami, and Jeffrey A. Young
Department of Computer Science, Georgia Southern University, Savannah, Georgia; Department of Economics, Georgia Southern University, Savannah, Georgia; IT Consultation, Savannah, Georgia; Department of Computer Science, Clemson University, South Carolina, USA
SPEAKER: Dr. Omid Ardakani

12:40 - 01:00pm: A Suggested Taxonomy for Governmental Clouds
Konstantinos Roungeris, Dimitris Zissis, George S. Androulakis
Department of Business Administration, University of Patras, Greece; Department of Product and Systems Design Engineering, University of Aegean, Greece
SPEAKER: Konstantinos Roungeris

01:00 - 01:20pm: Using Process Maps to Analyze Researchers' Productivity Behavior
Gilberto Ayala-Bastidas, Hector G. Ceballos, Francisco J. Cantu-Ortiz, Luciano Garcia-Banuelos
School of Engineering and Science, Tecnologico de Monterrey, Monterrey, Mexico
SPEAKER: Dr. Gilberto Ayala-Bastidas

01:20 - 01:40pm: Utilizing Fuzzy Logic for Assessing "FAIRness" of a Digital Resource
Abdullah Alowairdhi, Xiaogang Ma
Department of Computer Science, University of Idaho, Moscow, Idaho, USA
SPEAKER: Abdullah Alowairdhi

SESSION 5-ONLINE: SOCIAL NETWORK ANALYSIS, SOCIAL MEDIA, & MINING
Chairs: Steering Committee
December 16, 2020 (Wednesday); 01:40pm - 04:00pm
(ONLINE - ZOOM)

01:40 - 02:00pm: Scoring Popularity in GitHub
Abduljaleel Al-Rubaye, Gita Sukthankar
Department of Computer Science, University of Central Florida, Orlando, Florida, USA
SPEAKER: Abduljaleel Al-Rubaye

02:00 - 02:20pm: Evaluation of Elements of a Prospective System to Alert Users to Intentionally Deceptive Content
Matthew Spradling, Jeremy Straub
Department of Computer Science, Engineering and Physics, University of Michigan Flint, Michigan, USA;
Institute for Cyber Security Education and Research & Challey Institute Faculty Fellow, North Dakota State University, Fargo, North Dakota, USA
SPEAKER: Dr. Matthew Spradling

02:20 - 02:40pm: A New Ensemble Method for Classifying Sentiments of COVID-19 Related Tweets
Meng Hsiu Tsai, Yingfeng Wang
Department of Computer Science and Engineering, University of Tennessee at Chattanooga, Tennessee, USA
SPEAKER: Dr. Yingfeng Wang

02:40 - 03:00pm: Optimizing Global Processing Time in the Detection of Patterns Related to Suicide in Social Networks
Damian Martinez Diaz, Francisco Javier Luna Rosas, Julio Cesar Martinez Romo, Marco Antonio Hernandez Vargas, Ivan Castillo Zuniga
Departamento de Sistemas y Computacion, Instituto Tecnologico de Aguascalientes (ITA), Mexico
SPEAKER: Damian Martinez Diaz

03:00 - 03:20pm: On the Accuracy Evaluation of Access Control Policies in a Social Network
Jedidiah Yanez-Sierra, Arturo Diaz-Perez, Victor Sosa-Sosa
Cinvestav - Tamaulipas, Cd. Victoria, Mexico;
Cinvestav - Guadalajara, Guadalajara, Mexico
SPEAKER: Jedidiah Yanez-Sierra

03:20 - 03:40pm: Rules for Optimal Perpetual Gossiping Schemes
Ivan Avramovic, Dana S. Richards
Department of Computer Science, George Mason University, Fairfax, Virginia, USA
SPEAKER: Prof. Ivan Avramovic

03:40 - 04:00pm: Shapley based Interpretable Semi-supervised Model for Detecting Similarity Index of Social Media Campaigns
Aman Framewala, Aum Patil, Faruk Kazi
Centre of Excellence in Complex & Nonlinear Dynamical Systems, VJTI, Mumbai, India
SPEAKER: Dr. Faruk Kazi

SESSION 6-ONLINE: COMPUTATIONAL INTELLIGENCE, AI, AND IMAGING SCIENCE
Chairs: Steering Committee
December 16, 2020 (Wednesday); 04:00pm - 07:00pm
(ONLINE - ZOOM)

04:00 - 04:20pm: Detecting Keypoints for Automated Annotation of Bounding Boxes using Keypoint Extraction
Kaito Ishizaki, Kasuki Saruta, Hiroshi Uehara
Department of Management Science and Engineering, Akita Prefecural University, Akita, Japan; Department of Information and Computer Science, Akita Prefecural University, Akita, Japan
SPEAKER: Prof. Hiroshi Uehara

04:20 - 04:40pm: A Review of Convolutional Neural Networks and Gabor Filters in Object Recognition
Mehang Rai, Pablo Rivas
Department of Computer Science, Baylor University, Waco, Texas, USA
SPEAKER: Mehang Rai

04:40 - 05:00pm: Cross-Road Accident Responsibility Prediction Based on a Multiagent System
Helton Agbewonou Yawovi, Tadachika Ozono, and Toramatsu Shintani
Department of CS, Graduate School of Engineering - Nagoya Institute of Technology, Nagoya, Japan
SPEAKER: Agbewonou Helton

05:00 - 05:20pm: Comparisons of Full Body and Facial Dog Identification
Ridnarong Promya, Somying Thainimit, Chalermpol Charnsripinyo, Yasuharu Koike
Department of EE, Kasetsart University, Bangkok, Thailand; Internet Innovation Research Team, National Electronics and Computer Technology Center, Bangkok, Thailand; Department of Information and Communication Engineering, Tokyo Institute of Technology, Tokyo, Japan
SPEAKER: Dr. Somying Thainimit

05:20 - 05:40pm: Complexity-Based Convolutional Neural Network for Malware Classification
Kenneth Brezinski, Ken Ferens
Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, Canada
SPEAKER: Kenneth Brezinski

05:40 - 06:00pm: Classifying False Alarms in Camera Trap Images using Convolutional Neural Networks
Joseph Granados, Chris Halle, Gurman Gill
Department of Computer Science, Sonoma State University, Rohnert Park, California, USA; Center of Environmental Inquiry, Sonoma State University, California, USA
SPEAKER: Dr. Gurman Gill

06:00 - 06:20pm: Multi-Class Weather Classification Using ResNet-18 CNN for Autonomous IoT and CPS Applications
Qasem Abu Al-Haija, Mahmoud A. Smadi, Saleh Zein-Sabatto
Department of ECE, Tennessee State University, Nashville, Tennessee, USA; Department of EE, The Hashemite University (HU), Zarqa, Jordan
SPEAKER: Dr. Qasem Abu Al-Haija

December 16

06:20 - 06:40pm: Scene Text Recognition With Shared Rectification and Representation
Gang Wang, Hua-Ping Zhang, Jian-Yun Shang
School of Computer Science, Beijing Institute of Technology, Beijing, P. R. China; School of Software, Beijing Institute of Technology, Beijing, P. R. China
SPEAKER: Gang Wang

06:40 - 07:00pm: Kubernetes-based Workload Allocation Optimizer for Minimizing Power Consumption of Computing System with Neural Network
Ryuki Douhara, Ying-Feng Hsu, Tomoki Yoshihisa, Kazuhiro Matsuda, Morito Matsuoka
Graduate School of Information Science and Technology, Osaka University, Osaka, Japan; Cybermedia Center, Osaka University, Osaka, Japan
SPEAKER: Ryuki Douhara

DECEMBER 17, 2020

THERE ARE TWO SETS OF CONCURRENT SESSIONS ON December 17, 2020; ONE SET OF SESSIONS (ON-SITE PRESENTATIONS) WILL BE HELD IN BALLROOMS GALLERIA B-C AND THE OTHER SET OF SESSIONS WILL BE ONLINE (THE ZOOM LINK IS ALREADY PROVIDED TO SPEAKERS AND ALL REGISTERED AUTHORS).

7:30am - 5:00pm: REGISTRATION
(LOCATION: Lotus Ballroom 1)

ON-SITE PRESENTATIONS & ACTIVITIES (DECEMBER 17)
==========

08:00 - 08:30am: (Refreshments - Continental Breakfast)

SESSION 4-THU: COMPUTATIONAL INTELLIGENCE, AI, AND APPLICATIONS
Chair: Prof. Ruby Mehrubeoglu
College of Science and Engineering,
Texas A&M University - Corpus Christi, Texas, USA
December 17, 2020 (Thursday); 08:30am - 10:00am
(LOCATION: Ballrooms Galleria B-C)

08:30 - 09:00am: Machine Learning for Dense Crowd Direction Prediction
Using Long Short-Term Memory
Abdullah Alajlan, Alaa Edris, Frederick Sheldon,
Terence Soule
CS Department, University of Idaho, Moscow, Idaho, USA;
CS Department, Technical and Vocational Training Corporation
Riyadh, Saudi Arabia; CS Department, University of Jeddah,
Saudi Arabia
SPEAKER: Abdullah Alajlan

09:00 - 09:30am: A Proof of Sparseness, Optimality, and Convergence of
an LP-SVR
Pablo Rivas, Korn Sooksatra
School of Engineering and Computer Science, Department
of Computer Science, Baylor University, Waco, Texas, USA
SPEAKER: Dr. Pablo Rivas

09:30 - 10:00am: A Review of Machine Learning and Cryptography Applications
Korn Sooksatra, Pablo Rivas
School of Engineering and Computer Science, Department
of Computer Science, Baylor University, Waco, Texas, USA
SPEAKER: Korn Sooksatra

10:00 - 10:30am: BREAK (Refreshments)

SESSION 5-THU: COMPUTATIONAL INTELLIGENCE, COMPUTER VISION & IMPAGING SCIENCE
Chair: Prof. Lifford McLauchlan
School of Engineering and Computing Sciences,
Texas A&M University - Corpus Christi, Texas, USA
December 17, 2020 (Thursday); 10:30am - 12:00pm
(LOCATION: Ballrooms Galleria B-C)

10:30 - 11:00am: Quantifying Plastic Bottle Debris in Waterways Using Image Processing
Katlin Walden, Mehrube Mehrubeoglu
Department of Engineering, Texas A&M University - Corpus Christi, Texas, USA
SPEAKER: Dr. Mehrube Mehrubeoglu

11:00 - 11:30am: A Computer Vision Framework for Quantification of Feather Growth Patterns
Tyler Thompson, Anna Vickrey, Mike Shapiro, Edward Hsu
Department of Biomedical Engineering, University of Utah, Salt Lake City, Utah, USA; Department of Biology, University of Utah, Salt Lake City, Utah, USA
SPEAKER: Tyler Thompson

11:30a - 12:00p: Defect Detection in PV Arrays Using Image Processing
Akshat V. Patel, Lifford McLauchlan, Mehrube Mehrubeoglu
Department of Electrical Engineering & Computer Science, Texas A&M University - Kingsville, Texas, USA;
Department of Engineering, Texas A&M University - Corpus Christi, Texas, USA
SPEAKER: Dr. Lifford McLauchlan

12:00 - 01:00pm: LUNCH (On Your Own)

SESSION 6-THU: AI, INTERNET OF THINGS, AND EDUCATION
Chair: Madara Pratt
Vidzeme University of Applied Sciences, Valmiera, Latvia
December 17, 2020 (Thursday); 01:00pm - 03:00pm
(LOCATION: Ballrooms Galleria B-C)

01:00 - 01:30pm: Unsupervised Learning with Word Embeddings Captures Quiescent Knowledge from COVID-19 Drugs Literature
Tasnim Gharaibeh, Elise de Doncker
Department of Computer Science, Western Michigan University, Kalamazoo, Michigan, USA
SPEAKER: Ms. Tasnim Gharaibeh

01:30 - 02:00pm: Unofficial API and Browser Extension Development for Augmenting Student Resources
Trey Stone, Asma Ahmed, Travis Vensel, Yanyan Li
Department of Computer Science & Information Systems, California State University San Marcos, California, USA
SPEAKERS: Trey Stone, Asma Ahmed, Travis Vensel

02:00 - 02:30pm: Performance Analysis of IoT Physical Layer Security Using 3-D Stochastic Geometry
Hela Chamkhia, Aiman Erbad, Abdullah Al-Ali, Amr Mohamed, Ahmed Refaey, Mohsen Guizani
Computer Science and Engineering, Qatar University, Qatar; College of Science and Engineering, Hamad Bin Khalifa University, Qatar; Electrical Engineering, University of Western Ontario, Canada
SPEAKER: Dr. Mohsen Guizani

02:30 - 03:00pm: Key Generation Based Fuzzy Logic and Elliptic Curve Cryptography for Internet of Things (IoT) Authentication
Abderrazak Abdaoui, Ayman Erbad, Abdulla Al-Ali, Amr Mohamed, Mohsen Guizani
College of Science and Engineering, Hamad Bin Khalifa University, Doha, Qatar; Computer Science Department College of Engineering, Qatar University, Doha, Qatar
SPEAKER: Dr. Mohsen Guizani

03:00 - 03:30pm: BREAK (Refreshments)

December 17

SESSION 7-THU: COMPUTATIONAL SCIENCE, AI, AND MOBILE COMPUTING
Chair: Madara Pratt
Vidzeme University of Applied Sciences, Valmiera, Latvia
December 17, 2020 (Thursday); 03:30pm - 04:30pm
(LOCATION: Ballrooms Galleria B-C)

03:30 - 04:00pm: Development of an Effective and Secure Communication System in a Quarantine Situation
Madara Pratt, Sarma Cakula, Ginta Majore, Egons Buss
Vidzeme University of Applied Sciences, Valmiera, Latvia;
Latvijas Mobilais Telefons Sia (LMT), Riga, Latvia
SPEAKER: Ms. Madara Pratt

04:00 - 04:30pm: DRDr II: Detecting the Severity Level of Diabetic Retinopathy Using Mask RCNN and Transfer Learning
Farzan Shenavarmasouleh, Farid Ghareh Mohammadi,
M. Hadi Amini, Hamid R. Arabnia
Department of Computer Science, University of Georgia;
School of Computing & Information Sciences, solid lab,
Florida International University, Miami, Florida, USA
SPEAKER: Farzan Shenavarmasouleh / Farid Ghareh Mohammadi

05:00 - 07:00pm: ON-SITE SESSIONS/PRESENTATIONS CLOSING REMARKS
(In case of interest, we will arrange an informal panel discussion.)

ONLINE PRESENTATIONS (DECEMBER 17)
==========
The online presentations are scheduled from 06:40am till 09:00pm daily - this is to serve online speakers, online attendees, and participants who are residing in different time zones. The conference has also granted the request from the administrations of 8 institutions to live stream the online sessions for their classroom sessions (one connection per classroom / institution).

SESSION 7-ONLINE: DATA SCIENCE AND APPLICATIONS + SOCIAL NETWORKS + HPC
Chairs: Steering Committee
December 17, 2020 (Thursday); 06:40am - 09:00am
(ONLINE - ZOOM)

06:40 – 07:00am: A Novel Fuzzy Clustering Method based on GA, PSO and Subtractive Clustering
Thanh Le
University of Economics, Ho Chi Minh City, Vietnam

07:00 – 07:20am: An Attention-based Deep Learning Method for Text Sentiment Analysis
Thanh Le
University of Economics, Ho Chi Minh City, Vietnam

07:20 – 07:40am: An Evaluation of Tweet Sentiment Classification Methods
Lihua Yao, Hassan Alam, Jerry Li, Oleg Melnokov
Department of Defense, Office of People Analytics, Seaside, California;
AI Assessment Center; DeepHole AI Consulting;
Stanford University, California, USA
SPEAKER: Dr. Lihua Yao

07:40 – 08:00am: Data Optimal Large Batch Distributed Training of Deep Neural Network
Shubhankar Gahlot, Junqi Yin, Mallikarjun (Arjun) Shankar
Oak Ridge National Lab, Oak Ridge, Tennessee, USA
SPEAKER: Shubhankar Gahlot

08:00 - 08:20am: Emotion Detection in Twitter Posts: A Rule-based Algorithm for Annotated Data Acquisition
Maria Krommyda, Anastasios Rigos, Kostas Bouklas, and Angelos Amditis
Institute of Communication and Computer Systems, Athens, Greece
SPEAKER: Maria Krommyda

08:20 - 08:40am: Extraction of Key Concept Relevance Graphs from Fourteen Decades of Psychoanalytic Journal Publications
Sheryl Brahnam, Rick Brattin, Andrew Crofford, and Justin Freres
Information Technolgy & Cybersecurity, Missouri State University, Springfield, Missouri, USA
SPEAKER: Dr. Sheryl Brahnam

08:40 - 09:00am: A Low Cost LoRa-based IoT Big Data Capture and Analysis System for Indoor Air Quality Monitoring
Matthew Meli, Edward Gatt, Owen Casha, Ivan Grech, and Joseph Micallef
Department of Microelectronics & Nanoelectronics, University of Malta, Msida, Malta
SPEAKER: Matthew Meli

SESSION 8-ONLINE: EDUCATION - TEACHING STRATEGIES, STEM, CURRICULUM ISSUES
Chairs: Steering Committee
December 17, 2020 (Thursday); 09:00am - 10:40am
(ONLINE - ZOOM)

09:00 - 09:20am: The System's Holding me Back - Challenges of Teaching Computing in Further Education
Jordan Allison
Technical and Applied Computing, University of Gloucestershire, United Kingdom, UK
SPEAKER: Jordan Allison

09:20 - 09:40am: A Framework for Effective Continuing Professional Development: The Case of Computer Science Teachers within Further Education Colleges
Jordan Allison
Technical and Applied Computing, University of Gloucestershire, United Kingdom, UK
SPEAKER: Jordan Allison

09:40 - 10:00am: Designing a Parallel Programming Course for Lower-Division Students
Xuguang Chen
Computer Science Department, Saint Martin's University, Lacey, Washington, USA
SPEAKER: Dr. Xuguang Chen

10:00 - 10:20am: Evaluation of Group Projects in an Undergraduate Data Structure Course
Anurag Dasgupta
Valdosta State University, Georgia, USA
SPEAKER: Dr. Anurag Dasgupta

10:20 - 10:40am: Remote Collaboration Potential in STEM Education using Bare Machine Computing Research
Nirmala Soundararajan, Joel Weymouth, Ramesh Karne, Alexander L. Wijesinha, Navid Ordouie
Computer and Information Sciences, Towson University, Towson, Maryland, USA
SPEAKER: Ms. Nirmala Soundararajan

SESSION 9-ONLINE: HEALTH INFORMATICS AND MEDICAL SYSTEMS & SECURITY
Chairs: Steering Committee
December 17, 2020 (Thursday); 10:40am - 12:40pm
(ONLINE - ZOOM)

10:40 - 11:00am: A Fast and Accurate Myocardial Infarction Detector
Harold Martin, Walter Izquierdo, Ulyana Morar, and Malek Adjouadi
Department of Electrical and Computer Engineering, Florida International University, Miami, Florida, USA
SPEAKER: Harold Martin

11:00 - 11:20am: A Deep-Learning Approach for the Prediction of Mini-Mental State Examination Scores in a Multimodal Longitudinal Study
Ulyana Morar, Harold Martin, Walter Izquierdo, Parisa Forouzannezhad, Elaheh Zarafshan, Rosie E. Curiel, Monica Roselli, David Loewenstein, Ranjan Duara, Malek Adjouadi
Department of ECE, Florida International University, Miami, Florida; Department of Psychiatry & Behavioral Sciences, University of Miami, Florida; Department of Psychology, Florida Atlantic University, Boca Raton, Florida; Wien Center of Alzheimers Dis & Memory Disorders, Mt Sinai Med Center, Miami, Florida, USA
SPEAKER: Ms. Ulyana Morar

11:20 - 11:40am: An Open-source Application Built with R Programming Language for Clinical Laboratories to Innovate Process of Excellence and Overcome the Uncertain Outlook during the Global Healthcare Crisis
Maria Helena Rivero
Harrisburg University of Science and Technology, Harrisburg, PA, USA
SPEAKER: Ms. Maria Helena Rivero

11:40a - 12:00p: Toward Generating Synthetic CT Volumes using a 3D-Conditional Generative Adversarial Network
Jayalakshmi Mangalagiri, David Chapman, Aryya Gangopadhyay, Yaacov Yesha, Joshua Galita, Sumeet Menon, Yelena Yesha, Babak Saboury, Michael Morris, Phuong Nguyen
University of Maryland, Baltimore County, Baltimore, Maryland, USA; National Institutes of Health Clinical Center, Bethesda, Maryland, USA; Networking Health, Glen Burnie, Maryland, USA; OpenKneck Inc., Halethorpe, Maryland, USA
SPEAKER: Ms. Jayalakshmi Mangalagiri

12:00 - 12:20pm: The Evaluation of Mobile Technology Adoption as a Employee Training Tool between Pre-COVID and COVID
Anastasia Tracy Biggs
School of Computer Science and Information Technology, Colorado Technical University, colorado, USA
SPEAKER: Ms. Anastasia Biggs

12:20 - 12:40pm: An Edge Computing Based Situation Enabled Crowdsourcing Blacklisting System for Efficient Identification of Scammer Phone Numbers
Chen-Yeou Yu, Carl K. Chang, Wensheng Zhang
Department of Computer Science, Iowa State University, Ames, Iowa, USA
SPEAKER: Chen-Yeou Yu

SESSION 10-ONLINE: SOFTWARE ENGINEERING RESEARCH AND PRACTICE
Chairs: Steering Committee
December 17, 2020 (Thursday); 12:40pm - 02:40pm
(ONLINE - ZOOM)

12:40 - 01:00pm: Automated Testing of Mobile Applications Using a Robotic Arm
Demian Frister, Aleksandar Goranov, Andreas Oberweis
Karlsruhe Institute of Technology (KIT), AIFB, Karlsruhe, Germany; FZI Research Center for Information Technology, Karlsruhe, Germany
SPEAKER: Demian Frister

01:00 - 01:20pm: Large-Scale Agile Implementation in Large Financial Institutions: A Systematic Literature Review
Chris H. Hoeseb, Maureen Tanner
Department of Information Systems, University of Cape Town, Cape Town, South Africa
SPEAKER: Chris Hoeseb

01:20 - 01:40pm: Impacts of the Space Technology Evolution in the V&V of Embedded Software-Intensive Systems
Carlos L. G. Batista, Tania Basso, Fatima Mattiello-Franciso, Regina Moraes
National Institute for Space Research (INPE), Sao Jose dos Campos, Brazil; University of Campinas (UNICAMP), Limeira, Brazil; University of Coimbra (UC), Coimbra, Portugal
SPEAKER: Carlos Batista

01:40 - 02:00pm: Robustness Testing of Safety-critical Systems: A Portable Insulin Pump Application
Aiman Gannous, Anneliese Andrews, Lamees Alhazzaa
Department of Computer Science, University of Denver, Colorado, USA
SPEAKER: Dr. Aiman Gannouos

02:00 - 02:20pm: Detecting Software Security Vulnerability during an Agile Development by Testing the Changes to the Security Posture of Software Systems
Benjamin Arnold, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA
SPEAKER: Dr. Benjamin Arnold

02:20 - 02:40pm: Automated Estimation of the Rate of Equivalent Mutants
Amani Ayad, Ali Mili
SUNY, Farmingdale State College, New York, USA; New Jersey Institute of Technology, NJIT, Newark, New Jersey, USA
SPEAKER: Dr. Amani Ayad

SESSION 11-ONLINE: SMART CITIES & SMART MOBILITY & INTERNET OF THINGS
Chairs: Steering Committee
December 17, 2020 (Thursday); 02:40pm - 04:00pm
(ONLINE - ZOOM)

02:40 - 03:00pm: An IoT Mutual Authentication Scheme based on PUF and Blockchain
Ore Ndiaye Diedhiou, Cherif Diallo
Laboratoire d'Algebre, de Cryptographie, Codes et Applications (LACCA), Dept Informatique, UFR Sciences Appliquees et Technologie (UFR SAT), Universite Gaston Berger (UGB), Saint-Louis, Senegal
SPEAKER: Ms. Ore Ndiaye Diedhiou

03:00 - 03:20pm: Real-time Asset Management and Localization with Machine Learning and Bluetooth Low Energy Tags
Pragya Varshney, Harshveer Saini, Varick L. Erickson
Department of Computer Science, California State University, East Bay, California, USA
SPEAKER: Prof. Varick Erickson

03:20 - 03:40pm: Root Causes of Insecure Internet of Things and Holistically Addressing Them
Christopher A. White
Marymount University, Arlington, Virginia; Washington, District of Columbia
SPEAKER: Christopher White

03:40 - 04:00pm: Collaborative Mobile Surveillance System for Smart Cities
Laisa C. C. De Biase, Samira Afzal*, Pablo Calcina-Ccori, Geovane Fedrescheski, Marcelo K. Zuffo
Department of Electronic Systems Engineering, Polytechnic School, University of Sao Paulo (USP), Brazil; Institute of Mathematics and Statistics, University of Sao Paulo (USP), Brazil
SPEAKER: Marcelo K. Zuffo

SESSION 12-ONLINE: COMPUTATIONAL SCIENCE & INTELLIGENCE + IMAGING SCIENCE + SECURITY
Chairs: Steering Committee
December 17, 2020 (Thursday); 04:00pm - 06:20pm
(ONLINE - ZOOM)

04:00 - 04:20pm: A Novel Naive Bayesian Approach to Inference with Applications to the MNIST Handwritten Digit Classification
Kai Wang, Hong Zhang
Department of Computer Science, Georgia Southern University, Statesboro, Georgia, USA
SPEAKER: Dr. Kai Wang

04:20 - 04:40pm: Efficient Seed Volume Measurement Framework
Chendi Cao, Mitchell Neilsen
Department of Computer Science, Kansas State University, Manhattan, Kansas, USA
SPEAKER: Prof. Mitchell Neilsen

04:40 - 05:00pm: A Deep Learning based Customer Sentiment Analysis Model to Enhance Customer Retention and Loyalty in the Payment Industry
George Wanganga, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA
SPEAKER: George Wanganga

05:00 - 05:20pm: Image Classification of High-Performance Liquid Chromatography Chromatograms with Neural Networks
Akhil Mandalapu, Sebastian Calzadilla, Sean Mondesire
School of Science, St. Thomas University, Miami, Florida, USA
SPEAKER: Akhil Mandalapu and Sebastian Calzadilla

05:20 - 05:40pm: Unified End-to-End Sentence Denoising
Zhantong Liang, Abdou Youssef
Department of Computer Science, The George Washington Univerisity, Washington, DC, USA
SPEAKER: Zhantong Liang

05:40 - 06:00pm: Performance Analysis of Tor Website Fingerprinting over Time using Tree Ensemble Models
Hyoungseok Oh, Donghoon Kim, Won-gyum Kim, and Doosung Hwang
Department of Software Science, Dankook University, Yongin-si, South Korea; Department of Computer Science, Arkansas State University, Jonesboro, Arkansas, USA; AiDeep, Seoul, South Korea
SPEAKER: Prof. Donghoon Kim

06:00 - 06:20pm: Moving Target Defense Discrete Host Address Mutation and Analysis in SDN
Charan Gudla, Andrew H. Sung
School of Computing Sciences and Computer Engineering, University of Southern Mississippi, Hattiesburg, MS, USA
SPEAKER: Charan Gudla / Andrew H. Sung

December 17

SESSION 13-ONLINE: COMPUTATIONAL SCIENCE AND COMPUTATIONAL INTELLIGENCE + AI & RELATED ISSUES IN EDUCATION & STEM + HEALTH INFORMATICS + SECURITY AND MOBILE COMPUTING
Chairs: Steering Committee
December 17, 2020 (Thursday); 06:20pm – 10:40pm
(ONLINE - ZOOM)

06:20 - 06:40pm: Observable Learning Outcomes Among Tertiary Mathematics Students in a Newly Implemented Blended Learning Environment
Mary Ruth Freislich, Alan Bowen-James
School of Mathematics and Statistics, University of New South Wales, Sydney, Australia;
Le Cordon Bleu Business School, Sydney, Australia
SPEAKER: Dr. Mary Ruth Freislich

06:40 - 07:00pm: Optimization of Sustainable Single-Machine Scheduling Problem
S. Mahdi Homayouni, Dalila B.M.M. Fontes
LIAAD, INESC TEC, Porto, Portugal; LIAAD, INESC TEC, & Faculdade de Economia da Universidade do Porto, Portugal
SPEAKER: S. Mahdi Homayouni

07:00 - 07:20pm: Empirical Analysis of Thermography Effectiveness for Health Diagnosis
Trasha Gupta, Rajni Jindal, S. Indu
Delhi Technological University, Delhi, India
SPEAKER: Ms. Trasha Gupta

07:20 - 07:40pm: Comparative Analysis of Machine Learning Models for Diabetes Mellitus Type 2 Prediction
Leila Ismail, Huned Materwala
Distributed Computing and Systems Research Laboratory, Department of Computer Science and Software Engineering, College of Information Technology, United Arab Emirates University, Al-Ain, Abu-Dhabi, United Arab Emirates, UAE
SPEAKER: Prof. Leila Ismail

07:40 - 08:00pm: Time Series Forecasting of COVID-19 Infections in United Arab Emirates using ARIMA
Leila Ismail, Shaikhah Alhmoudi, Sumyah Alkatheri
Distributed Computing and Systems Research Laboratory, College of Information Technology, United Arab Emirates University, Al-Ain, Abu Dhabi, United Arab Emirates, UAE
SPEAKER: Prof. Leila Ismail

08:00 – 08:20pm: Using EEG Data and NeuCube for the Study of Transfer of Learning
Mojgan Hafezi Fard, Krassie Petrova, Maryam Doborjeh, and Nikola Kasabov
School of Engineering, Computer and Mathematical Sciences, Auckland University of Technology, Auckland, New Zealand;
Ulster University, United Kingdom, UK

08:20 – 08:40pm: Solving Cryptarithmetic Puzzles by Logic Programming
Feng-Jen Yang
Department of Computer Science, Florida Polytechnic University, Lakeland, Florida, USA

08:40 – 09:00pm: Cyber as a Service: Automating First Responders' Service in the Cyberspace
Matthew Blair, Davis Jeffords, Eric Lilling, S. Banik
Department of Cyber and Computer Sciences, The Citadel, The Military College of South Carolina, Charleston, South Carolina, USA

December 17

09:00 – 09:20pm: Safe Selfie
Matthew Blair, Davis Jeffords, Eric Lilling, S. Banik
Department of Cyber and Computer Sciences, The Citadel,
The Military College of South Carolina, Charleston, South Carolina, USA

09:20 – 09:40pm: Multi-Environmental Parameters Dashboard for Susquehanna River Basin using Machine Learning Techniques
Siamak Aram*, Maria H. Rivero, Nikesh K. Pahuja, Roozbeh Sadeghian, Joshua L. R. Paulino, Michael Meyer, and James Shallenberger
Harrisburg University of Science and Technology, Harrisburg, PA, USA;
The Susquehanna River Basin Commission, Harrisburg, PA, USA

09:40 – 10:00pm: Effectiveness of Real-Time Network Monitoring for Identifying Hidden Vulnerabilities inside a System
Haydar Teymourlouei, Vareva E. Harris
Department of Technology & Security, Bowie State University, Maryland, USA;
Department of Criminal Justice Administration and Center for Cybersecurity, Benedict College, Columbia, USA

10:00 – 10:20pm: COVID-19 Fuzzy Inference System
Fatema Alhammadi, Fatima Alkhanbashi, Maad Shatnawi
Department of Electrical Engineering Technology, Higher Colleges of Technology, Abu Dhabi, UAE

10:20 – 10:40pm: LSTM Algorithm for Forecasting Events in Changing Electric Consumption
Ebrahim Najafi Kajabad, Sergey V. Ivanov, Ivan Khodnenko
Institute of Design & Urban, ITMO University, Saint Petersburg, Russia

December 18

IN CASE OF INTEREST, WE WILL PLAN (ON SITE AT THE CONFERENCE), INFORMAL PANEL DISCUSSIONS ON DECEMBER 18. MORE INFORMATION WILL BE PROVIDED AT THE CONFERENCE.

PRE-RECORDED PRESENTATIONS - AUTHORS OF THE FOLLOWING PAPERS CAN (IF THEY WISH) PROVIDE THE LINKS TO THEIR PRESENTATIONS. THE LINKS TO THESE PRESENTATIONS WOULD THEN BE COMPILED AND BE MADE AVAILABLE IN THE ONLINE VERSION OF THE "BOOK OF ABSTRACTS" (AFTER THE CONFERENCE). THE BOOK OF ABSTRACTS WILL BE AVAILABLE AT: https://www.american-cse.org/csci2020/

CSCI-ISOT: INTERNET OF THINGS & INTERNET OF EVERYTHING

An NFC Based Student Attendance Tracking/Monitoring System Using an IoT Approach
Janea Dixon, Abdel-Shakour Abuzneid
Department of Computer Science and Engineering, University of Bridgeport, CT, USA

AWS IoT and the Interconnected World - Aging in Place
Justin Waterman, Hyeongjun Yang, Fadi Muheidat
Computer Science and Engineering, California State University, San Bernardino, California, USA

Customized Services Using Voice Assistants
Kori Painchaud, Leonidas Deligiannidis
Computer Science and Networking, Wentworth Institute of Technology, Boston, MA, USA

Prospectus: An Online Polymorphic Attack Detection Model for Intelligent Transportation Systems
Sultan Ahmed Almalki, Frederick Sheldon
Computer Science Department, University of Idaho, Moscow, Idaho, USA

Applying an Energy-Aware Security Mechanism in Healthcare Internet of Things
Mona Tavakolan, Ismaeel A. Faridi
Computer and Information Sciences, Towson University, Towson, Maryland, USA; Applied Information Technology, Towson University, Towson, Maryland, USA

Human Capacity Organizational Roadmap for E-Government Interoperability in the Philippines
Kevin Matthe Caramancion, Pierre Pauline Abesamis
Department of Information Science, University at Albany, State University of New York, New York, USA;
College of Computer Studies, De La Salle University, Manila, Philippines

Metadata Model for Supporting Hierarchical Edge Device Arrangements in an IoT Deployment
Nuwan Jayawardene, Pumudu Fernando
Department of Computer Science, Informatics Institute of Technology, Colombo, Sri Lanka

On the Application of Machine Learning to Classify Sleep Positions
Brendon Becker, Yazan A. Alqudah*
Department of Electrical and Computer Engineering, University of West Flordia, Pensacola, Florida, USA

An IoT Network Coordinated AI Engine to Produce Loading and Delivery Schedules for Capacitated Vehicle Routing Problems
Ernesto Gutierrez-Miravete, Ashok Murthy
Rensselaer at Hartford, Hartford, CT, USA;
Devices-Unlimited Corp., Rancho Mission Viejo, California, USA

Towards Dynamic Composition of Things in the Internet of Things
Naseem Ibrahim
School of Engineering, The Behrend College, The Pennsylvania State University, Erie, PA, USA

Automatic Composition of Things in the Internet of Things
Naseem Ibrahim
School of Engineering, The Behrend College, The Pennsylvania State University, Erie, PA, USA

CSCI-ISCW: CYBER WARFARE, CYBER DEFENSE, & CYBER SECURITY

Quantitatively Examining Service Requests of a Cloud-Based On-Demand Cybersecurity Service Solution for Small Businesses
Landon McLilly, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA

Explore the Relationship between Authentication Factor Multiplicity and Composite Vulnerability Exposures
Adam English, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA

Cyber-Security Strategy for Internationally-dispersed Industrial Networks
Ralf Luis de Moura, Alexandre Gonzalez, Virginia N. L. Franqueira, Antonio Lemos Maia Neto
Operational Technology Architecture, Vale S.A., Vitoria, Brazil; Enterprise Architecture, Vale S.A., Rio de Janeiro, Brazil; School of Computing, University of Kent, UK; Foundation Architecture, Vale S.A., Belo Horizonte, Brazil

Vehicle Security Learning Tools and Scenarios
Guillermo Francia, III, Eman El-Sheikh, Hongmei Chi
Center for Cybersecurity, University of West Florida, Pensacola, Florida, USA; Department of Computer Science, Florida A&M University, Tallahassee, Florida, USA

Mitigating Interleaving Jamming of IEEE 802.11
Benjamin Davis, Bruce Debruhl
California Polytechnic State University, San Luis Obispo, California, USA

Effectiveness of Real-Time Network Monitoring for Identifying Hidden Vulnerabilities inside a System
Haydar Teymourlouei, Vareva E. Harris
Department of Technology & Security, Bowie State University, Bowie, Maryland, USA; Department of Criminal Justice Administration and Center for Cybersecurity, Benedict College, Columbia, USA

Nonproliferation of Cyber Weapons
Jacob Benjamin, Michael Haney
Dragos, Murrells Inlet, USA;
University of Idaho, Idaho Falls, Idaho, USA

A Survey of Artificial Intelligence in Cybersecurity
Katanosh Morovat, Brajendra Panda
Department of Mathematics and Computer Science,
Western Carolina University, Cullowhee, USA;
Department of Computer Science and Computer Engineering,
University of Arkansas, Faytteville, Arkansas, USA

Reproducible Software Vulnerability Testing With Iac
Kohei Akasaka, Akihito Nakamura
Graduate School of Computer Science and Engineering,
University of Aizu, Fukushima, Japan; Computer Science
Division, University of Aizu, Fukushima, Japan

Indistinguishability of Biometric Honey Templates:
Comparing Human Testers and SVM Classifiers
Edlira Martiri, Bian Yang, Muhammad Ali Fauzi
Norwegian University of Science and Technology,
NTNU, Gjovik, Norway

CSCI-ISNA: SOCIAL NETWORK ANALYSIS, SOCIAL MEDIA, & MINING

Finding Pseudo-Cliques with Core Nodes Based on Formal
Concept Analysis
Yoshiaki Okubo
Faculty of Information Science and Technology,
Hokkaido University, Sapporo, Japan

An Evaluation of Tweet Sentiment Classification Methods
Lihua Yao, Hassan Alam, Jerry Li, Oleg Melnokov
Department of Defense, Office of People Analytics, Seaside,
California, USA; AI Assessment Center; DeepHole AI
Consulting; Stanford University, California, USA

Cyberbullying Detection Through Sentiment Analysis
Jalal Omer Atoum
Department of Mathematics and Computer Science,
East Central University, Oklahoma, USA

Multi-modal Deep Learning Based Fusion Approach to Detect
Illicit Retail Networks from Social Media
Anamika Paul Rupa, Aryya Gangopadhyay
University of Maryland Baltimore County, Baltimore,
Maryland, USA

Social Network Influencers' Data Augmenting Recommender
Systems
Ashrf Althbiti, Xiaogang Ma
Department of Computer Science, University of Idaho,
Moscow, Idaho, USA

Bullying and Hazing in Computer Science
Jeremy Straub
Department of Computer Science, North Dakota State
University, Fargo, North Dakota, USA

Information Security Attacks on Mobile Messaging Applications: Procedural and Technological Responses
Lokesh Saravanan Ramamoorthi, Gabrielle Peko, David Sundaram
Department of ECE, University of Miami, Coral Gables, Florida, USA; Information Systems and Operations Management, The University of Auckland, Auckland, New Zealand

A Dataset for the Detection of Fake Profiles on Social Networking Services
Samuel Delgado Munoz, Edward Paul Guillen Pinto
Systems Engineering Department, El Bosque University, Bogota, Colombia

An Attention-based Deep Learning Method for Text Sentiment Analysis
Thanh Le
School of Business Information Technology, University of Economics HCMC, Vietnam

CSCI-ISBD: BIG DATA AND DATA SCIENCE

Energy Demand Forecasting and Error Correction with Decision Tree
Maria de Guadalupe Cota Ortiz, Pedro Flores Perez
Universidad de Sonora, Hermosillo, Sonora, Mexico

Intuitive Time-Series-Analysis-Toolbox for Inexperienced Data Scientists
Felix Pistorius, Daniel Baumann, Luca Seidel, Eric Sax
Institute for Information Processing Technologies (ITIV), Karlsruhe Inst. of Technology (KIT), Karlsruhe, Germany

A Grid Partition-Based Local Outlier Factor by Reachability Distance for Data Stream Processing
Raed Alsini, Omar Alghushairy, Xiaogang Ma, Terence Soule
Department of Computer Science, University of Idaho, Moscow, Idaho, USA; Faculty of Computing and Information Technology, King Abdulaziz University, Jeddah, Saudi Arabia; College of Computer Science and Engineering, University of Jeddah, Saudi Arabia

A Literature Review of Data Mining Techniques Used in Collaborative Filtering Recommender Systems
Ashrf Althbiti, Rayan Alshamrani, Xiaogang Ma
Department of Computer Science, University of Idaho, Moscow, Idaho, USA

Real-Time Data Visualization to Enhance Situational Awareness of COVID Pandemic
Sharad Sharma, Sri Teja Bodempudi, Aishwarya Reehl
Department of Computer Science, Bowie State University, Bowie, Maryland, USA

A Novel Fuzzy Clustering Method based on GA, PSO and Subtractive Clustering
Thanh Le
School of Business Information Technology, University of Economics, Ho Chi Minh City, Vietnam

The Effect of COVID-19 on Various Demographics by Race in USA
Trisha Rayan, Adrian Brown, Andrei Carillo, Sharad Sharma
Thomas Jefferson High School for Science and Technology, Alexandria, Virginia, USA; Department of Computer Science, Bowie State University, Bowie, Maryland, USA

A Concise Review of Transfer Learning
Abolfazl Farahani, Behrouz Pourshojae, Khaled Rasheed, and Hamid R. Arabnia
Department of Computer Science, University of Georgia, USA; Department of Information and Technology, Road and Urban Development Organization, Arak, Iran

CSCI-ISAI: ARTIFICIAL INTELLIGENCE

Machine Learning Techniques to Enhance Container Network Security
Abhinav Kommula, Yen-Hung (Frank) Hu, Mary Ann Hoppa, and Samuel Olatunbosun
Monta Vista High School, Cupertino, California, USA; Norfolk State University, Norfolk, Virginia, USA

Data Poisoning on Deep Learning Models
Charles Hu, Yen-Hung (Frank) Hu
Woodside High School & Governor's School for Science and Technology, Newport News, Virginia, USA; Department of Computer Science, Norfolk State University, Norfolk, Virginia, USA

Chinese Surgery Text ICD Coding Classification using Hybrid Machine Learning Strategy
Xiaoyuan Bao, Yunhaonan Yang, Kai Zhang
Medical Informatics Center, National Health Service Data Center, Peking University Health Science Center, Beijing, P. R. China; Peking University School of Public Health, Peking University Health Science Center, Beijing, P. R. China; Peking University People's Hosptial, Peking University Health Science Center, Beijing, P. R. China

An Alert System: Using Fuzzy Logic for Controlling Crowd Movement by Detecting Critical Density Spots
Alaa Edris, Abdullah Alajlan, Frederick Sheldon, Terence Soule, Robert Heckendorn
Computer Science Department, University of Idaho, Moscow, Idaho, USA; Computer Science Department, University of Jeddah, Saudi Arabia; Computer Science Department, Technical and Vocational Training Corporation, Riyadh, Saudi Arabia

Accuracy-aware Structured Filter Pruning for Deep Neural Networks
Marina Villalba Carballo, Byeong Kil Lee
Department of Electrical and Computer Engineering, University of Colorado, Colorado Springs, Colorado, USA

Artificial Intelligence for Computerized Adaptive Testing
Dena F. Mujtaba, Nihar R. Mahapatra
Department of Electrical and Computer Engineering,
Michigan State University, East Lansing, Michigan, USA

Satellite Image Atmospheric Air Pollution Prediction through Meteorological Graph Convolutional Network with Deep Convolutional LSTM
Pratyush Muthukumar, Emmanuel Cocom, Kabir Nagrecha,
Jeanne Holm, Dawn Comer, Anthony Lyons, Irene Burga,
Christa Hasenkopf, Mohammad Pourhomayoun
Department of Computer Science, California State University
Los Angeles, Los Angeles, California, USA; City of
Los Angeles, Los Angeles, California, USA;
OpenAQ, Washington, D.C., USA

The Impact of Applying Recommendation Techniques on Traditional Shopping - A Survey
Manal Alghieth
Department of Information Technology, College of Computer,
Qassim University, Buraydah, Saudi Arabia

Collective Anomaly Detection for Multivariate Data using Generative Adversarial Networks
Chihiro Maru, Ichiro Kobayashi
Ochanomizu University, Japan

Deep Learning Techniques for Stock Market Prediction in the European Union: A Systematic Review
Argyrios P. Ketsetsis, Christos Kourounis, Georgios Spanos,
Konstantinos M. Giannoutakis, Pavlos Pavlidis,
Dimitris Vazakidis, Theofanis Champeris, Dimitris Thomas,
and Dimitrios Tzovaras
Information Technologies Institute, Centre for Research
and Technology Hellas, Thessaloniki, Greece; Department
of Applied Informatics, University of Macedonia,
Thessaloniki, Greece; Effect Computer Applications S.A.,
Athens, Greece

Mining and Analyzing Occupational Characteristics from Job Postings
Dena F. Mujtaba, Nihar R. Mahapatra
Department of Electrical and Computer Engineering,
Michigan State University, East Lansing, Michigan, USA

Sensor-Based Air Pollution Prediction Using Deep CNN-LSTM
Kabir Nagrecha, Pratyush Muthukumar, Emmanuel Cocom,
Jeanne Holm, Dawn Comer, Irene Burga, Mohammad Pourhomayoun
Department of Computer Science, California State University
Los Angeles, California, USA; City of Los Angeles,
OpenAQ, California, USA

Large Scale Data Mining for Banking Credit Risk Prediction
Suleiman Ali AlSaif
Computer Science Department, Deanship of Preparatory Year
and Supporting Studies, Imam Abdulrahman Bin Faisal
University, Saudi Arabia

ECG Signal Analysis for Patient with Metabolic Syndrome based on 1D-Convolution Neural Network
Chhayly Lim, Jung-Yeon Kim, Yunyoung Nam
Department of ICT Convergence Rehabilitation Engineering,
Soonchunhyang University, Cheonan-si, Republic of Korea

Quality Evaluation of Fundus Images using Transfer Learning
Kuntha Pin, Jung-Yeon Kim, Yunyoung Nam
Department of ICT Convergence Rehabilitation Engineering,
Soonchunhyang University, Cheonan-si, Republic of Korea

A User-Centric Intelligent Context-Aware System for
Realizing Internet of Things Environments
Kwanhee Kim, Sangoh Park
Department of Computer Science & Engineering,
Chung-Ang University, Dongjak-gu, Seoul, Republic of Korea

Artifical Intelligence Techniques Applied to Massive
Collected Sensor Data in Subsurface Energy Applications
Mohammadreza Karbalaei Saleh, Fatemeh K. Saleh, Saeed Salehi
College of Engineering, IAUKB Univeristy, Alborz, Iran;
College of Earth and Energy, University of Oklahoma,
Norman, Oklahoma, USA

Transfer of Hierarchical Reinforcement Learning Structures
for Robotic Manipulation Tasks
Christian Scheiderer, Malte Mosbach,
Andres Felipe Posada-Moreno, Tobias Meisen
Institute of Technologies and Management of the Digital
Transformation, University of Wuppertal, Germany;
Institute of Information Management in Mechanical Engineering,
RWTH Aachen University, Aachen, Germany

Self Driving Cars: All You Need to Know
Elizabeth Spoehel, Shankar Banik*
Department of Cyber and Computer Sciences, The Citadel,
The Military College of South Carolina, Charleston,
South Carolina, USA

Detection and Removal of Negative Requirements of
Deadlock-type in Service-Oriented Architectures
Kenia Santos de Oliveira, Stephane Julia
Federal University of Uberlandia, Federal Institute of
Brasilia, Brazil; Federal University of Uberlandia,
Brazil

Detection of Hate Speech in Videos Using Machine Learning
Ching Seh Wu, Unnathi Bhandary
Department of Computer Science, San Jose State University,
San Jose, California, USA

Explanation Generation in a Kabuki Dance Stage Performing
Structure Simulation System
Miku Kawai, Jumpei Ono, Takashi Ogata
Faculty of Software and Information Science, Iwate
Prefectural University, Takizawa, Iwate, Japan;
Faculty of Software and Information Technology, Aomori
University, Edogawa City, Tokyo, Japan

Do We Know the Operating Principles of our Computers
Better than those of our Brain?
Janos Vegh, Adam J. Berki
Kalimanos BT Debrecen, Hungary; University of Medicine,
Pharmacy, Sciences and Technology of Targu Mures, Romania

Weed Segmentation in Sugarcane Crops using Mask R-CNN through Aerial Images
Gabriel Alberto Mini, Daniel Oliva Sales, Maximillian Luppe
Department of Electrical and Computer Engineering (SEL-EESC-USP), University of Sao Paulo, Sao Carlos, Brazil; Institute of Mathematics and Computer Sciences (ICMC-USP), University of Sao Paulo, Sao Carlos, Brazil

Black Political Participation in the Volunteer State
Antwain Leach, Sajid Hussain
Political Science, Fisk University, Nashville, Tennessee, USA; Computer Science, Fisk University, Nashville, Tennessee, USA

Machine Understandable Contracts With Deep Learning
Rares Dolga, Philip Treleaven, Mendes Thame Denny
Department of Computer Science, University College London, London, United Kingdom, UK

A Hybrid Artificial Intelligence, Machine Learning, and Control Algorithm Integration Framework for Embedded Systems using Semantic Web Technology
Jeffrey Wallace, Angelica Valdivia
Rocket Technology Systems, LLC, Washington, DC, USA

A Real-Time Traffic Surveillance and Security System using Transfer Learning and Edge Computing
Aaron Joseph Fernandez, Ajay K. S., Antony Jose, Austin Kuruvila M., Varun G. Menon, Vinod P., Xingwang Li, and Mohammad R. Khosravi
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An Activity Recognition Framework for Overlapping Activities using Transfer Learning
Muhammad Bilal, Muazzam Maqsood, Irfan Mehmood, Mubashir Javaid, Seungmin Rho*
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An Efficient Liver Tumor Detection using Machine Learning
Anum Kalsoom, Anam Moin, Muazzam Maqsood, Irfan Mehmood, and Seungmin Rho
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A Solution to Combined Economic Emission Dispatch (CEED) Problem using Grasshopper Optimization Algorithm (GOA)
Hina Bibi, Aftab Ahmad, Farhan Aadil, Irfan Mehmood, and Mucheol Kim
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A Trust Assisted Matrix Factorization based Improved Product Recommender System
Hina Bibi, Asma Rahim, Muazzam Maqsood, Irfan Mehmood, and Mucheol Kim
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Behavior-based Outlier Detection for Indoor Environment
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Artificial Intelligence with Wireless Sensor Network for Fire Detection
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Detection of Plant Diseases in the Images using Deep Neural Networks
Malik Urfa Gul, Anand Paul, Seungmin Rho, Sanghyun Seo
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Blockchain based Healthcare System with Artificial Intelligence
Malik Junaid Jami Gul, Anand Paul, Seungmin Rho, Mucheol Kim
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A 3D Real Object Recognition and Localization on SLAM based Augmented Reality Environment
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A Study on the Prediction of Emotion from Image by Time-flow using Color Analysis
Taemin Lee, Nahyuk Lee, Sanghyun Seo, Dongwann Kang
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Dr. Answer AI Software for Prostate Cancer: Explainable Variable Importance of Predicting T Stage
Mi Jung Rho, Jihwan Park, Hyong Woo Moon, Jaewon Kim, Chanjung Lee, Choung-Soo Kim, Seong Soo Jeon, Minyong Kang, and Ji Youl Lee
Department of Urology, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, Seoul, Republic of Korea; LifeSemantics, Seoul, Republic of Korea; Department of Urology, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea; Department of Urology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Republic of Korea

Forecasting Method based upon GRU-based Deep Learning Model
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CSCI-ISHI: HEALTH INFORMATICS AND MEDICAL SYSTEMS

A Scoping Review of Clinical Unstructured Text Information Extraction
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Healthcare Big Data Normalization Graph Theory Implementation
Atif Farid Mohammad, Peter Bearse, Intisar Rizwan I. Haque
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Linear Discriminant Analysis Applied to the Detection of Allergic Rhinitis in Patients
Gregory Stainhaouer, Stelios Bakamidis, Ioannis Dologlou
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A Comparative Study on Machine Learning Algorithms for Predicting Breast Cancer Prognosis in Improving Clinical Trials
Neetu Sangari, Yanzhen Qu
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Multiple Ways for Medical Data Visualization Using 3D Slicer
Ismail Mohammed Bahkali, Sudhanshu Kumar Semwal
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Health Record Chain (HRC): Implementation of Mobile Healthcare System using Blockchain to Enhance Privacy of Electronic Health Record EHR
Arij Alfaidi, Edward Chow
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Blockchain-based Enterprise Architecture for Comprehensive Healthcare Information Exchange (HIE) Data Management
Kofi Osei-Tutu, Shirin Hasavari, Yeong-Tae Song
Department of Computer and Information Sciences, Towson University, Towson, Maryland, USA

Clustering County-Wise COVID-19 Dynamics in North Carolina
Man Sik Park, Seong-Tae Kim
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A Comparative Study of N-gram and Skip-gram for Clinical Concepts Extraction
Susan Sabra, Vian Sabeeh
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Workflow-based Anomaly Detection using Machine Learning
on Electronic Health Records' Logs: A Comparative Study
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Integrated Health Care Delivery System with IoT Enabling Technology
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CSCI-ISCI: COMPUTATIONAL INTELLIGENCE

Distance Correlation Sure Independence Screening for
Accelerated Feature Selection in Parkinson's Disease
Vocal Data
Dan Schellhas, Bishal Neupane, Deepak Thammineni,
Bhargav Kanumuri, Robert C. Green II
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Convolutional Neural Network Based License Plate
Recognition Techniques: A Review
Oladapo Ibitoye, Temitayo Ejidokun, Joseph Dada
Department of ECE, Afe Babalola University, Ado Ekiti,
Nigeria

Generative Truss Optimization for Support-Free Fused
Filament Fabrication
Henrik Storm Forberg, Tonnes Frostad Nygaard, and
Mats Erling Hovin
Department of Informatics, University of Oslo, Norway

Recent Progress on Text Summarization Approaches
Suad Alhojely, Kalita Jugal
College of Engineering and Applied Science, The
University of Colorado at Colorado Springs, USA

Frequency Maps as Expert Instructions to lessen Data
Dependency on Real-time Traffic Light Recognition
Thiago Almeida, Hendrik Macedo, Leonardo Matos,
Bruno Prado, Kalil Bispo
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System Modeling by Ultra High Frequency Sigmoid and Sine
Artificial Higher Order Neural Networks
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Evaluation of Machine Learning Based Regression Techniques for Prediction of Oil and Gas Pipelines Defect Length
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Optimal Artificial Neural Network Model for Prediction of Oil and Gas Pipelines Defect Length
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Facial Expression Recognition for Hugging Type Vital Sign Measuring System
Wang Chao, Takehiko Ogawa, Ho Yihsin, Jun Hasegawa, and Naoki Oshima
Mechanical and Electronic Systems Engineering Course, Takushoku University, Tokyo, Japan; Department of Electronics and Computer System, Takushoku University, Tokyo, Japan

VikingBot: Towards a Hybrid Artificial Intelligence for Starcraft
Wesley Deneke, Tyler Barger, Matthew Carter, Chris Lokken, and Daniel Peterson
CS Department, Western Washington University, Bellingham, Washington, USA

ArtMatch: Classifying Famous Paintings and Matching Them with Children.s Artwork
Ryan Z. Cheng
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An Efficient Local Outlier Factor for Data Stream Processing: A Case Study
Omar Alghushairy, Raed Alsini, Xiaogang Ma
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Simple Proofs of the Strong Perfect Graph Theorem Using Polyhedral Approaches and Proving P=NP as a Conclusion
Maher Hashem Heal
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CSCI-ISCC: CLOUD COMPUTING AND DATA CENTERS

Intrusion Detection System: The Use of Neural Network Packet Classification
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Secure Cloud Storage Migration
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Biometrics Based Access Framework for Secure Cloud Computing
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Information Flow Control to Secure Data in the Cloud
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Evidence for Monitoring the User and Computing the User's Trust
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Density-Based Server Placement for Collaborative Virtual Services
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CSCI-ISED: EDUCATION - STEM, COMPUTER SCIENCE AND COMPUTER ENGINEERING

Unsupervised Functional Analysis of Graphical Programs
for Physical Computing
Tom Neutens, Francis Wyffels
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A Mobile Application as Didactic Material to Improve
Learning on Distributed Architectures
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Juan Boubeta-Puig, Halina Cwierz
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A Data Mining based Optimization of Selecting Learning
Material in an Intelligent Tutoring System for Advancing
STEM Education
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Zoom Sandwich: An Adaptable Model for Distance Learning
Fadi Muheidat, Lo'ai Tawalbeh
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Cybersecurity, Texas A&M University, San Antonio, Texas, USA

Achieving ABET Accreditation: An Outcome Assessment
Case Study
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Analyzing Coding Behaviour of Novice Programmers in
Different Instructional Settings: Creating vs. Debugging
Tom Neutens, Francis Wyffels
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MannaTeam: A Case of Interinstitutional Collaborative Learning
Daniela Eloise Flor, Eduardo Henrique Molina da Cruz,
Ayslan Trevisan Possebom, Carlos Roberto Beleti Junior,
Rodrigo Hubner, Linnyer Beatriz Ruiz Aylon
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Cultivating Positive ICT Perceptions: Application of the
MST-tree Model to the 'Guyanese Girls Code' Initiative
Alicia Layne, Penelope Defreitas, Juanelle Marks, and
Rayad Lackhan
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Educational Approach for a BIM Collaboration
Anabelle Rahhal, Samia Ben Rajeb, Pierre Leclercq
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Operation Results of the First Year of IoT Making Things Program at University
Takuya Saito
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MAESTRO: a semi-autoMAted Evaluation SysTem for PROgramming Assignments
Alessandro Bertagnon, Marco Gavanelli
Department of Engineering, Ferrara University, Italy

New Trends in Pedagogical Agents in Education
Luis Alfaro, Claudia Rivera, Jorge Luna-Urquizo, Elisa Castaneda, Jesus Zuniga-Cueva, Maria Rivera-Chavez
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4 Year Comparison Of Undergraduate Students Provided Personal Laptop Computers: Initial Research
Gary Cantrell, Hussain Aljafer
Computer Science and Information Systems, Southern Utah University, Cedar City, Utah, USA

Fitting a Four Year Computer Science BS Degree into Three Years: A Case Study
Nathan Barker, Laurie Harris
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Learning and Teaching Undergraduate Introductory Programming Courses in Java - The Use of an IDE vs Command Line
Hussain A. Aljafer, Gary Cantrell
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More on Computer Architecture Simulators for Different Instruction Formats
Xuejun Liang
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A Lightweight Visual Programming Tool for Machine Learning and Data Manipulation
Ivan Khodnenko, Sergey Ivanov, Kirill Prokofiev
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Discovery of Research Trends in Computer Science Education on Ethics Using Topic Modeling
Sarah Parsons, Natalia Khuri
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Crowdsourcing Exams to Increase Student Engagement in an Online Information Technology Class: An Experience Report
Lisa L. Lacher, Cody M. Gibson
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CSCI-ISPC: SIGNAL & IMAGE PROCESSING, COMPUTER VISION & PATTERN RECOGNITION

Correction of Gain Mismatch for Time Interleaved Analog to Digital Converter System
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Object Detection in Haze Enhanced by Preprocessing Image Dataset with Synthetic Haze
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A Fast Histogram Equalization and KDE to aid a Supervised Algorithm to Count Eucalyptus Seedlings
Guilherme Pereira Jorge Franze, Emanuel Rocha Woiski
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StimulEye: A Computer Vision Based Concussion Detector
Nicolas Elia, David Monge, Charles Kinzel, Fadi Muheidat
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Exploring Generalization Capability for Video Forgery and Detection based on Generative Adversarial Network
Ying Lin, Yanzhen Qu, Yuanpei Li, Zhishen Nie
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School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA; School of Software, Zhengzhou University, Zhengzhou, P. R. China

Performance Analysis of Network Pruning for Deep Learning based Age-Gender Estimation
Autumn Knight, Byeong Kil Lee
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Development of Image Pre-processing System for GEO-KOMPSAT-2 GOCI-II
Jinhyung Park, Hyun-su Lim, Jun-Yeong Bok
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Improved Image Semantic Segmentation Based on Cascade Data Augmentation
Khwaja Monib Sediqi, Hyo Jong Lee
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Study on Parachute Entanglement Prevention Method Using Image Recognition in CanSat
Miho Akiyama, Takuya Saito
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On the Discriminative Properties of Principal Component Analysis based on L1-Norm
Ruben Martin-Clemente, Vincent Zarzoso, and J. L. Camargo Olivares
Department of Signal Processing and Communications, University of Seville, Seville, Spain; CNRS, I3S Lab, University of Cote d'Azur, Sophia-Antipolis, France

Next Generation of Gallery Sharing in VR
Wyatt Phillips, Leonidas Deligiannidis
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Securing Three Dimensional Regions with Stereo Vision
Leonard D. Litvak, Leonidas Deligiannidis
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Image-Based Determination of the Growth or Shrinkage of Wounds at the Dermal Layer
Berra Z. Barkana, Duha A. Barkana, Miad Faezipour
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Determining the Number of Endmembers of hyperspectral Images using Clustering
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Multi-Stage CNN-Based Monocular 3D Localization and Pose Estimation
Ali Babolhavaeji, Mohammad Fanaei
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Multiple Attention Mechanism Neural Network in Garment Image Segmentation
Xu Yingheng, Zhong Yueqi
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A Chest X-ray Image Retrieval System for COVID-19 Detection using Deep Transfer Learning and Denoising Auto Encoder
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A Fast and Efficient Method for Detection of Seizure in Elettroencephalogram using Log-energy Entropy and Support Vector Machine
Luigi Pavone, Jaime F. Delgado Saa, Slavianka Moyanova
IRCCS NEUROMED, Pozzilli, Italy; Department of Electrical and Electronics Engineering, Universidad del Norte, Barranquilla, Colombia

Object Detection in Degraded Visual Environments using Compressive Sensing
Mohammed Abuhussein, Aaron Robinson
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New Applications of an Oversampling Method based on
Generative Adversarial Networks
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Human Temperature Scanning from a Distance
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CSCI-ISMC: MOBILE COMPUTING, WIRELESS NETWORKS, & SECURITY

Intelligent Energy Efficiency Algorithm for the 5G
Dense Heterogeneous Cellular Networks
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Department of Information Technology, Tshwane
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Replay Spoof Attack Detection using Deep Neural Networks
for Classification
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A Framework for Mobile Malware Forensics
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Network Intrusion Detection with XGBoost and Deep
Learning Algorithms: An Evaluation Study
Amr Attia, Miad Faezipour, Abdelshakour Abuzneid
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Development of Vehicle Management System using
Location Data Collected by 920MHz LoRa
Daiki Nobayashi, Yasufumi Niwa, Kazuya Tsukamoto,
and Takeshi Ikenaga
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An Efficient Localization for Indoor Environment using
Classification Algorithms
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and Halgurd S. Maghdid
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Hybrid Physical Layer Security for Passive RFID Communication
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and M. Guizani
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Comparison between Automatic Repeat Request (ARQ) Protocols
and Solving the Buffer Problem
Mohammed Rajhi, Hatim Madkhali
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CSCI-ISSE: SOFTWARE ENGINEERING

Neural Network Model for Use in Performing Pitch Correction
in a Voice-Driven Musical Instrument
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Pennsylvania, USA

Methods of Implementation, Maturity Models and Definition
of Roles in DevOps Frameworks: A Systematic Method
Luciano de Aguiar Monteiro, Ioram Schechtman Sette,
Domingos Savio M. Pessoa Monteiro, Washington Henrique
Carvalho Almeida, Anderson Cavalcanti de Lima
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Coding Overhead of Mobile Apps
Yoonsik Cheon
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Incremental Contract-based Verification of Software Updates
for Safety-Critical Cyber-Physical Systems
Yosab Bebawy, Houssem Guissouma, Sebastian Vander Maelen,
Janis Kroger, Georg Hake, Ingo Stieran, Martin Franzle,
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CINOVA: An Open Web-based Platform for Enhancing the
Visibility of Brazilian Researches
Alvaro Magri Nogueira da Cruz, Adriana Barbosa Santos,
Rogeria Cristiane Gratao de Souza, Thiago Luiz Parolin
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Validation Support Tool to Cross-check the Behavioral Flows on
a Requirements Analysis Model using the State Transition Model
Hikaru Morita, Saeko Matsuura
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CSCI-ISSC: Smart Cities and Smart Mobility

Bus Pass Time Estimation based on Optimal Data Gathering
from a Slow Mobility Server
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Headway Estimation in Urban Buses based on Available
Arrival Time Estimators
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Dynamically Adjustable PID for Adaptive Motion Control:
PID++ Algorithm Introduction and Applications
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Generating Indoor Navigation Routes using Beacons
Alicia Martinez-Rebollar, Hugo Estrada-Esquivel,
Luis Lopez-Garcia, Leon Torres-Restrepo, and
Javier Ortiz-Hernandez
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A Lightweight Framework for IoT Smart Solutions
Javier Ortiz-Hernandez, Juan Antonio Miguel-Ruiz,
Manuel Erazo-Valadez, Leon Torres-Restrepo,
Alicia Martinez-Rebollar, Manuel Mejia-Lavalle
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Energy Usage of Deep Learning in Smart Cities
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Texas, USA

Black Ice Detection using CNN for the Prevention of Accidents
in Automated Vehicle
Hojun Lee, MinHee Kang, JaeIn Song, Keeyeon Hwang
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Department of Urban Planning, Hongik University, Seoul, Korea

CSCI-ISPD: PARALLEL AND DISTRIBUTED COMPUTING

Energy-Efficient Heterogeneous Computing Of Parallel Applications Via Power Capping
Kishwar Ahmed, Samia Tasnim, Kazutomo Yoshii
University of South Carolina Beaufort, South Carolina, USA; Florida A&M University, Tallahassee, Florida, USA; Argonne National Laboratory, Lemont, Illinois, USA

Coupling Storage Systems and Self-Describing Data Formats for Global Metadata Management
Michael Kuhn, Kira Duwe
Otto von Guericke University Magdeburg, Magdeburg, Germany

Proposed Design for Effectively Expand Adaptive-ticks Feature in the Linux Kernel to Full Tickless Function
Abdullah Aljuhni, Shaji Yusuf, C. Edward Chow, Oluwatobi Akanbi, Amer Aljaedi
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Parallel Data Indexing and Storage on a Cots Cluster
Anil L. Pereira
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Parallel Computation of Standard Competition Rankings over a Sorted Array
Jingyuan Liang, Jonathan Bisnett, Alan Hylton, Janche Sang, and Chansu Yu
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von Neumann's Missing "Second Draft": what it should contain
Janos Vegh
Kalimanos BT Debrecen, Hungary

Scalable Distributed Checkpointing Algorithm
Jinho Ahn
School of Computer Science and Engineering, Kyonggi University, Suwon Gyeonggi, Republic of Korea

Feature Selection for Learning to Predict Outcomes of Compute Cluster Jobs with Application to Decision Support
Adedolapo Okanlawon, Huichen Yang, Avishek Bose, William Hsu, Dan Andresen, Mohammed Tanash
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CSCI-ISCS: COMPUTATIONAL SCIENCE

A Class of Generic Approximate Sparse Pseudoinverse
Matrix Techniques based on Incomplete QR Factorization
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G. A. Gravvanis, D. Anagnostopoulos
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Simulation of TCP-100 Facility System Level Model for
Operation Training Purposes
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Design and Application of the Prevention Model based on
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to Relating Information on Strategic Scanning
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All Nearest Neighbors Query Including Scores Road Network
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Emeritus Professor, Seikei University, Kashiwa, Japan

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Development of Multistage RFE-SVR Model to Predict Radiation Sensitivity
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