

**GENERAL INFORMATION**

**IMPORTANT:** To prepare the congress program/schedule, the title of all papers, authors names, affiliations were extracted from the meta-data of the draft paper submissions (manuscripts submitted by the authors for evaluation). Any changes to the titles of the final papers, authors names, affiliations are not reflected in this program. The FINAL versions of the papers (uploaded to the IEEE CPS publication portal) will have the correct information.

ALL DATES AND TIMES ARE GIVEN IN USA PACIFIC TIME ZONE (PT).

**REGISTRATION: CONFERENCE REGISTRATION DESK:**

July 23 (Sunday): 04:00pm - 07:00pm  
July 24 (Monday): 07:00am - 05:00pm  
July 25 (Tuesday): 07:00am - 05:00pm  
July 26 (Wednesday): 07:00am - 05:00pm  
July 27 (Thursday): 07:00am - 05:00pm  
(LOCATION: Ballrooms B & C)

**BREAKFASTS:** July 24 (Monday): 07:00am - 08:20am  
July 25 (Tuesday): 07:00am - 08:20am  
July 26 (Wednesday): 07:00am - 08:20am  
July 27 (Thursday): 07:00am - 08:20am  
(LOCATION: Ballrooms B & C)

**DINNER:** July 24 (Monday): 07:30pm - 10:00pm  
(LOCATION: Velvet Room)

**BREAKS: REFRESHMENTS**

July 24 (Monday): 10:00am - 10:20am  
July 24 (Monday): 03:00pm - 03:40pm  
July 25 (Tuesday): 10:00am - 10:20am  
July 25 (Tuesday): 03:00pm - 03:40pm  
July 26 (Wednesday): 10:00am - 10:20am  
July 26 (Wednesday): 03:00pm - 03:40pm  
July 27 (Thursday): 10:00am - 10:20am  
July 27 (Thursday): 03:00pm - 03:20pm  
(LOCATION: Ballrooms B & C)

07:00a - 05:00p: REGISTRATION  
(LOCATION: Galleria B & CE; Registration Counter/Desk)

<----- LOCATION: Ballrooms Galleria D & E ----->

08:30 - 08:50am: CONGRESS WELCOME REMARKS - July 24, Monday:  
Professor Emeritus Hamid R. Arabnia (Chair, Steering  
Committee & Coordinator), School of Computing,  
University of Georgia, USA; Editor-in-Chief, The Journal  
of Supercomputing (Springer); Fellow, Center of Excellence  
in Terrorism, Resilience, Intelligence & Organized Crime  
Research (CENTRIC).  
(LOCATION: Galleria D & E)

08:50 - 09:45am: KEYNOTE LECTURE/ADDRESS - July 24, Monday:  
FROM DIGITAL TWINS TO THE METAVERSE:  
EXPLORING THE EVOLUTION OF RESPONSIVE SYSTEMS & SOCIAL  
INTERACTION IN INDUSTRY  
Professor Diego Galar  
Division of Operation and Maintenance Engineering,  
Lulea University of Technology, Lulea, Sweden  
(LOCATION: Galleria D & E)

09:45 - 10:40am: KEYNOTE LECTURE/ADDRESS - July 24, Monday:  
ARTIFICIAL INTELLIGENCE AND CHATBOTS  
Dr. Jim Crowder  
Systems Fellow, CAES Advanced Program Development;  
CAES Advanced Technology and Engineering (AT&E), USA  
(Formerly at Raytheon Technologies. Recipient of technical  
achievement awards from Lockheed Martin, General Dynamics,  
Northrup Grumman, & Raytheon Technologies)  
(LOCATION: Galleria D & E)

10:40 - 11:00am: BREAK (Refreshments)  
(LOCATION: Galleria B & C; Registration Counter/Desk)

SESSION 1-MON (FCS & CSC TRACKS):  
(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)  
SCOPE: SCIENTIFIC COMPUTING AND MATHEMATICAL FOUNDATION  
Chairs: TBA  
July 24, 2023 (Monday); 11:00am - 11:30am  
(LOCATION: Ballrooms Galleria D & E)

11:00 - 11:20am: A Proof Theoretic Exploration of Mathematical Induction in  
Computational Paradigm  
Ahmed Tarek, Ahmed Alveed, Ahmed Farhan  
Engineering, Physical, & Computer sciences (EPCS) Department,  
SET Division, Montgomery College, Rockville, Maryland, USA;  
University of Pennsylvania (UPenn), Pennsylvania, USA;  
School of Medicine, The Johns Hopkins University (JHU),  
Baltimore, Maryland, USA

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11:20 - 11:30am: Energy Balance and Energy Conservation Associated with Nonlinear Nonviscous Atmospheric Dynamics in a Thin Rotating Spherical Shell  
Ranis Ibragimov  
DE Gruyter, Boston, Massachusetts, USA

**SESSION 2-MON (ICDATA & IKE TRACKS):**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: DATA SCIENCE AND KNOWLEDGE ENGINEERING**

**Chairs: TBA**

**July 24, 2023 (Monday); 11:30am - 12:20pm**

**(LOCATION: Ballrooms Galleria D & E)**

11:30 - 11:40am: COVID-19 and US Labor Force: County-Level Insights  
Anissa Champion\*, Daniel Ojeda, Ching-Yu Huang, Daehan Kwak  
Department of Computer Science and Technology, Kean University,  
Union, New Jersey, USA

11:40 - 12:00pm: Management, Storage, and Retrieval of Complex Data Comprising Multiple Formats Collected from Different Sources: a Systems Engineering Approach  
Barry C. White\*, Reena R. Patel, LaKenya K. Walker, and Matthew D. Bray  
Information Technology Laboratory, US Army Corps of Engineers (USACE) Engineering Research and Development Center, Vicksburg, Mississippi, USA;  
Geotechnical and Structures Laboratory, US Army Corps of Engineers (USACE), Engineering Research and Development Center, Vicksburg, Mississippi, USA

12:00 - 12:20pm: An Approach for Identification and Estimation of Outliers in Time Series with Nonstationary Mean  
Koki Kyo  
Gifu Shotoku Gakuen University, Japan

**12:20 - 01:20pm: LUNCH (On Your Own)**

**SESSION 3-MON (ACC & ICAI TRACKS):**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: APPLIED COGNITIVE COMPUTING & ARTIFICIAL INTELLIGENCE**

**Chairs: TBA**

**July 24, 2023 (Monday); 01:20pm - 03:00pm**

**(LOCATION: Ballrooms Galleria D & E)**

01:20 - 01:40pm: Cognitive K-means Clustering Algorithms for Feature Selection  
Ayeasha Akhter, Ken Ferens\*  
Department of Electrical and Computer Engineering,  
University of Manitoba, Winnipeg, Canada

01:40 - 02:00pm: Artificial Emotional Intelligence Testing for AI Avatars  
James A. Crowder, John Carbone  
CAES Advanced Program Development, Colorado Springs,  
Colorado, USA;  
Global Governments & Critical Infrastructure, USA

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- 02:00 - 02:20pm: Graph-Oriented Modelling of Process Event Activity for the Detection of Malware  
Kenneth Brezinski, Ken Ferens  
Department of Electrical and Computer Engineering,  
University of Manitoba, Winnipeg, Canada
- 02:20 - 02:40pm: Communication-Facilitated Coordination in Agent Team Rescue Mission  
David Degbor, Abhijot Bedi, Shelley Zhang, Eugene Chabot  
Computer and Information Science, University of Massachusetts  
Dartmouth, North Dartmouth, Massachusetts, USA;  
Naval Undersea Warfare Center Division (NUWC) Newport,  
Newport, Rhode Island, USA
- 02:40 - 03:00pm: Cognitive Cluster Identification  
Ainslee Heim, Ken Ferens\*  
Department of Electrical and Computer Engineering,  
University of Manitoba, Winnipeg, MB, Canada
- 03:00 - 03:40pm: **BREAK (Refreshments) & POSTERS**  
**July 24, 2023 (Monday)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**
- 0. Improvement and Evaluation of Pseudo Natural Programming Language  
Toshiyuki Maeda, Masumi Yajima, Akiyoshi Wakatani  
Department of Management Information, Hannan University,  
Japan; Department of Economics, Meikai University, Japan;  
Faculty of Intelligence and Informatics, Konan University,  
Japan
  - 0. Fall Detection in SoccerNet Data  
Jonathan Sturdivant, Ethan Lee, Brian Alvarez,  
Savitha Rachuri, Gulustan Dogan  
Department of Computer Science, University of North  
Carolina Wilmington, North Carolina, USA
  - 0. Development of Embedded Machine Learning Finger Number  
Recognition Application Using Edge Impulse Platform  
Chun-Ki Kwon  
Department of Medical IT Engineering, Soonchunhyang  
University, Asan, ChungNam, South Korea
  - 0. Exploring Deep Brain Stimulation Effects in a Hyperbolic-  
Based Computational Model of Neuronal Spiking Patterns  
Ardavan Vakil, Miad Faezipour  
School of Engineering Technology, Electrical and  
Computer Engineering Technology, Purdue University,  
West Lafayette, Indiana, USA
  - 0. Data Products Using Data Mesh Principles  
David Keever  
Technical Fellow, Leidos, Inc., Reston, Virginia, USA

0. The Gap Between the Need and the Realities in Mentoring Computer Science Students by Faculty  
Sherrri Turner, Anne Hinderliter, Arshia Khan  
Department of Educational Psychology, University of Minnesota - Twin Cities Minneapolis, Minnesota, USA;  
Department of Chemistry & Biochemistry, University of Minnesota - Duluth, Duluth, Minnesota, USA;  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
0. Automated Machine Learning Model Selection Analysis  
Joseph E. Jabour, Althea C. Henslee, Haley R. Dozier, Indu Shukla, Brandon Hansen, Abderahim Salhi, Ian Dettwiller  
United States Army Corps of Engineers, Vicksburg, Mississippi, USA
0. Performance Evaluation of Anomaly Detection Algorithms in Machine Learning  
James Scheibmeir  
NorthWest Arkansas Community College, Bella Vista, Arkansas, USA; Gartner Inc., USA
0. CEO Profiles in the FinTech Industry and the Impact on Financial Performance  
Chi King Li, Vincent Cho  
The Hong Kong Polytechnic University, Hong Kong SAR, China
0. Towards Automatic Detection of Participant Attention in Virtual Meetings  
Kaleab Tekla, Dvijesh Shastri  
Department of Computer Science and Engineering Technology, University of Houston - Downtown, Houston, Texas, USA
0. Low-Cost High-Precision Contactless Robotic Gripper  
Thomas Adams, Samuel Bettencourt, Keily Valdez Sereno, Vida Vakilian  
Department of Computer Science, California State University Channel Islands, Camarillo, California, USA
0. Improving Energy Efficiency of RISC-V Processor for Sensor Node  
Apurva Panchal, Hakduran Koc  
College of Science and Engineering, University of Houston - Clear Lake, Houston, Texas, USA
0. Optimize Matrix Multiplication Utilizing openCL FPGA Kernel  
Bassam Shaer, Timothy Stewart  
Dr. Muhammad Harunur Rashid Department of Electrical & Computer Engineering, University of West Florida, Fort Walton Beach, Florida, USA
0. Enhancing Programming Education through Innovative Teaching and Embracing AI  
Fernando Paniagua, James Braman  
Computer Science & Information Technology, Community College of Baltimore County, Baltimore, Maryland, USA

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**SESSION 4-MON (FECS TRACKS):**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: EDUCATION, STEM, USE OF LLMs, CURRICULUM ISSUES**

**Chairs: TBA**

**July 24, 2023 (Monday); 03:40pm - 05:00pm**

**(LOCATION: Ballrooms Galleria D & E)**

- 03:40 - 04:00pm: Analyzing ChatGPT's Aptitude in an Introductory Computer Engineering Course  
Sanjay Deshpande\*, Jakub Szefer  
Computer Architecture and Security Lab, Department of Electrical Engineering, Yale University, New Haven, Connecticut, USA
- 04:00 - 04:20pm: CS1 and CS2 using Scala 2: A Decade of Experience  
Mark C. Lewis, Lisa L. Lacher  
Department of Computer Science, Trinity University, San Antonio, Texas, USA;  
Department of Computer Science, University of Houston Clear Lake, Texas, USA
- 04:20 - 04:40pm: Promoting Data Science to Underrepresented Communities Through the Use of Active Learning  
Ed Pearson III, Velma Latson, Pamela Morgan  
EE and CS Department, Alabama A&M University, Normal, Alabama, USA;  
Department of Technology and Security, Bowie State University, Bowie, Maryland, USA;  
Department of Education, University of Maryland - Baltimore County, Baltimore, Maryland, USA
- 04:40 - 05:00pm: Project Xander: Hands-on Skills for Cybersecurity  
Gregory B. White  
Computer Science Department, Center for Infrastructure Assurance and Security, The University of Texas at San Antonio, Texas, USA

**SESSION 5-MON (MSV & CSC TRACKS):**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**ONLINE SESSIONS)**

**SCOPE: MODELING, SIMULATION & VISUALIZATION METHODS + SCIENTIFIC COMPUTING**

**Chairs: TBA**

**July 24, 2023 (Monday); 05:00pm - 06:20pm**

**(LOCATION: Ballrooms Galleria D & E)**

- 05:00 - 05:20pm: Recurrence-Plot Visualization and Quantitative Analysis of Long-Term Co-Evolutionary Dynamics in a Simulated Financial Market With ZIP Traders  
Dave Cliff  
Department of Computer Science, University of Bristol, Bristol, United Kingdom (UK)
- 05:20 - 05:40pm: Pairwise Adaptive Timesteps for Soft-Sphere Collisions in Ring Simulations  
Jonathan Rotter, Mark C. Lewis\*  
Department of Computer Science, Trinity University, San Antonio, Texas, USA

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- 05:40 - 06:00pm: SNEE: Social Network Evolution Engine  
Patrick Shepherd\*, Anh Ngo, Said Maalim, Isaac Gray  
Department of Computer Science, Berea College, Berea,  
Kentucky, USA
- 06:00 - 06:20pm: Exploration of Single Compound Phase Diagrams in Chemistry  
Courses using MATLAB or Octave  
Madison West, Jaime Diaz, Zenon "Theo" Porche, and  
Brittnee V Veldman\*  
California State University Channel Islands, Camarillo,  
California, USA
- 07:30 - 10:00pm: **CONFERENCE RECEPTION DINNER / SOCIAL**  
July 24 - Monday; 07:30pm  
(LOCATION: Velvet Room)

<----- LOCATION: Ballrooms Galleria A ----->

08:20 - 08:40am: RESERVED / FREE SLOT

08:40 - 09:00am: RESERVED / FREE SLOT

09:00 - 09:20am: RESERVED / FREE SLOT

09:20 - 09:40am: RESERVED / FREE SLOT

09:40 - 10:00am: RESERVED / FREE SLOT

10:00 - 10:20am: **BREAK (Refreshments)**  
(LOCATION: Galleria B & C; Registration Counter/Desk)

10:20 - 10:40am: RESERVED / FREE SLOT

10:40 - 11:00am: RESERVED / FREE SLOT

**SESSION 5-MON (PDPTA TRACKS): INTERNATIONAL WORKSHOP: MPS**  
(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)  
SCOPE: INTERNATIONAL WORKSHOP ON MATHEMATICAL MODELING  
AND PROBLEM SOLVING (MPS)  
part of PARALLEL & DISTRIBUTED PROCESSING TECHNIQUES  
Co-Chairs: Prof. Masahito Ohue\*, Dr. Kotoyu Sasayama\*\*,  
Prof. Kazuki Joe\*\*\*, Prof. Masami Takata\*\*\*,  
and Prof. Shinya Watanabe\*\*\*\*  
\* Tokyo Institute of Technology, Japan  
\*\* Mitsubishi Electric Building Solutions Co., Japan  
\*\*\* chair of Nara Women's University, Japan  
\*\*\*\* Muroran Institute of Technology, Japan  
July 24, 2023 (Monday); 11:00am - 12:20pm:  
(LOCATION: Ballrooms Galleria A)

11:00 - 11:20am: Faster Lead Optimization Mapper Algorithm for Large-Scale  
Relative Free Energy Perturbation  
Kairi Furui\*, Masahito Ohue  
Tokyo Institute of Technology, Japan

11:20 - 11:40am: Antibody Complementarity-Determining Region Sequence Design  
using AlphaFold2 and Binding Affinity Prediction Model  
Takafumi Ueki, Masahito Ohue  
Tokyo Institute of Technology, Japan

11:40 - 12:00pm: Enhancing the Performance of AlphaFold through Modified Storage  
Method and Optimization of hhblits on TSUBAME3.0 Supercomputer  
Hayato Fujita, Akihiro Nomura, Toshio Endo, Masakazu Sekijima\*  
Tokyo Institute of Technology, Japan

12:00 - 12:20pm: Predicting Chemical Reaction Product by Graph Transformer  
Shunya Makino, Nobuaki Yasuo\*, Masakazu Sekijima  
Tokyo Institute of Technology, Japan



12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 6-MON (PDPTA TRACKS): INTERNATIONAL WORKSHOP: MPS - Continued ...**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: INTERNATIONAL WORKSHOP ON MATHEMATICAL MODELING AND PROBLEM SOLVING (MPS)**

**Co-Chairs: Prof. Masahito Ohue, Dr. Kotoyu Sasayama,  
Prof. Kazuki Joe, Prof. Masami Takata, Prof. Shinya Watanabe  
July 24, 2023 (Monday); 01:20pm - 03:00pm  
(LOCATION: Ballrooms Galleria A)**

01:20 - 01:40pm: Evolutionary Multi-mode Slime Mould Optimization: A hyper-heuristic algorithm inspired by slime mould foraging behaviors  
Rui Zhong, Enzhi Zhang, Masaharu Munetomo\*  
Hokkaido University, Japan

01:40 - 02:00pm: A Large Neighborhood Local Search Method Incorporating MIP Techniques for Large-Scale Optimization Problems with many Constraints: Application to the machining scheduling  
Jin Matsuzaki\*, Kazutoshi Sakakibara, Masaki Nakamura, and Shinya Watanabe  
Toyama Prefectural University, Japan

02:00 - 02:20pm: Formal Verification of an Autonomous Vehicle Control System by the Timed OTS/CafeOBJ Method  
Masaki Nakamura\*, Tatsuya Igarashi, Yifan Wang, and Kazutoshi Sakakibara  
Toyama Prefectural University, Japan

02:20 - 02:40pm: Formal Specification of an Autonomous Vehicle Group Control System with the Hybrid OTS/CafeOBJ Method  
Yifan Wang\*, Masaki Nakamura, Kazutoshi Sakakibara  
Toyama Prefectural University, Japan

02:40 - 03:00pm: Proposed Preprocessing for High-performance Complex Singular Value Decomposition  
Miho Chiyonobu, Masami Takata\*, Jun Harayama, Kinji Kimura, and Yoshimasa Nakamura  
Nara Women's University, Japan

**03:00 - 03:40pm: BREAK (Refreshments) & POSTERS  
July 24, 2023 (Monday)  
(LOCATION: Galleria B & C; Registration Counter/Desk)**

0. Improvement and Evaluation of Pseudo Natural Programming Language  
Toshiyuki Maeda, Masumi Yajima, Akiyoshi Wakatani  
Department of Management Information, Hannan University, Japan; Department of Economics, Meikai University, Japan; Faculty of Intelligence and Informatics, Konan University, Japan

0. Fall Detection in SoccerNet Data  
Jonathan Sturdivant, Ethan Lee, Brian Alvarez, Savitha Rachuri, Gulustan Dogan  
Department of Computer Science, University of North Carolina Wilmington, North Carolina, USA

- 0. Development of Embedded Machine Learning Finger Number Recognition Application Using Edge Impulse Platform  
Chun-Ki Kwon  
Department of Medical IT Engineering, Soonchunhyang University, Asan, ChungNam, South Korea
- 0. Exploring Deep Brain Stimulation Effects in a Hyperbolic-Based Computational Model of Neuronal Spiking Patterns  
Ardavan Vakil, Miad Faezipour  
School of Engineering Technology, Electrical and Computer Engineering Technology, Purdue University, West Lafayette, Indiana, USA
- 0. Data Products Using Data Mesh Principles  
David Keever  
Technical Fellow, Leidos, Inc., Reston, Virginia, USA
- 0. The Gap Between the Need and the Realities in Mentoring Computer Science Students by Faculty  
Sherrri Turner, Anne Hinderliter, Arshia Khan  
Department of Educational Psychology, University of Minnesota - Twin Cities Minneapolis, Minnesota, USA;  
Department of Chemistry & Biochemistry, University of Minnesota - Duluth, Duluth, Minnesota, USA;  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
- 0. Automated Machine Learning Model Selection Analysis  
Joseph E. Jabour, Althea C. Henslee, Haley R. Dozier, Indu Shukla, Brandon Hansen, Abderahim Salhi, Ian Dettwiller  
United States Army Corps of Engineers, Vicksburg, Mississippi, USA
- 0. Performance Evaluation of Anomaly Detection Algorithms in Machine Learning  
James Scheibmeir  
NorthWest Arkansas Community College, Bella Vista, Arkansas, USA; Gartner Inc., USA
- 0. CEO Profiles in the FinTech Industry and the Impact on Financial Performance  
Chi King Li, Vincent Cho  
The Hong Kong Polytechnic University, Hong Kong SAR, China
- 0. Towards Automatic Detection of Participant Attention in Virtual Meetings  
Kaleab Teka, Dvijesh Shastri  
Department of Computer Science and Engineering Technology, University of Houston - Downtown, Houston, Texas, USA
- 0. Low-Cost High-Precision Contactless Robotic Gripper  
Thomas Adams, Samuel Bettencourt, Keily Valdez Sereno, Vida Vakilian  
Department of Computer Science, California State University Channel Islands, Camarillo, California, USA

- 0. Improving Energy Efficiency of RISC-V Processor for Sensor Node  
Apurva Panchal, Hakduran Koc  
College of Science and Engineering, University of Houston - Clear Lake, Houston, Texas, USA
- 0. Optimize Matrix Multiplication Utilizing openCL FPGA Kernel  
Bassam Shaer, Timothy Stewart  
Dr. Muhammad Harunur Rashid Department of Electrical & Computer Engineering, University of West Florida, Fort Walton Beach, Florida, USA
- 0. Enhancing Programming Education through Innovative Teaching and Embracing AI  
Fernando Paniagua, James Braman  
Computer Science & Information Technology, Community College of Baltimore County, Baltimore, Maryland, USA

**SESSION 7-MON (PDPTA TRACKS): INTERNATIONAL WORKSHOP: MPS - Continued ...**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: INTERNATIONAL WORKSHOP ON MATHEMATICAL MODELING AND PROBLEM SOLVING (MPS)**

**Co-Chairs: Prof. Masahito Ohue, Dr. Kotoyu Sasayama, Prof. Kazuki Joe, Prof. Masami Takata, Prof. Shinya Watanabe**

**July 24, 2023 (Monday); 03:40pm - 05:40pm:**

**(LOCATION: Ballrooms Galleria A)**

- 03:40 - 04:00pm: Iterative Censoring and Highly Efficient Machine Learning with Condition Number in LSMR Method  
Miho Chiyonobu\*, Itsuki Kuboi, Rika Tanaka, Shinya Ozawa, Yosuke Hosoda, Masami Takata, Kinji Kimura, Yoshimasa Nakamura  
Nara Women's University, Japan
- 04:00 - 04:20pm: Development of Stock Recommendation Method  
Natsu Kidoguchi\*, Miho Chiyonobu, Masami Takata  
Nara Women's University, Japan
- 04:20 - 04:40pm: Prediction of Specific Surface Area of Metal-Organic Frameworks by Graph Kernels  
Yu Morikawa\*, Kilho Shin, Hiroaki Ohshima, Masataka Kubouchi  
Computer Centre, Gakushuin University, Japan
- 04:40 - 05:00pm: A Proposal for Yield Prediction using Multiple Models based on the Average Number of Days to Harvest Tomato Fruit in Greenhouse Horticulture  
Yusei Yoshida\*, Shinya Watanabe, Yosuke Kobayashi, Kazuhiko Sato, Satoshi Kondo, Tatsuro Horie  
Muroran Institute of Technology, Japan
- 05:00 - 05:20pm: Meta Generative Data Augmentation Optimization  
Enzhi Zhang\*, Bochen Dong, Mohamed Wahib, Rui Zhong, and Masaharu Munetomo  
Hokkaido University, Japan
- 05:20 - 05:40pm: Data Augmentation Method for Improving Blurred Image Recognition Rate  
Shiori Ishikawa\*, Miho Chiyonobu, Sayaka Iida, Masami Takata  
Nara Women's University, Japan

**July 24**

**SESSION 8-MON (ICWN & SAM TRACKS):**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: WIRELESS NETWORKS + SECURITY**

**Chairs:**

**July 24, 2023 (Monday); 05:40pm - 06:20pm**

**(LOCATION: Ballrooms Galleria A)**

- 05:40 - 06:00pm: Password Cracking as a Medium for Introducing Cybersecurity Skills and Student Autonomy  
Emily Tanabe, Cole McCorkendale, Jens Mache, Aurelio Puente, Matthew Chio, Richard Weiss  
Lewis & Clark College, Portland, Oregon, USA;  
Evergreen State College, Olympia, Washington, USA
- 06:00 - 06:20pm: Advanced Detection and Prevention of DDoS Attacks in SDN  
Gumede Bhekimuzi, Tonderai Muchenje  
Tshwane University of Technology, Soshanguve, South Africa
- 07:30 - 10:00pm: **CONFERENCE RECEPTION DINNER / SOCIAL**  
July 24 - Monday; 07:30pm  
(LOCATION: Velvet Room)

ONLINE / ZOOM SESSIONS

ALL DATES AND TIMES ARE GIVEN IN USA PACIFIC TIME ZONE (PT).

- SESSION 1-ZOOM: ---> IKE TRACKS  
 SCOPE: INFORMATION & KNOWLEDGE ENGINEERING + NOVEL APPLICATIONS  
 Chairs: TBA  
 July 24, 2023 (Monday); 08:00am - 10:40am  
 (ON-LINE / ZOOM)
- 08:00 - 08:20am: Influence Maximization in Dynamic Social Networks Under Partially Observable Environments  
 Gkolfo I. Smani, Vasileios Megalooikonomou  
 Department of Computer Engineering and Informatics,  
 University of Patras, Patras, Greece
- 08:20 - 08:40am: A Further Analysis of Insect Trading in Shrek Super Party  
 Brandon Packard, Prakhar Singh  
 Clarion Area High School, Clarion, Pennsylvania, USA;  
 Pennsylvania Western University - Clarion Campus, Clarion,  
 Pennsylvania, USA
- 08:40 - 09:00am: A Smart User Interface for Structured Deep Web Search  
 Amal Aljohani  
 Department of Computer Science, College of Computer Science  
 and Information Technology, Majmaah University,  
 Al-Majmaah, Riyadh, Saudi Arabia
- 09:00 - 09:20am: Clustering Users by Information-Seeking Style: An Empirical Study on an Academic Search Engine  
 Somayeh Fatahi, Amineh Setayesh, Julita Vassileva  
 Department of Computer Science, University of Saskatchewan,  
 Canada; Department of Computer Engineering, Shahid Bahonar  
 University of Kerman, Iran
- 09:20 - 09:40am: Structured Equation Model of Antecedents to Performative Action from Social Media Exchanges  
 Michael D. Workman  
 International School of Management, University of Paris,  
 Paris, France
- 09:40 - 10:00am: A Taxonomy Based Digital Platform Evaluation Model for Air Quality Data Management  
 Saba Siddiqui, Asif Qumer Gill  
 Faculty of Engineering and Information Technology,  
 University of Technology, Ultimo, NSW, Sydney, Australia
- 10:00 - 10:20am: Improved Machine Learning Approach for Shanghai City's Second-hand Housing Price Prediction  
 Guang Hu, Yue Tang, Rui Yi  
 School of Statistics and Information, Shanghai University of  
 International Business and Economic, Shanghai, China;  
 School of Computer Science, Fudan University, Shanghai, China;  
 %Shanghai Key Laboratory of Data Science, Shanghai, China

10:20 - 10:40am: Self-reported Measurement of the Impact of 360-degree VR Images on Affective and Cognitive Responses in Hotel Promotion  
Claudia Rivera, Luis Alfaro, Jorge Luna-Urquizo,  
and Elisa Castaneda  
Universidad Nacional de San Agustin de Arequipa Arequipa, Peru

**SESSION 2-ZOOM: ---> IPCV, BIOENG, ICAI TRACKS**  
**SCOPE: IMAGE PROCESSING, COMPUTER VISION, & PATTERN**  
**RECOGNITION + BIOMEDICAL ENGINEERING +**  
**ARTIFICIAL INTELLIGENCE**  
**Chairs: TBA**  
**July 24, 2023 (Monday); 10:40am - 01:00pm**  
**(ON-LINE / ZOOM)**

10:40 - 11:00am: Convolutional Neural Network Post-compression Evaluation with Explainable AI  
Recep Erol, Mariofanna Milanova  
University of Arkansas at Little Rock, Little Rock,  
Arkansas, USA

11:00 - 11:20am: Gas Leakage Recognition using Manifold Convolutional Neural Networks and Infrared Thermal Images  
Omneya Attallah, Amr M. Elhelw  
Department of Electronics and Communications Engineering,  
Arab Academy for Science, Technology & Maritime Transport,  
Alexandria, Egypt

11:20 - 11:40am: Synthetic Image Sequence Generation for Endothelium in situ Simulator  
Marcial Sanchez-Tecuatl, Francesco Moccia,  
Roberto Berra-Romani, Jorge F. Martinez-Carballido  
Electronics Department, National Institute of Astrophysics,  
Optics and Electronics, Puebla, Mexico;  
Laboratory of General Physiology, Department of Biology  
and Biotechnology "Lazzaro Spallanzani", University of  
Pavia, Italy;  
Biomedicine School, Benemerita Universidad Autonoma de  
Puebla, Mexico

11:40 - 12:00pm: Visual Memory Transfer for Imbalanced Medical Image Classification  
Ke Yao, Yan Liu  
Concordia University, Montreal, Canada

12:00 - 12:20pm: A Clovis/Solutrean Projectile-Point Image Classifier  
Jack K. Horner  
Independent Researcher, Lawrence, Kansas, USA

12:20 - 12:40pm: Evolving Efficient CNN Based Model for Image Classification  
Afsaneh Shams, Drew Becker, Kyle Becker, Soheyla Amirian,  
and Khaled Rasheed  
School of Computing, University of Georgia, Georgia, USA;  
Institute of Artificial Intelligence, University of Georgia,  
Georgia, USA

12:40 - 01:00pm: A Research Agenda on the Feasibility of the Proposed 5G Enabled Use Cases on Healthcare  
Akshay Monga  
Harrisburg University of Science and Technology, Pittsburgh, Pennsylvania, USA

**SESSION 3-ZOOM: ---> CSC TRACKS**  
**SCOPE: SCIENTIFIC COMPUTING + COMPUTATIONAL SCIENCE**  
**Chairs: TBA**  
**July 24, 2023 (Monday); 01:00pm - 03:00pm**  
**(ON-LINE / ZOOM)**

01:00 - 01:20pm: Comparison and Applications of Multiplying 2 by 2 Matrices Using Strassen Algorithm in Python IDLE Notebook and Colab  
Shanzhen Gao, Weizheng Gao, Olumide Malomo, Jianning Su, Julian D. Allagan, Ephrem Eyob  
Virginia State University, Virginia, USA;  
West Virginia State University, West Virginia, USA;  
Midway University, Midway, Kentucky, USA;  
Elizabeth City State University, Elizabeth City, North Carolina, USA

01:20 - 01:40pm: Order-based Distinctions of Performance - An Instructive Example of Logic Puzzles  
Indu M. Anand  
Sushila Publications, Chelmsford, Massachusetts, USA

01:40 - 02:00pm: Comparison and Applications of Multiplying Two 3 by 3 Matrices  
Shanzhen Gao, Weizheng Gao, Olumide Malomo, Jianning Su, Julian D. Allagan, Ephrem Eyob  
Virginia State University, Virginia, USA;  
West Virginia State University, West Virginia, USA;  
Midway University, Midway, Kentucky, USA;  
Elizabeth City State University, Elizabeth City, North Carolina, USA; Lifetime Fellow of the Institute for Combinatorics and its Applications, USA

02:00 - 02:20pm: Towards Modeling Functional Requirements from Tacit Knowledge  
Rameen Jafar, Maram Fahaad Almufareh, Sundas Ashraf, Bushra Khan, Wasi Haider Butt, Mamoona Humayun  
Department of Computer and Software Engineering, National University of Sciences and Technology, Pakistan;  
Department of Information Systems, College of Computer & Information Sciences, Jouf University, Saudi Arabia

02:20 - 02:40pm: Mitigating Risk in Machine Learning-Based Portfolio Management: A Deep Reinforcement Learning Approach  
Fidel Esteves do Nascimento, Paulo Andre Lima de Castro  
Institute of Aeronautics and Technology, Sao Jose dos Campos, Brazil

**July 24**

02:40 - 03:00pm: Analysis of Information Security Management Applying International Standards to Mitigate Risks  
 Rodrigo H. del Pozo Durango, Segundo Moises Toapanta Toapanta, Eriannys Zharayth Gomez Diaz, Jose Antonio Orizaga Trejo, Luis Enrique Mafla Gallegos, Ma. Rocio Maciel Arellano, Victor Manuel Larios Rosillo, Maria Mercedes Bano Hifong  
 Postgraduate Director Universidad Estatal de Bolivar (UESB), Guaranda, Ecuador; Research Department, Instituto Tecnologico Superior Ruminahui, Sangolqui, Ecuador; Department of Information Systems, Universidad de Guadalajara (UDG-CUCEA), Guadalajara, Mexico; Faculty of Systems Engineering, Escuela Politecnica Nacional (EPN), Quito, Ecuador; Department of Information Systems, Universidad de Guadalajara (UDG-CUCEA), Guadalajara, Mexico; Postgraduate Subsystems, Universidad Catolica de de Santiago de Guayaquil (UCSG), Guayaquil, Ecuador

**SESSION 4-ZOOM: ---> FECS & EEE TRACKS**  
**SCOPE: FRONTIERS IN EDUCATION + E-LEARNING**  
**Chairs: TBA**  
**July 24, 2023 (Monday); 03:00pm - 06:20pm**  
**(ON-LINE / ZOOM)**

03:00 - 03:20pm: A Study of Course-based Undergraduate Research Experiences and the Challenges and Opportunities for Computer Science  
 Paula Lauren  
 Department of Mathematics and Computer Science, Lawrence Technological University, Southfield, Michigan, USA

03:20 - 03:40pm: Artificial Intelligence: Interactive Technology in Art Design  
 Jie Cheng  
 Department of Computer and Information Technology, Miami University, Hamilton, Ohio, USA

03:40 - 04:00pm: Application of Chatbot in K-12 Education  
 Jie Cheng  
 Department of Computer and Information Technology, Miami University, Ohio, USA

04:00 - 04:20pm: Viable Program Assessment and Continuous Improvement  
 Venu G. Dasigi  
 Bowling Green State University, Bowling Green, Ohio, USA

04:20 - 04:40pm: Undergraduate Research Experience Impact on Retention in an Electrical Engineering and Computer Science (EECS) Program  
 Hassan Salmani, Mohsen Mosleh, Gloria Washington  
 Department of Electrical Engineering and Computer Science, Howard University, Washington, DC, USA;  
 Department of Mechanical Engineering, Howard University, Washington, DC, USA

04:40 - 05:00pm: Analysis of Plagiarism via ChatGPT on Domain-Specific Exams  
 Jinyoung Jo, Sean Choi  
 University of California (UCLA), Los Angeles, California, USA;  
 Santa Clara University, Santa Clara, California, USA



**July 24**

- 05:00 - 05:20pm: Engaging Students in Undergraduate Research: Teaching Through Design, Development, and Collaboration  
Ethan Widener, Soumik Kundu, Rajwol Chapagain, Prakriti Sapkota, Martin Q. Zhao  
Department of Computer Science, Mercer University, Macon, Georgia, USA; Department of Engineering, Mercer University, Macon, Georgia, USA
- 05:20 - 05:40pm: Automatic Assessment of Programming Exercises Using Syntactic Analysis  
Antonio Gonzalez-Torres, Elliot Ramirez-Trejos, Lilliana Sancho-Chavarria, Jose Navas-Su, Cesar Garita, and Jorge Monge-Fallas  
Computer Engineering, Costa Rica Institute of Technology, Cartago, Costa Rica; School of Mathematics, Costa Rica Institute of Technology, Cartago, Costa Rica
- 05:40 - 06:00pm: ChatGPT: A Game-Changer for Embedding Emojis in Faculty Feedback  
Ethan Kupershtein, Yulia Kumar, Anjana Manikandan, Patricia Morreale, J. Jenny Li  
Kean University, Union, New Jersey, USA
- 06:00 - 06:20pm: Teacher's Perspective for the Implementation of Social Networks in Virtual Education at a Higher Level  
Carmita Ines Suarez, Segundo Moises Toapanta Toapanta, Eriannys Zharayth Gomez Diaz, Angel Ernesto Huerta Velez, Carmen Ines Huerta Suarez, Edith Elizabeth Ordonez Chavez, and Marcelo Zambrano Vizuite  
Research Department, Instituto Tecnológico Superior Ruminahui, Sangolquí, Ecuador

<----- LOCATION: Ballrooms Galleria D & E ----->

08:20 - 09:10am: KEYNOTE LECTURE/ADDRESS - July 25, Tuesday:  
 CHALLENGES OF INTEGRATING CHATGPT WITH SOFTWARE  
 APPLICATIONS & SOLVING IT WITH OBJECT MESSAGING  
 MODEL AS A NEW DESIGN PARADIGM  
 Massoud Alibakhsh  
 Founder & CEO, Xeba Technologies, Atlanta Georgia, USA  
 www.xeba.tech  
 (LOCATION: Galleria D & E)

09:10 - 10:00am: KEYNOTE LECTURE/ADDRESS - July 25, Tuesday:  
 ON THE WAY TO REALIZE THE 5th INDUSTRIAL REVOLUTION:  
 ACHIEVEMENTS, CHALLENGES AND RESEARCH AREAS  
 Prof. Dr. Eng. George Dimitrakopoulos  
 Harokopio University of Athens, Greece  
 Infineon Technologies AG, Munich, Germany  
 (LOCATION: Galleria D & E)

10:00 - 10:20am: BREAK

10:20 - 11:00am: KEYNOTE LECTURE/ADDRESS - July 25, Tuesday:  
 PREDICTION + EXPLANATION: EXPLAINABLE MACHINE LEARNING  
 IN HEALTHCARE  
 Dr. Ahmad P. Tafti  
 Director, Pitt HexAI Research Laboratory,  
 Department of Health Information Management,  
 School of Health and Rehabilitation Sciences,  
 (Secondary appointment: Intelligent Systems Program (ISP),  
 School of Computing and Information)  
 University of Pittsburgh, PA, USA  
 (LOCATION: Galleria D & E)

SESSION 9-TUE (CSC TRACKS):

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)  
 SCOPE/WORKSHOP: MILITARY & DEFENSE MODELING AND SIMULATION  
 Co-Chairs: Prof. Douglas D. Hodson (Chair)\*,  
 Prof. Michael R. Grimaila\*\*, Dr. Richard Dill\*  
 \* Computer Science and Engineering Department, US Air Force  
 Institute of Technology (AFIT), USA  
 \*\*Head, Systems Engineering & Management Department,  
 US Air Force Institute of Technology (AFIT), USA  
 July 25, 2023 (Tuesday); 11:00am - 12:20pm  
 (LOCATION: Ballrooms Galleria D & E)

11:00 - 11:20am: Understanding the Quantum Teleportation Protocol  
 Kurt T. Spranger, Michael R. Grimaila, Douglas D. Hodson  
 The Air Force Institute of Technology, WPAFB, Ohio, USA

11:20 - 11:40am: An Exploration of Classical and Quantum Networks Using SeQUeNce  
 Blake K. Perkins, Douglas D. Hodson, Michael R. Grimaila  
 The Air Force Institute of Technology, WPAFB, Ohio, USA

11:40 - 12:00pm: An Examination into Squanch and its Conversion to Julia  
Takashi Joubert, Douglas D. Hodson, Michael R. Grimaila  
The Air Force Institute of Technology, WPAFB, Ohio, USA

12:00 - 12:20pm: Distributed Boids Simulation: Performance Analysis and  
Implementation Challenges  
Brett M. Martin, Ryan D. Winz, Luke J. Mcfadden, and  
Tor J. Langehaug  
The Air Force Institute of Technology, WPAFB, Ohio, USA

12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 10-TUE (CSC & ICAI TRACKS): Continued ...**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)

SCOPE/WORKSHOP: MILITARY & DEFENSE MODELING AND SIMULATION (+ AI)

Co-Chairs: Prof. Douglas D. Hodson (Chair)\*,

Prof. Michael R. Grimaila\*\*, Dr. Richard Dill\*

\* Computer Science and Engineering Department, US Air Force  
Institute of Technology (AFIT), USA

\*\*Head, Systems Engineering & Management Department,

US Air Force Institute of Technology (AFIT), USA

July 25, 2023 (Tuesday); 01:20pm - 03:00pm

(LOCATION: Ballrooms Galleria D & E)

01:20 - 01:40pm: Distributed Interactive Simulation Prototyping with Mininet  
Ryan D. Winz, Douglas D. Hodson, Michael R. Grimaila,  
and Maj Richard Dill  
The Air Force Institute of Technology, WPAFB, Ohio, USA

01:40 - 02:00pm: Using Arduino-Based Sensors to Detect Suas Activity  
Preston Albury, Maj Richard Dill, Douglas D. Hodson,  
and (Michael Grimaila)  
The Air Force Institute of Technology, WPAFB, Ohio, USA

02:00 - 02:20pm: Multi-Sensor Aircraft Classification  
Maj Sarah Bolton, Maj Richard Dill, Michael R. Grimaila,  
and Douglas D. Hodson  
The Air Force Institute of Technology, WPAFB, Ohio, USA

02:20 - 02:40pm: Drone Detection Using Extracted Mel Frequency Cepstral  
Coefficients with Logistic Regression and Support  
Vector Machines  
Anthony Brunson, Maj Richard Dill, Brett J. Borghetti,  
Douglas D. Hodson, (Brent Langhals)  
The Air Force Institute of Technology, WPAFB, Ohio, USA

02:40 - 03:00pm: Can CNNs be used to Predict Multi-physics Simulations of  
Microwave Induced Damage to Basalt?  
Reena R. Patel\*, Jeff Allen, Tomas Mondragon, Oliver Taylor  
Information Technology Laboratory, U.S. Army Engineer  
Research and Development Center, Vicksburg, Mississippi, USA;  
Geotechnical and Structures Laboratory, U.S. Army Engineer  
Research and Development Center, Vicksburg, Mississippi, USA

03:00 - 03:40pm: **BREAK (Refreshments) & POSTERS**

July 25, 2023 (Tuesday)

(LOCATION: Galleria B & C; Registration Counter/Desk)

0. Raising Student Awareness of Ethical Concerns Related to Artificial Intelligence in Computing Courses  
Mel Akhimiemona, Alexis Brown, James Braman  
Computer Science & Information Technology, Community College of Baltimore County, Baltimore, Maryland, USA
0. A Survey on Retrieving Confidential Data Using Phishing Attack  
Sai Teja Veeramalla, Tathagata Bhattacharya  
Computer Information System Cybersecurity, Auburn University at Montgomery, Alabama, USA
0. The Just-In-Time Adaptive Artificial Augmentation Capstone Project  
Chad Mello, Troy Weingart  
Department of Computer & Cyber Sciences, United States Air Force Academy, Colorado Springs, Colorado, USA
0. Current State of Network Security and Privacy  
Nick Roys, Donnie Flanders, Marissa Baisi, Julian Martin, Bradley Hoffman, Hilmi Demirhan\*  
University of North Carolina Wilmington, NC, USA
0. A New Model of Online Team Teaching  
Alireza Kavianpour  
Computer Engineering Information Science, DeVry University, Ontario, California, USA
0. Persuasive Behaviors in Positive and Negative Persuasive Opinion Multimedia: A Mixed Methods Study  
Zvetomira Svetleff  
University of Nevada, Las Vegas, Nevada, USA
0. An Energy-efficient and Data-compressed Offloading in Mobile Cloud Computing  
Yung-Ting Chuang, Chih-Ting Hsu  
Institute of Information Management, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
0. 3D Machine Vision and Deep Learning for Enabling Automated and sustainable Assistive Physiotherapy  
Lyndon N. Smith, Stephen Boyd, Devaki Bhatta, and Melvyn L. Smith  
Department of Engineering Design and Mathematics, University of the West of England, Bristol, United Kingdom (UK);  
Perseptive Ltd., London, United Kingdom (UK)

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0. Muse Alpha: Primary Study of AI Chatbot for Psychotherapy with Socratic Methods  
Hyeseong Park, Myung Won Raymond Jung, Min Ji Kim, Jihye Kim, Uran Oh  
AKA Cognitive Corp., Seoul, South Korea;  
Harvard Chan School of Public Health, Seoul, South Korea;  
Yonsei University College of Medicine, Seoul, South Korea;  
Ewha Womans University, Seoul, South Korea
0. Automating the Development of Stress Detection Systems  
Felix Beierle, Rudiger Pryss  
National Institute of Informatics, Tokyo, Japan;  
Institute of Clinical Epidemiology and Biometry,  
University of Wurzburg, Wurzburg, Germany
0. Abnormality Detection in Lung Sounds Using Feature Augmentation  
Shiva Shokouhmand, Md Motiur Rahman, Miad Faezipour, Smriti Bhatt  
School of Engineering Technology, Electrical and Computer Engineering Technology, Purdue University, West Lafayette, Indiana, USA; Department of Computer and Information Technology, Purdue University, West Lafayette, Indiana, USA
0. Designing User-Centered Artificial Intelligence to Assist in Recovery from Domestic Abuse  
Sneha Talwalkar, Courtney Crooks  
School of Cybersecurity and Privacy, Georgia Institute of Technology, Atlanta, Georgia, USA;  
School of Medicine, Emory University, Atlanta, Georgia, USA
0. Design Approach of Electronic Attendance-Absence Recording System using Multi-User Face Recognition  
Sang-Heon Lee, Myoung-Kyu Sohn, Hyunduk Kim, Junkwang Kim  
Division of Automotive Technology, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, Republic of Korea
0. Extraction of Breast Cancer Information from Clinical Records for Cancer Registry using Natural Language Processing  
Adhari Abdullah Alzaabi, Abdurahman AAlAbdulsalam  
College of Health Science and Medicine, Sultan Qaboos University, Oman; Department of Computer Science, Sultan Qaboos University, Oman
0. The Ethical Responsibility for Explainable AI in Mission Engineering  
Althea Henslee, Haley Dozier, Indu Shukla, Griffin Turner, Abderahim Salhi, Ian Dettwiller  
Information Technology Laboratory, United States Army Corps of Engineers, Vicksburg, Mississippi, USA

**SESSION 11-TUE (EEE TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: E-LEARNING, E-BUSINESS, ENTERPRISE INFORMATION SYSTEMS, & E-GOVERNMENT**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 03:40pm - 05:00pm**

**(LOCATION: Ballrooms Galleria D & E)**

- 03:40 - 04:00pm: An Exploratory Case Study of the Implications of Gamification Theory's Impact on Adult Learners in Post-Secondary Computer Science Classes  
Anastasia Tracy Biggs, Dana Betts  
School of Computer Science, Engineering, and Technology,  
Colorado Technical University, Colorado Springs, Colorado, USA;  
Department of Engineering, New Brunswick Community College,  
Saint John, Canada
- 04:00 - 04:20pm: Modelling Electric Car Purchase Intention and Cost Affinity  
Kalisri Logeswaran Aravindan, Narinasamy Ilhavenil,  
Thurasamy Ramayah, Muhammad Aiman Izzat, Yap Voon Chong,  
Arman Hj Ahmad, Murali Raman  
Faculty of Management, Multimedia University, Cyberjaya,  
Malaysia; Institute of Teacher Education Special Education  
Campus, Bandar Tun Razak, Kuala Lumpur, Malaysia;  
School of Management, Universiti Sains Malaysia, Minden,  
Malaysia; Marketing Department, Universiti Kuala Lumpur  
Business School, Kramat Kuala Lumpur, Malaysia;  
Academic Development and Strategy, Asia Pacific University,  
Taman Teknologi, Bukit Jalil, Malaysia
- 04:20 - 04:40pm: An LSTM based Personalized Travel Route Recommendation System  
Chieh-Yuan Tsai\*, Lin-Yi Tai  
Department of Industrial Engineering and Management,  
Yuan Ze University, Taoyuan City, Taiwan
- 04:40 - 05:00pm: TDMPITAS: Framework for Successful E-Learning Environment  
Satpreet Singh  
Director/CEO, Ardass Corporation, Manteca, California, USA

**SESSION 12-TUE (FECS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: FRONTIERS IN EDUCATION: CS & CE + STEM + ETHICS + AI**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 05:00 - 06:20pm**

**(LOCATION: Ballrooms Galleria D & E)**

- 05:00 - 05:20pm: **INVITED TALK:**  
**The Perspective of Engineering Students about Blended Learning: Experience and Challenges**  
Amjad Gawanmeh\*, Mohammad Daradkeh, Shadi Atalla,  
and Wathiq Mansoor  
College of Engineering & IT, University of Dubai, Dubai, UAE

**July 25**

- 05:20 - 05:40pm: An Empirical Investigation on Technology Acceptance of AI-enabled Clinical Decision Support Systems in Nursing Practice  
Konstantina Karathanasopoulou, Christina Alexandropoulou,  
Ilias Panagiotopoulos, George Dimitrakopoulos\*  
School of Digital Technology, Department of Informatics and  
Telematics, Harokopio University of Athens, Athens, Greece
- 05:40 - 06:00pm: Approaches, Theory, and Role of Ethics in Computer Science  
and Engineering  
Satpreet Singh  
Director/CEO, Ardass Corporation, Manteca, California, USA
- 06:00 - 06:20pm: Exploring Emerging Researchers in LATAM: A Comparative Study  
with Elsevier Data and Machine Learning Techniques  
Jesus Manuel Figueroa-Castillo, Laura Hervert-Escobar,  
Hector G. Ceballos-Cancino, Neil Hernandez-Gress  
Tecnologico de Monterrey, Monterrey, Mexico

<----- LOCATION: Ballrooms Galleria A ----->

08:20 - 08:40am: RESERVED / FREE SLOT

08:40 - 09:00am: RESERVED / FREE SLOT

09:00 - 09:20am: RESERVED / FREE SLOT

**SESSION 13-TUE (CSC & SAM TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SECURITY MANAGEMENT**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 09:20am - 10:00am**

**(LOCATION: Ballroom Galleria A)**

09:20 - 09:40am: Identifying Fake and Real Images by Using Masked Face Periocular Region  
Udayasri Nannuri, Kaushik Roy\*, Jinsheng Xu, Tony Gwyn,  
and Bianca T. Govan  
North Carolina Agricultural and Technical state University,  
Greensboro, North Carolina, USA

09:40 - 10:00am: Basics of auditable AI systems  
Olivia Sina Graupner\*, Dirk Pawlaszczyk, Christian Hummert  
Safe Society Agentur fur Innovation in der Cybersicherheit  
GmbH Halle (Saale), Germany;  
University of Applied Sciences Mittweida, Germany;  
Agentur fur Innovation in der Cybersicherheit GmbH Halle  
(Saale), Germany

10:00 - 10:20am: **BREAK (Refreshments)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**

**SESSION 14-TUE (SAM TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SECURITY, ENCRYPTION, AND BLOCKCHAIN**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 10:20am - 11:20am**

**(LOCATION: Ballroom Galleria A)**

10:20 - 10:40am: On Effectiveness of Machine and Deep Learning Algorithms for  
Detection of GPS Spoofing Attacks on Unmanned Aerial Vehicles  
Jaron Burns, Dimitri Amiridis, Dulal Chandra Kar\*, and  
Longzhuang Li  
Texas A&M University - Corpus Christi, Texas, USA;  
University of South Carolina, Columbia, South Carolina, USA



10:40 - 11:00am: Formal Verification of Authenticated Encryption with Associated Data with Tamarin Prover  
Takehiko Mieno\*, Hiroyuki Okazaki, Kenichi Arai, Yuichi Futa  
Graduate School of Science and Technology, Shinshu University, Wakasato, Nagano City, Nagano, Japan;  
EPSON AVASYS Corporation, Ueda City, Nagano, Japan;  
Graduate School of Engineering, Nagasaki University, Nagasaki City, Japan;  
School of Computer Science, Tokyo University of Technology, Hachioji City, Japan

11:00 - 11:20am: Securing Blockchain Technology: A Comprehensive Analysis of Vulnerabilities and Mitigation Strategies  
Bharathi Putta, Dulal Chandra Kar\*  
Texas A&M University - Corpus Christi, Corpus Christi, Texas, USA

**SESSION 15-TUE (ICAI & HIMS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: NEURAL NETWORKS, LLMs, CROWDSOURCING AND APPLICATIONS**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 11:20am - 12:20pm**

**(LOCATION: Ballroom Galleria A)**

11:20 - 11:40am: Neural Network based Evolutionary Approach to Discovery of Governing Equations  
Shahab Razavi\*, Eric R. Gamazon  
Vanderbilt University Medical Center, Tennessee, USA

11:40 - 12:00pm: Assessing Author Personality Types Using ChatGPT  
Curry Guinn  
Department of Computer Science, University of North Carolina Wilmington, North Carolina, USA

12:00 - 12:20pm: Epilepsycosystem.org: Crowdsourcing Seizure Prediction with Long Term Human Intracranial EEG  
Zhinoos Razavi Hesabi\*, Levin Kuhlmann, Mark Cook  
Department of Neurology, St. Vincent's Hospital and University of Melbourne, Australia;  
Department of Data Science and AI, Monash University, Melbourne, Australia;  
Sir John Eccles Professor and Director of Neurology, St Vincent's Hospital Melbourne, Director of the Graeme Clark Institute, University of Melbourne, Australia

12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 16-TUE (ICAI & HIMS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: HEALTH INFORMATICS & MEDICAL SYSTEMS + AI**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 01:20pm - 03:00pm**

**(LOCATION: Ballroom Galleria A)**

01:20 - 01:40pm: Research Survey of Multimodal Medical Question Answering  
Hilmi Demirhan\*, Wlodek Zadrozny  
University of North Carolina Wilmington, North Carolina, USA

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- 01:40 - 02:00pm: A Review of Face Processing for Telehealth: Research Survey of Remote Visual Photoplethysmography (rvPPG)  
Hilmi Demirhan\*, Karl Ricanek  
Information Systems Organization, University of North Carolina Wilmington, North Carolina, USA;  
Computer Science, University of North Carolina Wilmington, North Carolina, USA
- 02:00 - 02:20pm: Healthcare Data Handling with Machine Learning Systems: A Framework  
David Ang, Kiranmai Nagineni\*  
Auburn University Montgomery, Alabama, USA
- 02:20 - 02:40pm: Performance Comparison of Deep Learning and Machine Learning Models Applied for P&c Insurance for Measuring Prediction Accuracy  
Sushanth Manakhari\*, Yanzhen Qu  
Colorado Technical University, Colorado Springs, Colorado, USA
- 02:40 - 03:00pm: Analyzing a Literary Representation of the Wilmington Massacre of 1898 through Natural Language Processing Using Sentiment Analysis  
Aysun Karamustafaoglu, Morgan Glisson, Matthew Aaron Ferraro, Seref Recep Keskin, Gulustan Dogan\*, Jennifer Marie Lozano, and John Knox  
University of North Carolina Wilmington, North Carolina, USA;  
Logiwa WMS, Chicago, Illinois, USA
- 03:00 - 03:40pm: **BREAK (Refreshments) & POSTERS**  
**July 25, 2023 (Tuesday)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**
- 0. Raising Student Awareness of Ethical Concerns Related to Artificial Intelligence in Computing Courses  
Mel Akhimiemona, Alexis Brown, James Braman  
Computer Science & Information Technology, Community College of Baltimore County, Baltimore, Maryland, USA
  - 0. A Survey on Retrieving Confidential Data Using Phishing Attack  
Sai Teja Veeramalla, Tathagata Bhattacharya  
Computer Information System Cybersecurity, Auburn University at Montgomery, Alabama, USA
  - 0. The Just-In-Time Adaptive Artificial Augmentation Capstone Project  
Chad Mello, Troy Weingart  
Department of Computer & Cyber Sciences, United States Air Force Academy, Colorado Springs, Colorado, USA
  - 0. Current State of Network Security and Privacy  
Nick Roys, Donnie Flanders, Marissa Baisi, Julian Martin, Bradley Hoffman, Hilmi Demirhan\*  
University of North Carolina Wilmington, NC, USA

- 0. A New Model of Online Team Teaching  
Alireza Kavianpour  
Computer Engineering Information Science,  
DeVry University, Ontario, California, USA
- 0. Persuasive Behaviors in Positive and Negative Persuasive  
Opinion Multimedia: A Mixed Methods Study  
Zvetomira Svetleff  
University of Nevada, Las Vegas, Nevada, USA
- 0. An Energy-efficient and Data-compressed Offloading in  
Mobile Cloud Computing  
Yung-Ting Chuang, Chih-Ting Hsu  
Institute of Information Management, National Yang Ming  
Chiao Tung University, Hsinchu, Taiwan
- 0. 3D Machine Vision and Deep Learning for Enabling Automated  
and sustainable Assistive Physiotherapy  
Lyndon N. Smith, Stephen Boyd, Devaki Bhatta, and  
Melvyn L. Smith  
Department of Engineering Design and Mathematics,  
University of the West of England, Bristol,  
United Kingdom (UK);  
Perceptive Ltd., London, United Kingdom (UK)
- 0. Muse Alpha: Primary Study of AI Chatbot for Psychotherapy  
with Socratic Methods  
Hyeseong Park, Myung Won Raymond Jung, Min Ji Kim,  
Jihye Kim, Uran Oh  
AKA Cognitive Corp., Seoul, South Korea;  
Harvard Chan School of Public Health, Seoul, South Korea;  
Yonsei University College of Medicine, Seoul, South Korea;  
Ewha Womans University, Seoul, South Korea
- 0. Automating the Development of Stress Detection Systems  
Felix Beierle, Rudiger Pryss  
National Institute of Informatics, Tokyo, Japan;  
Institute of Clinical Epidemiology and Biometry,  
University of Wurzburg, Wurzburg, Germany
- 0. Abnormality Detection in Lung Sounds Using Feature  
Augmentation  
Shiva Shokouhmand, Md Motiur Rahman, Miad Faezipour,  
Smriti Bhatt  
School of Engineering Technology, Electrical and Computer  
Engineering Technology, Purdue University, West Lafayette,  
Indiana, USA; Department of Computer and Information  
Technology, Purdue University, West Lafayette, Indiana, USA
- 0. Designing User-Centered Artificial Intelligence to Assist  
in Recovery from Domestic Abuse  
Sneha Talwalkar, Courtney Crooks  
School of Cybersecurity and Privacy, Georgia Institute of  
Technology, Atlanta, Georgia, USA;  
School of Medicine, Emory University, Atlanta, Georgia, USA

- O. Design Approach of Electronic Attendance-Absence Recording System using Multi-User Face Recognition  
 Sang-Heon Lee, Myoung-Kyu Sohn, Hyunduk Kim, Junkwang Kim  
 Division of Automotive Technology, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Daegu, Republic of Korea
- O. Extraction of Breast Cancer Information from Clinical Records for Cancer Registry using Natural Language Processing  
 Adhari Abdullah Alzaabi, Abdurahman AAlAbdulsalam  
 College of Health Science and Medicine, Sultan Qaboos University, Oman; Department of Computer Science, Sultan Qaboos University, Oman
- O. The Ethical Responsibility for Explainable AI in Mission Engineering  
 Althea Henslee, Haley Dozier, Indu Shukla, Griffin Turner, Abderahim Salhi, Ian Dettwiller  
 Information Technology Laboratory, United States Army Corps of Engineers, Vicksburg, Mississippi, USA

**SESSION 17-TUE (PDPTA & GCC TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: CLOUD COMPUTING, PARALLEL & DISTRIBUTED PROCESSING, HPC, AND APPLICATIONS**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 03:40pm - 05:20pm**

**(LOCATION: Ballroom Galleria A)**

- 03:40 - 04:00pm: A Survey on the Proposed Architectures for Efficient Execution of Irregular Applications Using Pipeline Parallelism  
 Haleh Khojasteh\*, Hiran Tabatabaei  
 Department of Computer Science, Bridgewater State University, Bridgewater, Massachusetts, USA;  
 Department of Electrical & Computer Engineering, Northeastern University, Boston, Massachusetts, USA
- 04:00 - 04:20pm: Techniques for Achieving High Performance in Deep Learning Based Systems for Selective Filtering of Live Video Streams  
 Azhar Talha Syed, Shikharesh Majumdar\*  
 Department of Systems and Computer Engineering, Carleton University, Ottawa, Canada
- 04:20 - 04:40pm: Fault-tolerant Routing Methods in Bicubes  
 Yitong Wang, Htoo Htoo Sandi Kyaw, Keiichi Kaneko\*  
 Graduate School of Engineering, Tokyo University of Agriculture and Technology, Tokyo, Japan
- 04:40 - 05:00pm: Multi-threaded Space Carving for 3D Seed Reconstruction  
 Mitchell L. Neilsen\*, Kai Zhao  
 Computer Science Department, Kansas State University, Manhattan, Kansas, USA

**July 25**

05:00 - 05:20pm: Energy Efficiency in Data Center Management  
Terrence Hernandez, Jacob Sawyer, Hunter Uebelacker,  
Axel Zuniga, Hilmi Demirhan\*  
Department of Computer Science, University of North  
Carolina Wilmington, North Carolina, USA;  
Department of Information Systems, University of North  
Carolina Wilmington, North Carolina, USA

**SESSION 18-TUE (ICAI & ICDATA TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE AND DATA SCIENCE**

**Co-Chairs:**

**July 25, 2023 (Tuesday); 05:20pm - 06:20pm**

**(LOCATION: Ballroom Galleria A)**

05:20 - 05:40pm: Metadata: An Integral Component of the Modern Data Strategy  
Mahmood Mohammed\*, John R. Talburt, Huzaifa Syed, Mehjabeen  
Information Science, University of Arkansas at Little Rock,  
Little Rock, Arkansas, USA

05:20 - 06:00pm: Predicting Ocean Wave Fun Factor with Machine Learning using  
Buoy Data and Human Observations  
Gulustan Dogan\*, Dillon Harless  
University of North Carolina Wilmington, North Carolina, USA

06:00 - 06:20pm: Trash Classification using Deep Learning Models  
Enes Faruk Keskin, Ogulcan Isleyen, Hilmi Demirhan\*  
Turkish Aeronautical Association University, Department of  
Computer Engineering, Ankara, Turkey;  
Department of Information Systems, University of North  
Carolina Wilmington, North Carolina, USA

**ONLINE / ZOOM SESSIONS**

**ALL DATES AND TIMES ARE GIVEN IN USA PACIFIC TIME ZONE (PT).**

**SESSION 5-ZOOM: ---> SAM & ESCS TRACKS**

**SCOPE: SECURITY MANAGEMENT + EMBEDDED SYSTEMS**

**Chairs: TBA**

**July 25, 2023 (Tuesday); 08:00am - 09:40am  
(ON-LINE / ZOOM)**

- 08:00 - 08:20am: Blockchain-based messaging for VANETs  
Andrea Huszti, Tamas Gira szi, Norbert Olah  
University of Debrecen, Debrecen, Hungary
- 08:20 - 08:40am: Towards a Virtual Cloud-based Smart Factory Testbed for  
Cybersecurity  
Rohit Mandalapu, Hazem Said  
School of Information Technology, University of Cincinnati,  
Cincinnati, Ohio, USA
- 08:40 - 09:00am: Benchmarking the Elliptic Curve Digital Signature Algorithm  
and RSA in Key Signing and Verification Operations  
with Parallelism  
George Dimitoglou, Carol Jim  
Department of Computer Science & Information Technology,  
Hood College, Frederick, Maryland, USA
- 09:00 - 09:20am: Machine Learning and the Secure Access Service Edge  
Steven A. Wright, Achyuth Sathyagiri, Ravish Tayal  
Cognizant, Atlanta, Georgia, USA; Cognizant, Mississauga,  
Canada; Cognizant, Noida, India
- 09:20 - 09:40am: FPGA-Accelerated Password Cracking  
Eric Britten, Mikhail Gofman, Yu Bai  
Department of Computer Science, California State University,  
Fullerton, California, USA; Department of Electrical and  
Computer Engineering, California State University,  
Fullerton, California, USA

**SESSION 6-ZOOM: ---> ICOMP & SERP TRACKS**

**SCOPE: INTERNET COMPUTING & IoT + SOFTWARE ENGINEERING  
RESEARCH & PRACTICE**

**Chairs:**

**July 25, 2023 (Tuesday); 09:40am - 12:20pm  
(ON-LINE / ZOOM)**

- 09:40 - 10:00am: Interstices in the Certification of Safety Critical Avionics  
Software: Boeing 737-MAX MCAS Case Study  
Aiman Gannous  
Computer Science, University of Benghazi, Benghazi, Libya

**July 25**

- 10:00 - 10:20am: Formal Modeling and Verification of Timed Connectors in IoT with Z3  
Ziyun Xu, Meng Sun  
School of Mathematical Sciences, Peking University, Beijing, China
- 10:20 - 10:40am: Enhancing Ropes for Collaborative Text Editing  
Semih Sandal, Tolga Ovatman  
ASELSAN A.S., Ankara, Turkey; Department of Computer Engineering, Istanbul Technical University, Istanbul, Turkey
- 10:40 - 11:00am: From Vulnerabilities to Improvements: A Deep Dive into Adversarial Testing of AI Models  
Brendan Hannon, Yulia Kumar, Peter Sorial, J. Jenny Li, and Patricia Morreale  
Kean University, Union, New Jersey, USA
- 11:00 - 11:20am: SpearRidge: A Response Time Prediction Model  
Asaad Althoubi, Hassan Peyravi  
Department of Computer Science, Kent State University, Kent, Ohio, USA
- 11:20 - 11:40am: A Web Application to Visualize the Marine Highway Routes in the US  
Vivek Sunchu, Natarajan Meghanathan  
Jackson State University, Jackson, Mississippi, USA
- 11:40 - 12:00pm: IT/OT Convergence Protocols: MQTT, OPC, and REST  
Bassam Zahran, Fuad Abu Zahra  
Department of Computer Science and Software Engineering, University of Wisconsin Platteville, Wisconsin, USA; Department of Engineering and Applied Sciences, University of Wisconsin Milwaukee, Wisconsin, USA
- 12:00 - 12:20pm: IT/OT Convergence Protocols: DNP3, Ethernet/IP, and MODBUS  
Bassam Zahran, Fuad Abu Zahra  
Department of Computer Science and Software Engineering, University of Wisconsin Platteville, Wisconsin, USA; Department of Engineering and Applied Sciences, University of Wisconsin Milwaukee, Wisconsin, USA
- SESSION 7-ZOOM: ---> HIMS TRACKS**  
**SCOPE: HEALTH INFORMATICS & MEDICAL SYSTEMS**  
**Chairs:**  
**July 25, 2023 (Tuesday); 12:20pm - 01:40pm**  
**(ON-LINE / ZOOM)**
- 12:20 - 12:40pm: Binary Classification vs. Anomaly Detection On Imbalanced Tabular Medical Datasets  
Philippe Rambaud, Adel Taleb, Raphael Fauches, Arpad Rimmel, Joanna Tomasik, Jean Bergounioux  
LISN, University of Paris-Saclay, SogetiLabs, Paris, France; CHArt, University of Paris Sciences Lettres, SogetiLabs, Paris, France; SogetiLabs, Paris, France; Pediatric Neurology and Intensive Care, Raymond Poincare Hospital (AP-HP), Garches, France

- 12:40 - 01:00pm: The Online Database for Prevention of Anxiety Disorders  
Joi L. Snowden, Zizhong John Wang  
Department of Computer Science, Virginia Wesleyan University,  
Virginia Beach, Virginia, USA
- 01:00 - 01:20pm: System Analysis of Implementing 5G in an Ambulance  
Akshay Monga  
Harrisburg University of Science and Technology,  
Pittsburgh, Pennsylvania, USA
- 01:20 - 01:40pm: Multi-Subset Approach to Early Sepsis Prediction  
Kevin Ewig, Xiangwen Lin, Tucker Stewart, Katherine Stern,  
Grant O. Keefe, Ankur Teredesai, Juhua Hu  
School of Engineering and Technology, University of  
Washington, Tacoma, Washington, USA;  
Department of Surgery, University of Washington, Seattle,  
Washington, USA; CueZen Inc., Seattle, Washington, USA
- SESSION 8-ZOOM: ---> ICAI, ESCS, GCC TRACKS**  
**SCOPE: ARTIFICIAL INTELLIGENCE AND APPLICATIONS +**  
**EMBEDDED SYSTEMS, AND CLOUD COMPUTING**  
**Chairs:**  
**July 25, 2023 (Tuesday); 01:40pm - 04:40pm**  
**(ON-LINE / ZOOM)**
- 01:40 - 02:00pm: GPS False Data Injection Modeling and Detection using  
Machine Learning  
Jaya Preethi Mohan, Prakash Ranganathan  
School of Electrical Engineering and Computer Science,  
University of North Dakota, Grand Forks, North Dakota, USA
- 02:00 - 02:20pm: A Comparative Study of Mobile Cloud Computing, Mobile Edge  
Computing, and Mobile Edge Cloud Computing  
Deok Hee Nam  
Professor of Computer Science, College of Professional  
Studies, Wilberforce University, Wilberforce, Ohio, USA
- 02:20 - 02:40pm: Bootcamp Method for Training General Purpose AI Agents  
Vincent Lombardi, Lawrence Holder  
School of EECS, Washington State University, Pullman,  
Washington, USA
- 02:40 - 03:00pm: mCLESS: The Multi-Class Least-Error Square Sum for  
Interpretable Classification  
Hwan Hee Park, Seung Heon Lee, Hwamog Kim, Seongjai Kim  
Department of Mathematics and Statistics, Mississippi  
State University, Mississippi State, Mississippi, USA;  
Department of Biochemistry, Mississippi State University,  
Mississippi State, Mississippi, USA;  
Department of Sciences & Mathematics, Mississippi University  
for Women, Columbus, Mississippi, USA
- 03:00 - 03:20pm: Co-Evolutionary Modified Black Hole Constraint Satisfaction:  
Application to Piezoelectric Actuator Control  
Saber Yaghoobi, M. Sami Fadali  
Electrical & Biomedical Engineering Department,  
University of Nevada, Reno, Nevada, USA



03:20 - 03:40pm: Designing User-Centered Artificial Intelligence to Assist in Recovery from Domestic Abuse  
Sneha Talwalkar, Courtney Crooks  
School of Cybersecurity and Privacy, Georgia Institute of Technology, Atlanta, Georgia, USA;  
School of Medicine, Emory University, Atlanta, Georgia, USA

03:40 - 04:00pm: Ecuador Banana Production and Democratization of Climate Change Machine Learning Models to Mobile Edge Devices  
Chandrasekar Vuppapalapati, Anitha Ilapakurti, Sandhya Vissapragada, Sharat Kedari, Vanaja Mamidi, Raja Vuppapalapati, Santosh Kedari, Jaya Shankar  
Computer Engineering (Software Engineering), San Jose State University, San Jose, California, USA;  
Data Science and AI, Hanumayamma Innovations and Technologies, Inc., Fremont, California, USA;  
Data Science and Artificial Intelligence, Hanumayamma Innovations and Technologies PVT Limited, Hyderabad, India

04:00 - 04:20pm: Determinants of Global Hunger Index  
Saatwik Panigrahi, Swadhin Rout, Anasse Bari  
Computer Science Department, CIMS New York University, New York City, USA;  
Department of Physics, University of California, San Diego, California, USA

04:20 - 04:40pm: Defense of Military Installations from UAV-borne Attacks using Deep Learning  
Nicholas Schaefer, Jaafar Alghazo, Sherif Abdelhamid, Ghazanfar Latif  
Department of International Studies and Political Science, Virginia Military Institute, Lexington, Virginia, USA;  
Department of Electrical and Computer Engineering, Virginia Military Institute, Lexington, Virginia, USA;  
Department of Computer and Information Sciences, Virginia Military Institute, Lexington, Virginia, USA;  
Department of Computer Science, Prince Mohammad Bin Fahd University, Alkhobar, Saudi Arabia

**SESSION 9-ZOOM: ---> ICAI TRACKS**  
**SCOPE: ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**  
**Chairs:**  
**July 25, 2023 (Tuesday); 04:40pm - 06:20pm**  
**(ON-LINE / ZOOM)**

04:40 - 05:00pm: Exploring Automatic Malware Detection through Deep Learning Models  
Jaafar M. Alghazo, David M. Feinauer, Sherif E. Abdelhamid  
Department of Electrical and Computer Engineering, Virginia Military Institute, Lexington, Virginia, USA;  
Department of Computer and Information Sciences, Virginia Military Institute, Lexington, Virginia, USA

05:00 - 05:20pm: Transformers for Network Traffic Prediction  
Vinayak Tanksale  
Department of Computer Science, Ball State University, Muncie, Indiana, USA

**July 25**

- 05:20 - 05:40pm: A SQL-Based Probabilistic Inference  
Feng-Jen Yang  
Department of Computer Science, Florida Polytechnic  
University, Lakeland, Florida, USA
- 05:40 - 06:00pm: Overcoming Supply Chain Challenges with Advanced Machine  
Learning: Exploring the Potential of Deep Meta-Learning  
and Multi-Task Learning  
Beilei Zhu, Chandrasekar Vuppalapati  
Global Supply Chain, Intel Corp., Hillsboro, Oregon, USA;  
Computer Engineering, San Jose State University, San Jose,  
California, USA
- 06:00 - 06:20pm: Federated Learning for Character Prediction in Text  
Generated  
Guang Hu, Xin Fang  
School of Statistics and Information, Shanghai University  
of International Business and Economic, Shanghai, China;  
School of CS, Fudan University, Shanghai, China;  
Shanghai Key Laboratory of Data Science, Shanghai, China

**July 26**

<----- LOCATION: Ballrooms Galleria D ----->

08:20 - 09:10am: KEYNOTE LECTURE/ADDRESS - July 26, Wednesday:  
CYBER SECURITY, CYBERWAR, HACKING, PRIVACY, AND  
GOVERNMENTAL/PERSONAL DATA BREACHES  
Professor Levent Ertaul  
Chair, Department of Computer Science,  
California State University, East Bay, California, USA  
(LOCATION: Galleria D)

09:10 - 10:00am: KEYNOTE LECTURE/ADDRESS - July 26, Wednesday:  
WHAT CAN WE LEARN FROM STUDENT COURSE-GRADE DATA?  
Professor Gary Weiss  
Information Science Department, Fordham University, USA  
(LOCATION: Galleria D)

10:00 - 10:20am: BREAK

10:20 - 11:00am: KEYNOTE LECTURE/ADDRESS - July 26, Wednesday:  
Explaining and Applying Grover's Quantum Algorithm  
Professor Leon Deligiannidis  
School of Computing and Data Science  
Wentworth Institute of Technology, Massachusetts, USA  
(LOCATION: Galleria D)

**SESSION 25-WED (SAM TRACKS)**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)

SCOPE: SECURITY AND MANAGEMENT

Co-Chairs:

July 26, 2023 (Wednesday); 11:00am - 12:20pm:

(LOCATION: Ballroom Galleria D)

11:00 - 11:20am: PwnPilot: Reflections on Trusting Trust in the Age of  
Large Language Models and AI Code Assistants  
Dwight Horne  
Department of Computer Science, Baylor University,  
Waco, Texas, USA

11:20 - 11:40am: The Current State of Fingerprinting in Operational  
Technology Environments  
Cheronika Manyfield-Donald\*, Candice Mitchell  
US Army Corps of Engineers, Information Technology Laboratory,  
Engineer Research and Development Center (ERDC),  
Vicksburg, Mississippi, USA

11:40 - 12:00pm: IoT Security: Implementation of Xtea, Simon/Speck Lightweight  
Block Ciphers  
Levent Ertaul\*, Arpit Chauhan  
Computer Science, California State University East Bay,  
Hayward, California, USA

12:00 - 12:20pm: Evaluating a Cyberdeception Planning Product  
Justin J. Green, Robert E. Bixler, Sasha K. Drew,  
Neil C. Rowe\*, Charles W. Heinen, Armon C. Barton  
U.S. Naval Postgraduate School Monterey, California, USA;  
SoarTech, Inc., Ann Arbor, Michigan, USA

12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 26-WED (ICAI & IPCV TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE & APPLICATIONS + IMAGING SCIENCE**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 01:20pm - 03:00pm**

**(LOCATION: Ballroom Galleria D)**

01:20 - 01:40pm: Region-based Steganalysis of Medical Radiographs for  
Radiographic Machine Identification  
Farid Ghareh Mohammadi\*, Ronnie Sebro  
Department of Radiology, Mayo Clinic, Jacksonville,  
Florida, USA; Center for Augmented Intelligence,  
Mayo Clinic, Jacksonville, Florida, USA

01:40 - 02:00pm: A Multi-Agent System for ISR Asset Planning  
Wilmuth Muller\*, Frank Reinert, Uwe Pfirrmann,  
Dirk Muhlenberg, Christian Ellmauer  
Interoperability and Assistance Systems, Fraunhofer IOSB,  
Karlsruhe, Germany

02:00 - 02:20pm: Steganalysis of Medical Radiographs: a Deep Learning Approach  
Comparing the Importance of Using Content Pixels and  
Content-Free Pixels  
Farid Ghareh Mohammadi\*, Ronnie Sebro  
Department of Radiology, Mayo Clinic, Jacksonville,  
Florida, USA; Center for Augmented Intelligence,  
Mayo Clinic, Jacksonville, Florida, USA

02:20 - 02:40pm: Exploring the Relationship between Air Pollution and CNS  
Disease Mortality in Italy: A Forecasting Study with  
ARIMA and XGBoost  
Mostafa Karami, Sahand Hamzehei\*, Farzaneh Rastegari,  
and Omid Akbarzadeh  
Electronics and Telecommunications, Polytechnic University  
of Turin, Turin, Italy;  
Computer Science and Engineering Department, University of  
Connecticut, Storrs, Connecticut, USA

02:40 - 03:00pm: Is Gamification a Practical Solution for Increasing  
Repurchase Intention of Online Customers?  
Khalil Safari, Zohreh Safari\*, Fatemeh Keshavarzi  
Department of Business Management and Information Technology,  
Payam Noor University, Iran; Department of Computer Science,  
Math, Engineerig Technology, Elizabeth City State University,  
Elizabeth City, North Carolina, USA;  
Department of Information Technology Engineering, Qazvin  
Islamic Azad University, Qazvin, Iran

**03:00 - 03:40pm: BREAK (Refreshments) & POSTERS**

**July 26, 2023 (Wednesday)**

**(LOCATION: Galleria B & C; Registration Counter/Desk)**

0. Short-term Solar Photovoltaic Power Forecasting using a Multiple Similar-day Method based on Weather Type  
Chung-Chian Hsu, Wun-Siang Chang, Ben-Jei Tsuang  
National Yunlin University of Science & Technology, Taiwan
0. Thrive with Big Data: Navigate the Pandemic World with a Real-time Health Advisor  
Andrew Yu, Lawrance Wang, Anthony Yan, Valerie Yu  
Aragon High School, USA; University of California, Santa Barbara, California, USA
0. Data Collection Methods and Predictive Analysis for Fall Prevention in Elderly Populations  
Chris Cheng Zhang  
Canada Youth Robotics Club, Canada
0. Fuzzy Based Mechanism to Detect DDoS Attacks in WSN  
Sinenhlanhla Dlamini, Tonderai Muchenje\*  
Tshwane University of Technology, Pretoria, South Africa
0. Application of IoT in Climate Change and Forest Fire  
Alireza Kavianpour, Stephen Riegel, Peter Vitale, Taren Roberts, Jacob Dowell  
College of Engineering and Information Sciences, DeVry University, Ontario, California, USA
0. 5G Architecture based on Software-Defined Perimeter (SDP) for Direct Trust Access to Private Networks  
Woocheol Kim, Kiwon Kim, Jongkuk Lee, Heasook Park  
Defense ICT Convergence Research Section, Electronics and Telecommunications Research Institute (ETRI), South Korea
0. An Modified YOLOv5 Algorithm to Improved Image Identification for Autonomous Driving  
Chun-Chieh Wang, Wen-Piao Lin  
Department of Electrical Engineering, Chang Gung University, Taoyuan, Taiwan, R.O.C.
0. Visual System of Avatar Robot using Eye-tracking and Foveated Rendering  
Masato Hosoi, Atsuhiko Hattori, Asuka Nakamura, and Hideo Furuhashi  
Department of Electrical and Electronics Engineering, Aichi Institute of Technology, Toyota, Japan
0. The Image of Numerals with Calibration on TVM  
Ssu-Hsuan Lu  
Department of Computer Information and Network Engineering, Lunghwa University of Science & Technology, Taoyuan, Taiwan

- 0. Design Optimization of Lithium-ion Battery Cell for Temperature Uniformity  
Jaewook An, Jun Lee, Han-Seung Kim, Horim Lee, Minjae Kim, and Chang-Wan Kim  
Graduate School of Mechanical Design and Production Engineering, Konkuk University, Republic of Korea;  
School of Mechanical Engineering, Konkuk University, Republic of Korea
- 0. FLT: Robust Federated Learning with Trust Model to Defend Against Poisoning Attack  
Yung-Ting Chuang, Ming-Han Chung  
Institute of Information Management, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- 0. Distributed Tire Parameter Optimization Using CREATE-GV  
Jeremy Mange, Jacob Brendle  
US Army - Ground Vehicle Systems Center, Warren, Michigan, USA
- 0. Data Security: An Enhancement of E-mail Security Algorithm to Secure Data Across State Owned Agencies  
Lindelwa S. Mngomezulu, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology Pretoria, South Africa

**SESSION 26-WED (SERP & FCS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SOFTWARE ENGINEERING RESEARCH & PRACTICE + FOUNDATIONS OF COMPUTER SCIENCE**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 03:40pm - 05:00pm**

**(LOCATION: Ballroom Galleria D)**

- 03:40 - 04:00pm: VADER-SC: A Model Agnostic Tool for Large Scale, AI Driven Automated Source Code Summarization  
Dwight Horne\*, Anthony Pierson, Elvis Hedary, Garrett Freddo, Luis Trejo, Mark Matis, Lonnie Mask  
Agile Dev. Engineering, L3Harris Technologies, Greenville, Texas, USA; Department of Computer Science and Engineering, Texas A&M University, College Station, Texas, USA
- 04:00 - 04:20pm: Interoperability Open Architecture of Unmanned Systems  
Wilmuth Muller\*, Florian Segor, Dirk Muhlenberg, Bart Driessen, Vincent de Geus  
Interoperability and Assistance Systems, Fraunhofer IOSB, Karlsruhe, Germany;  
TNO, The Hague, The Netherlands
- 04:20 - 04:40pm: Context Free Grammars with Variables are Universally Powerful  
Peter M. Maurer  
Department of Computer Science, Baylor University, Waco, Texas, USA

**July 26**

04:40 - 05:00pm: Assessment of ChatGPT's Proficiency in Software Development  
Dae-Kyoo Kim\*, Jingshu Chen, Hua Ming, Lunjin Lu  
Department of Computer Science and Engineering,  
Oakland University, Rochester, Michigan, USA

**SESSION 27-WED (ICAI & CSC TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE & APPLICATIONS +  
SCIENTIFIC COMPUTING**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 05:00pm - 06:20pm**

**(LOCATION: Ballroom Galleria D)**

- 05:00 - 05:20pm: BERT Goes to SQL School: Improving Automatic Grading of SQL Statements  
Pablo Rivas, Donald R. Schwartz\*, Ernesto Quevedo  
School of Engineering & Computer Science, Baylor University, Waco, Texas, USA;  
School of Computer Science & Math, Department of Computing Technology, Marist College, Poughkeepsie, New York, USA
- 05:20 - 05:40pm: Short Review on Supervised learning under Adversarial Label Poisoning and Clean-label Data Poisoning  
Pooya Tavallali\*, Vahid Behzadan  
Independent Researcher, Boston, Massachusetts, USA;  
Tagliatela College of Engineering, University of New Haven, New Haven, Connecticut, USA
- 05:40 - 06:00pm: Model Based and Model Free Offline Reinforcement Learning Combat Simulation Scenario  
Indu Shukla\*, Althea C. Henslee, Haley R. Dozier, Brandon E. Hanson, Joseph E. Jabour, Ian D. Dettwiller  
Information Technology Laboratory, United States Army Corps of Engineers, Vicksburg, Mississippi, USA
- 06:00 - 06:20pm: Predictive Modeling of Diabetes Onset and Survival Analysis Among Diabetic Patients  
Mohammad Zarak Shah Ji\*, Mahdi Ebrahimi  
Computer Science Department, California State University Northridge, California, USA

<----- LOCATION: Ballrooms Galleria E ----->

**SESSION 28-WED (ICDATA TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: DATA SCIENCE AND APPLICATIONS**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 08:20am - 10:00am**

**(LOCATION: Ballroom Galleria E)**

- 08:20 - 08:40am: Electronic Health Data in the Context of Patient Length-of-Stay Prediction: Using Generative Adversarial Nets for Synthetic Data Creation  
Robert Stahlbock\*, Dominik Bietsch, Stefan Voss  
University of Hamburg, DE, Germany
- 08:40 - 09:00am: Performance Reliability of Reinforcement Learning Algorithms in Obstacle Avoidance Game with Differing Reward Formulations  
Brandon Hansen\*, Haley Dozier  
US Army Engineer Research and Development Center, ERDC, USA
- 09:00 - 09:20am: Empirical Investigation of Different Residual Models in Conformal Prediction  
Robert Stahlbock\*, Arnold Bliesmer, Stefan Voss  
University of Hamburg, DE , Germany
- 09:20 - 09:40am: An Investigation of Time Series Embeddings and Topological Data Analysis for Fault Analysis  
Dean Lee\*, Jamal Rorie, Andrew Sabater  
U.S. Northern Command, U.S. Government, USA
- 09:40 - 10:00am: Between-Sample Relationship in Learning Tabular Data Using Graph and Attention Networks  
Manar Samad\*, Shourav Rabbani  
Tennessee State University, Tennessee, USA
- 10:00 - 10:20am: **BREAK (Refreshments)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**

**SESSION 29-WED (ICAI TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE + MACHINE LEARNING**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 10:20am - 12:20pm**

**(LOCATION: Ballroom Galleria E)**

- 10:20 - 10:40am: Cellphone-Based sUAS Range Estimation: A Deep-Learning Approach  
Ryan D. Clendening, Richard Dill, Brett J. Borghetti, Brett Smolenski, Darren Haddad, Douglas D. Hodson  
Department of Electrical and Computer Engineering, Air Force Institute of Technology, Dayton, Ohio, USA; North Point Defense, Rome, New York, USA; Info. Exploit. Branch, Air Force Research Labs, Rome, New York, USA



**July 26**

- 10:40 - 11:00am: A Chronological and Cooperative Route Optimization Method for Heterogeneous Vehicle Routing Problem  
Yosuke Yamaguchi\*, Zhao Wang, Yuusuke Nakano, Jun Ohya, Katsuya Hasegawa  
School of Creative Science and Engineering, Waseda University, Tokyo, Japan;  
NTT Network Service Systems Laboratories, NTT Corporation, Tokyo, Japan;  
Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Tokyo, Japan
- 11:00 - 11:20am: Deep Learning Evolved: Overcoming Sub-Optimal Local Minima with  $(\mu / \rho + \lambda)$ -Evolution Strategies  
Pablo Rivas  
School of Engineering and Computer Science, Department of Computer Science, Baylor University, Waco, Texas, USA
- 11:20 - 11:40am: A Proposal for Electrodes and Frequency Bands that Combine Performance and Experimental Cost in EEG Analysis of Motions  
Sho Kanemoto, Ryota Nishiura, Seiji Tsuchiya, Koichi Watabe  
Graduate School of Science and Engineering, Department of Computer Science and Engineering, Doshisha University, Kyoto, Japan
- 11:40 - 12:00pm: Impacts of Catastrophic Forgetting: From a Machine Learning Engineering Perspective  
Timothy Elvira\*, Juan Ortiz Couder, Tyler Thomas Procko, and Omar Ochoa  
Department of Electrical Engineering and Computer Science, Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida, USA
- 12:00 - 12:20pm: Automated Orchestration Systems based on Deep Learning  
Ryosuke Kamada\*, Seiji Tsuchiya, Hirokazu Watabe  
Intelligent Information Engineering Graduate School of Science and Engineering, Doshisha University, Kyoto, Japan
- 12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 30-WED (ESCS, HIMS, & EEE TRACKS)**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)  
SCOPE: EMBEDDED SYSTEMS + HEALTH & MEDICAL DEVICES +  
INTERNET COMPUTING

Co-Chairs:

July 26, 2023 (Wednesday); 01:20pm - 03:00pm  
(LOCATION: Ballroom Galleria E)

- 01:20 - 01:40pm: Low-complexity Hardware Architecture of an H.264-based Video Encoder for FPGAs  
Azam Tayyebi, Darrin Hanna\*, Bryant Jones  
Department of Electrical and Computer Engineering, Oakland University, Rochester Hills, Michigan, USA;  
Intrepid Control Systems, Troy, Michigan, USA

July 26

- 01:40 - 02:00pm: Drone2Drone (D2D): A Search and Rescue Framework Module for Finding Lost UAV Swarm Agents  
Abhishek Phadke\*, F. Antonio Medrano, Tianxing Chu, Chandra N. Sekharan, Michael J. Starek  
Department of Computing Sciences,  
Texas A&M University-Corpus Christi, Texas, USA
- 02:00 - 02:20pm: Lightweight Direct Memory Access on FPGA Using AXI Protocol  
Adam Kidwell, Matthew P. Horvath Jr., Darrin Hanna, and Bryant Jones  
Department of Electrical and Computer Engineering,  
Oakland University, Rochester Hills, Michigan, USA;  
Intrepid Control Systems, Troy, Michigan, USA
- 02:20 - 02:40pm: The Construction of Warning Mechanism for Asthma Patient Based on AIoT  
Lun-Ping Hung\*, Zong-Jie Wu, Xin-Ying Liu, Cing-An Yang  
Department of Information Management, National Taipei University of Nursing and Health Sciences, Taipei, Taiwan;  
Department of Industrial Engineering and Management,  
National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- 02:40 - 03:00pm: Mining the Internet to Discover Learning Management System Popularity: Evaluating who is on top and why  
Scot Anderson, Patricia Anderson  
School of Computing, Southern Adventist University,  
Collegedale, Tennessee, USA;  
Department of Mathematics, Southern Adventist University,  
Collegedale, Tennessee, USA
- 03:00 - 03:40pm: **BREAK (Refreshments) & POSTERS**  
**July 26, 2023 (Wednesday)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**
- 0. Short-term Solar Photovoltaic Power Forecasting using a Multiple Similar-day Method based on Weather Type  
Chung-Chian Hsu, Wun-Siang Chang, Ben-Jei Tsuang  
National Yunlin University of Science & Technology, Taiwan
  - 0. Thrive with Big Data: Navigate the Pandemic World with a Real-time Health Advisor  
Andrew Yu, Lawrance Wang, Anthony Yan, Valerie Yu  
Aragon High School, USA; University of California,  
Santa Barbara, California, USA
  - 0. Data Collection Methods and Predictive Analysis for Fall Prevention in Elderly Populations  
Chris Cheng Zhang  
Canada Youth Robotics Club, Canada

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- 0. Fuzzy Based Mechanism to Detect DDoS Attacks in WSN  
Sinenhlanhla Dlamini, Tonderai Muchenje\*  
Tshwane University of Technology, Pretoria, South Africa
- 0. Application of IoT in Climate Change and Forest Fire  
Alireza Kavianpour, Stephen Riegel, Peter Vitale,  
Taren Roberts, Jacob Dowell  
College of Engineering and Information Sciences,  
DeVry University, Ontario, California, USA
- 0. 5G Architecture based on Software-Defined Perimeter (SDP)  
for Direct Trust Access to Private Networks  
Woocheol Kim, Kiwon Kim, Jongkuk Lee, Heasook Park  
Defense ICT Convergence Research Section, Electronics and  
Telecommunications Research Institute (ETRI), South Korea
- 0. An Modified YOLOv5 Algorithm to Improved Image  
Identification for Autonomous Driving  
Chun-Chieh Wang, Wen-Piao Lin  
Department of Electrical Engineering, Chang Gung  
University, Taoyuan, Taiwan, R.O.C.
- 0. Visual System of Avatar Robot using Eye-tracking and  
Foveated Rendering  
Masato Hosoi, Atsuhiko Hattori, Asuka Nakamura,  
and Hideo Furuhashi  
Department of Electrical and Electronics Engineering,  
Aichi Institute of Technology, Toyota, Japan
- 0. The Image of Numerals with Calibration on TVM  
Ssu-Hsuan Lu  
Department of Computer Information and Network Engineering,  
Lunghwa University of Science & Technology, Taoyuan, Taiwan
- 0. Design Optimization of Lithium-ion Battery Cell for  
Temperature Uniformity  
Jaewook An, Jun Lee, Han-Seung Kim, Horim Lee, Minjae Kim,  
and Chang-Wan Kim  
Graduate School of Mechanical Design and Production  
Engineering, Konkuk University, Republic of Korea;  
School of Mechanical Engineering, Konkuk University,  
Republic of Korea
- 0. FLT: Robust Federated Learning with Trust Model to Defend  
Against Poisoning Attack  
Yung-Ting Chuang, Ming-Han Chung  
Institute of Information Management, National Yang Ming  
Chiao Tung University, Hsinchu, Taiwan
- 0. Distributed Tire Parameter Optimization Using CREATE-GV  
Jeremy Mange, Jacob Brendle  
US Army - Ground Vehicle Systems Center, Warren,  
Michigan, USA

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- O. Data Security: An Enhancement of E-mail Security Algorithm to Secure Data Across State Owned Agencies  
Lindelwa S. Mngomezulu, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology Pretoria, South Africa

**SESSION 31-WED (ICAI & HIMS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE & APPLICATIONS +  
HEALTH INFORMATICS & MEDICAL SYSTEMS**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 03:40pm - 06:20pm**

**(LOCATION: Ballroom Galleria E)**

- 03:40 - 04:00pm: Assembly Flowshop Scheduling Problems with Blocking Constraints: Two Optimal Properties and a Iterated Greedy Search Approach  
Carlos Andres Romano\*, Julien Maheut, Paz Perez Gonzalez, Jose Manuel Framinan Torres  
Dept Organizacion de Empresas, Edificio 7D, Camino de Vera s/n, Valencia, Spain
- 04:00 - 04:20pm: Multi-label Concept Classification in Imaging Entities of Biomedical Literature using CNN and Vision Transformers  
Md Mahmudur Rahman\*, Bikesh Regmi  
Computer Science Department, Morgan State University, Baltimore, Maryland
- 04:20 - 04:40pm: Digital Rubber Duck: Leveraging Large Language Models for Extreme Programming  
Timothy Elvira\*, Tyler Thomas Procko, Juan Ortiz Couder, and Omar Ochoa  
Department of Electrical Engineering and Computer Science, Embry-Riddle Aeronautical University, Daytona Beach, FL, USA
- 04:40 - 05:00pm: Assessing the ChatGPT and GPT-4 on Pharmacy Education  
Larry E. Roberts Jr., Mesay Abomsa, Lillian Onokala, and Simon Wang\*  
College of Pharmacy, Howard University, Washington, DC, USA
- 05:00 - 05:20pm: Aligning Word Embeddings from BERT to Vocabulary-Free Representations  
Alejandro Rodriguez Perez, Korn Sooksatra, Pablo Rivas, Ernesto Quevedo Caballero\*, Javier S. Turek, Gisela Bichler, Tomas Cerny, Laurie Giddens, Stacie Petter  
School of Engineering & Computer Science, Department of Computer Science, Baylor University, Waco, Texas, USA;  
Intel Labs, Intel Corporation, Portland, Oregon, USA;  
School of Criminology & Criminal Justice, California State University, San Bernardino, California, USA;  
Information Technology & Decisions Sciences Department, G. Brint Ryan College of Business, University of North Texas, Texas, USA; School of Business, Management of Information Systems, Wake Forest University, North Carolina, USA

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- 05:20 - 05:40pm: Performance Evaluation of Federated Learning for Anomaly Network Detection  
Roudha Alhammadi, Amjad Gawanmeh\*, Shadi Atalla,  
Mohammed Q. Alkhatib, Wathiq Mansoor  
College of Engineering & IT, University of Dubai, Dubai, UAE
- 05:40 - 06:00pm: Scaling Probabilistic Inference through Message Contraction Optimization  
Martin Roa Villescascas\*, Jin-Guo Liu, Patrick WA Wijnings,  
Sander Stuijk, Henk Corporaal  
Eindhoven University of Technology, Netherlands;  
Hong Kong University of Science and Technology, Hong Kong
- 06:00 - 06:20pm: Detection of Suspicious Clusters in Women's Breast Image using Convolutional Neural Networks  
Munienge Mbodila, Patrick Mukeninay Madimba  
Walter Sisulu University, South Africa;  
Mukemad Medical Health Practical Inc., South Africa

<----- LOCATION: Ballrooms Galleria A ----->

**SESSION 19-WED (BIOCOMP & BIOENG & HIMS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)  
SCOPE: COMPUTATIONAL BIOLOGY, BIOMEDICAL ENGINEERING,  
AND HEALTH INFORMATICS**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 08:20am - 10:00am**

**(LOCATION: Ballroom Galleria A)**

- 08:20 - 08:40am: Using Machine Learning Model in Human Body Recognition for Hospital Caregivers Immobile Patients Turning  
Chris Cheng Zhang\*, Kevin Zhang, Yu Shen  
Canada Youth Robotics Club, Canada;  
University of British Columbia, Canada;  
JiangSu People's Hospital, Nanjing, Jiangsu, China
- 08:40 - 09:00am: Intelligent Upper Limbs Prosthetics with 1D Convolutional Neural Networks and Quick Training  
Lucas Givens, Md Julfiker Al Jewel, Md Muminul Hossain, and Upali Karunathilake\*, Fred Wu  
West Virginia State University, Institute, West Virginia, USA;  
University of Memphis, Tennessee, USA
- 09:00 - 09:20am: Improve Pose Estimation Model Performance with Unlabeled Data  
Adel Taleb\*, Samuel Diop, Philippe Rambaud, Awa Bakayoko, Audrey Benezit, Raphael Fauches, Ois Jouen, Jean Bergounioux  
CHART - University of Paris Sciences et Lettres, SogetiLabs, Paris, France; CHART - University of Paris Sciences et Lettres, OSO-AI, Paris, France; LISN, University of Paris-Saclay, SogetiLabs, Paris, France; Pediatric Neurology and Intensive Care, Raymond Poincare Hospital (APHP), Paris, France; SogetiLabs, Paris, France; CHART - University of Paris Sciences et Lettres, Paris, France; Pediatric Neurology & Intensive Care, Raymond Poincare Hospital (APHP) Paris, France
- 09:20 - 09:40am: Tales From the Past: Adapting App Repositories to App Store Dynamics  
Michael Stach, Marc Schickler\*, Manfred Reichert, Rudiger Pryss  
Institute of Clinical Epidemiology and Biometry, University of Wurzburg, Germany;  
Institute of Databases and Information Systems, Ulm University, Ulm, Germany
- 09:40 - 10:00am: Responsible AI Application in Mental Health with Emotionally Aware Chatbots  
Atif Farid Mohammad\*, Bryan Clark, Ram Agarwal, Sipi Garg  
OmniAGI.ai - Global Technology Solutions, Inc., USA
- 10:00 - 10:20am: **BREAK (Refreshments)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**

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**SESSION 20-WED (CSC & MSV TRACKS)**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)

SCOPE: SCIENTIFIC COMPUTING, SOFTWARE ENGINEERING, & MODELING

Co-Chairs:

July 26, 2023 (Wednesday); 10:20am - 11:20am

(LOCATION: Ballroom Galleria A)

- 10:20 - 10:40am: One Semester Team Projects in Systems Analysis, Software Engineering, and Software Project Management Courses  
Raghava Gowda  
Department of Computer Science, University of Dayton, Ohio, USA
- 10:40 - 11:00am: Using Time Series Motifs to Explore the Parameter Space of Agent-Based Models: A Pilot Study  
Maria Tomasso\*, Apan Qasem  
Department of Computer Science, Texas State University, San Marcos, Texas, USA
- 11:00 - 11:20am: Towards Applying Graph Theory Modelling with NFC Smart Dashboards for the Mobility Home Environments  
Sean Thorpe, Max Robotham\*  
Faculty of Engineering and Computing (FENC), University of Technology (UTech), Kingston, Jamaica

**SESSION 21-WED (FECS + PDPTA TRACKS)**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)

SCOPE: FRONTIERS IN EDUCATION + Multi-Core Computing

Co-Chairs:

July 26, 2023 (Wednesday); 11:20am - 12:40pm

(LOCATION: Ballroom Galleria A)

- 11:20 - 11:40am: Evidence-Based, Low-Investment Writing Instruction for Computer Science Students  
Andrew McAllister  
University of New Brunswick, Fredericton, New Brunswick, Canada
- 11:40 - 12:00pm: Student Academic Advisement Augmented by Artificial Intelligence in the School of Computing and Information Technology, University of Technology, Jamaica  
Tanya Graham\*, Horrett Scarlett, Shaula Edwards Braham  
School of Computing and Information Technology (SCIT), University of Technology (UTech), Kingston, Jamaica
- 12:00 - 12:20pm: Reshaping the Educational Landscape of Tomorrow  
Horrett Scarlett, Tanya Graham\*, Shaula Edwards Braham, and Yulan Buchanan  
School of Computing and Information Technology, University of Technology, Jamaica
- 12:20 - 12:40pm: An Incremental Many and Multi-Core Adoption of the Mathematics Behind the FFT and its Benefits  
Dakota Wilson, Eduardo Colmenares  
Department of Computer Science, Midwestern State University, Wichita Falls, Texas, USA
- 12:40 - 01:20pm: LUNCH (On Your Own)

**SESSION 22-WED (IPCV & ESCS TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**  
**SCOPE: IMAGE PROCESSING, COMPUTER VISION, & PATTERN**  
**RECOGNITION + EMBEDDED SYSTEMS**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 01:20pm - 03:00pm**  
**(LOCATION: Ballroom Galleria A)**

- 01:20 - 01:40pm: TDIP: Tunable Deep Image Processing, a Real Time Melt Pool Monitoring Solution  
Javid Akhavan\*, Youmna Mahmoud, Ke Xu, Jiaqi Lyu, and Souran Manoochehri  
Mechanical Engineering, Stevens Institute of Technology, Hoboken, New Jersey, USA
- 01:40 - 02:00pm: Fake Face2Face Video Detection Using a Novel Scene and Texture Based Feature Set  
Amit Neil Ramkisson\*, Vijayanandh Rajamanickam, and Wayne Goodridge  
Department of Computing & Information Technology, The University of the West Indies at St Augustine, St Augustine, Trinidad & Tobago
- 02:00 - 02:20pm: Overview of 3D Human Face Reconstruction Techniques and a Novel Approach  
Xiaoyuan Suo  
Department of Computer and Information Science, Webster University, St. Louis, Missouri, USA
- 02:20 - 02:40pm: Using Human Body Recognition Method Evaluate Hospital Caregivers Turning Immobile Patients  
Chris Cheng Zhang\*, Chris Ye, Mike Ye, Yu Shen, and Ella Zhaoyue Wang  
Canada Youth Robotics Club, Canada;  
Saint George's School, Vancouver, British Columbia, BC, Canada;  
Jiangsu People's Hospital, Nanjing, Jiangsu, China;  
Havergal College, Toronto, ON, Canada
- 02:40 - 03:00pm: Investigation into the Design of a Novel Low-Cost Microcontroller-Based Rover to Detect Microplastics Using Deep-Learning Image Detection and Near-Infrared Spectroscopy  
Kevin Zhang, Chris Cheng Zhang\*  
University of British Columbia, Canada;  
Canada Youth Robotics Club, Canada



03:00 - 03:40pm: **BREAK (Refreshments) & POSTERS**

July 26, 2023 (Wednesday)

(LOCATION: Galleria B & C; Registration Counter/Desk)

0. Short-term Solar Photovoltaic Power Forecasting using a Multiple Similar-day Method based on Weather Type  
Chung-Chian Hsu, Wun-Siang Chang, Ben-Jei Tsuang  
National Yunlin University of Science & Technology, Taiwan
0. Thrive with Big Data: Navigate the Pandemic World with a Real-time Health Advisor  
Andrew Yu, Lawrance Wang, Anthony Yan, Valerie Yu  
Aragon High School, USA; University of California, Santa Barbara, California, USA
0. Data Collection Methods and Predictive Analysis for Fall Prevention in Elderly Populations  
Chris Cheng Zhang  
Canada Youth Robotics Club, Canada
0. Fuzzy Based Mechanism to Detect DDoS Attacks in WSN  
Sinenhlanhla Dlamini, Tonderai Muchenje\*  
Tshwane University of Technology, Pretoria, South Africa
0. Application of IoT in Climate Change and Forest Fire  
Alireza Kavianpour, Stephen Riegel, Peter Vitale, Taren Roberts, Jacob Dowell  
College of Engineering and Information Sciences, DeVry University, Ontario, California, USA
0. 5G Architecture based on Software-Defined Perimeter (SDP) for Direct Trust Access to Private Networks  
Woocheol Kim, Kiwon Kim, Jongkuk Lee, Heasook Park  
Defense ICT Convergence Research Section, Electronics and Telecommunications Research Institute (ETRI), South Korea
0. An Modified YOLOv5 Algorithm to Improved Image Identification for Autonomous Driving  
Chun-Chieh Wang, Wen-Piao Lin  
Department of Electrical Engineering, Chang Gung University, Taoyuan, Taiwan, R.O.C.
0. Visual System of Avatar Robot using Eye-tracking and Foveated Rendering  
Masato Hosoi, Atsuhiko Hattori, Asuka Nakamura, and Hideo Furuhashi  
Department of Electrical and Electronics Engineering, Aichi Institute of Technology, Toyota, Japan
0. The Image of Numerals with Calibration on TVM  
Ssu-Hsuan Lu  
Department of Computer Information and Network Engineering, Lunghwa University of Science & Technology, Taoyuan, Taiwan

- 0. Design Optimization of Lithium-ion Battery Cell for Temperature Uniformity  
Jaewook An, Jun Lee, Han-Seung Kim, Horim Lee, Minjae Kim, and Chang-Wan Kim  
Graduate School of Mechanical Design and Production Engineering, Konkuk University, Republic of Korea;  
School of Mechanical Engineering, Konkuk University, Republic of Korea
- 0. FLT: Robust Federated Learning with Trust Model to Defend Against Poisoning Attack  
Yung-Ting Chuang, Ming-Han Chung  
Institute of Information Management, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- 0. Distributed Tire Parameter Optimization Using CREATE-GV  
Jeremy Mange, Jacob Brendle  
US Army - Ground Vehicle Systems Center, Warren, Michigan, USA
- 0. Data Security: An Enhancement of E-mail Security Algorithm to Secure Data Across State Owned Agencies  
Lindelwa S. Mngomezulu, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology Pretoria, South Africa

**SESSION 23-WED (SERP, GCC, & SAM TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SOFTWARE ENGINEERING + CLOUD & CLUSTER COMPUTING + SECURITY**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 03:40pm - 05:00pm**

**(LOCATION: Ballroom Galleria A)**

- 03:40 - 04:00pm: Framework and Methodology for Verification of a Complex Scientific Simulation Software, Flash-X  
Akash Dhruv\*, Rajeev Jain, Jared O'Neal, Klaus Weide, and Anshu Dubey  
Mathematics and Computer Science Division,  
Argonne National Laboratory, Lemont, Illinois, USA;  
Department of Computer Science, University of Chicago, Chicago, Illinois, USA
- 04:00 - 04:20pm: Identifying Zero-Day Attacks with Machine Learning and Data Reduction Methods  
Haydar Teymourlouei\*, Daryl Stone, Lethia Jackson  
Department of Technology & Security, Bowie State University, Bowie, Maryland, USA
- 04:20 - 04:40pm: Assessing Damage and Recovery of Critical Data in Unsecure Cloud Systems  
Brajendra Panda\*, Justin Burns  
Computer Science and Computer Engineering Department,  
University of Arkansas, Fayetteville, Arkansas, USA

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04:40 - 05:00pm: How to Attack a Galaxy: From Star Wars to Star Trek  
Luis Hernandez-Avarez, Miguel Agel Gonzalez de la Torre,  
Eva Iglesias Hernandez, Luis Hernandez Encinas  
Institute of Physical and Information Technologies (ITEFI),  
Spanish National Research Council (CSIC), Madrid, Spain

**SESSION 24-WED (EEE & ICAI TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: E-LEARNING, ENTERPRISE INFORMATION SYSTEMS,  
& E-GOVERNMENT + Artificial Intelligence**

**Co-Chairs:**

**July 26, 2023 (Wednesday); 05:00pm - 06:20pm**

**(LOCATION: Ballroom Galleria A)**

05:00 - 05:20pm: Challenges Confronting Engineering in Nigeria  
Matthew N. O. Sadiku\*, Janet O. Sadiku, Uwakwe C. Chukwu  
Department of Electrical & Computer Engineering,  
Prairie View A & M University, Texas, USA;  
Juliana King University, Houston, Texas, USA;  
Department of Engineering Technology, South Carolina  
State University, Orangeburg, South Carolina, USA

05:20 - 05:40pm: LLM/GPT Generative AI and Artificial General Intelligence  
(AGI): A Monolithic Study  
Atif Farid Mohammad\*, Bryan Clark, Ram Agarwal, Sean Summers  
OmniAGI.ai - Global Technology Solutions, Inc., USA

05:40 - 06:00pm: Challenges Faced By Engineering Industries in Nigeria  
Matthew N. O. Sadiku\*, Janet O. Sadiku, Uwakwe C. Chukwu  
Department of Electrical & Computer Engineering,  
Prairie View A & M University, Texas, USA;  
Juliana King University, Houston, Texas, USA;  
Department of Engineering Technology, South Carolina  
State University, Orangeburg, South Carolina, USA

06:00 - 06:20pm: Large Language Model (LLM) and GPT, A Monolithic Study  
in Generative AI  
Atif Farid Mohammad\*, Ramya Ganesh  
University of North Carolina at Charlotte, North Carolina, USA

ONLINE / ZOOM SESSIONS

ALL DATES AND TIMES ARE GIVEN IN USA PACIFIC TIME ZONE (PT).

- SESSION 10-ZOOM:** ---> FECS & MSV & ICDATA + HIMS TRACKS  
**SCOPE:** Big Data + FRONTIERS IN EDUCATION - TEACHING AND LEARNING STRATEGIES + MODELING, SIMULATION & VISUALIZATION METHODS + Health Informatics  
**Chairs:**  
 July 26, 2023 (Wednesday); 11:20am - 01:20pm  
 (ON-LINE / ZOOM)
- 11-20 - 11:40am: Helpfulness of Cognitive Behavioural Therapy (CBT) for the Autistic Population: Towards the Development of Evidence-based Framework for the Adaptation of CBT using an Affective Pedagogical Agent  
 Jonathan Bishop  
 Crocels Research CIC, United Kingdom, UK
- 11:40 - 12:00pm: Harnessing Big Data in Agriculture by Addressing Heterogeneity in Large-Scale Data Mining Techniques  
 Usama Ikhlaq\*, Tahar Kechadi  
 Department of Computer Science, University College Dublin (UCD), Dublin, Republic of Ireland
- 12:00 - 12:20pm: Reinforcing Online Learning Outcomes through Scaffolded Formative Assessments  
 Alan Bowen-James, Mary Ruth Freislich  
 Crown Institute of Higher Education, Sydney, Australia;  
 School of Mathematics and Statistics, University of New South Wales, Sydney, Australia
- 12:20 - 12:40pm: Exploring the User Experience and the Role of ChatGPT in the Academic Writing Process  
 Reem Alqadi, Afra Alrbaiyan, Nafla Alrumayyan,  
 Naseebah Alqahtani, Abir Benabid Najjar  
 Department of CS, Qassim University, Qassim, Saudi Arabia;  
 Department of CS, Saudi Electronic University, Riyadh, Saudi Arabia;  
 Department of IT, IMSIU University, Riyadh, Saudi Arabia;  
 Department of SE, King Saud University, Riyadh, Saudi Arabia
- 12:40 - 01:00pm: Impact of COVID-19 on Education: Virtual Class Experience  
 Akshay Monga  
 Harrisburg University of Science and Technology,  
 Pittsburgh, Pennsylvania, USA
- 01:00 - 01:20pm: Wordification: A New Way of Teaching English Spelling Patterns  
 Lexington Whalen, Nathan Bickel, Shash Comandur,  
 Dalton Craven, Stanley Dubinsky, Homayoun Valafar  
 College of Computing and Engineering, University of South Carolina, Columbia, South Carolina, USA

**SESSION 11-ZOOM: ---> ICDATA TRACKS**

**SCOPE: DATA SCIENCE AND NOVEL APPLICATIONS**

**Chairs:**

**July 26, 2023 (Wednesday); 01:20pm - 03:40pm  
(ON-LINE / ZOOM)**

- 01:20 - 01:40pm: Improved Decision Support for Product Returns using Probabilistic Prediction  
Dirar Sweidan, Ulf Johansson, Beatrice Alenljung, and Anders Gidenstam  
University of Boras, Sweden
- 01:40 - 02:00pm: Fundamental Spatial Parameters of Human Mobility  
Sasha Knezevic, Ivica Kostanic, Zaid Matloub  
Department of Computer Science and Engineering, Florida Institute of Technology, Melbourne, Florida, USA
- 02:00 - 02:20pm: Crime Hot Spots Detection with Network Science-enhanced Method in Major Cities of the U.S.  
Yu Wu, Natarajan Meghanathan  
Department of Electrical & Computer Engineering & Computer Science, Jackson State University, Jackson, Mississippi, USA
- 02:20 - 02:40pm: Canonical Correlation Analysis of Neighborhood-based Centrality Metrics vs. Shortest Path-based Centrality Metrics  
Natarajan Meghanathan  
Department of Electrical & Computer Engineering & Computer Science, Jackson State University, Jackson, Mississippi, USA
- 02:40 - 03:00pm: Bringing Data Analysis to the Files and the Database to the Command Line  
Antonio Badia, Saikiran Potti, Andrew Nguyen, Lance Gibson  
University of Louisville, Louisville, USA
- 03:00 - 03:20pm: Evaluation of Sampling Thresholds for Fundamental Spatial Parameters of Human Mobility  
Zaid Matloub, Ivica Kostanic, Sasha Knezevic  
Department of Computer Science and Engineering, Florida Institute of Technology, Melbourne, Florida, USA
- 03:20 - 03:40pm: Autism Risk Classification using Graph Neural Networks Applied to Gene Interaction Data  
Kyle Riccardi, Danushka Bandara  
Fairfield University, Fairfield, Connecticut, USA

**SESSION 12-ZOOM: ---> ICEQT , FCS, MSV TRACKS**

**SCOPE: QUANTUM TECHNOLOGIES + MODELING & SIMULATION STUDIES**

**Chairs:**

**July 26, 2023 (Wednesday); 03:40pm - 06:20pm  
(ON-LINE / ZOOM)**

- 03:40 - 04:00pm: Integrating Process Mining with Probabilistic Model Checking via Continuous Time Markov Chains  
Fawad Ali Mangi, Guoxin Su, Minjie Zhang  
School of Computing & Information Technology, University of Wollongong, Australia

**July 26**

- 04:00 - 04:20pm: Concise Yet Efficient Hardware Design of a Quantum Coprocessor  
Nadia Nedjah, Sergio Raposo, Luiza de Macedo Mourelle  
Dept. Electronics Engineering and Telecommunications,  
State University of Rio de Janeiro, Rio de Janeiro, Brazil;  
Dept. Systems Engineering and Computation, State University  
of Rio de Janeiro, Rio de Janeiro, Brazil
- 04:20 - 04:40pm: Vitriification and Crystallization of Ti and Ti<sub>2</sub>Ni Alloy Studied by Computer Simulation  
Dmitri V. Louzguine-Luzgin  
WPI Advanced Institute for Materials Research, Tohoku University, Sendai, Japan;  
Mathematics for Advanced Materials-OIL, National Institute of Advanced Industrial Science and Technology (AIST), Sendai, Japan
- 04:40 - 05:00pm: FREE SLOT  
05:00 - 05:20pm: FREE SLOT  
05:20 - 05:40pm: FREE SLOT  
05:40 - 06:00pm: FREE SLOT  
06:00 - 06:20pm: FREE SLOT

<----- LOCATION: Ballrooms Galleria D ----->

**SESSION 37-THU (ICEQT & SERP TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: EMERGENT QUANTUM TECHNOLOGIES +  
SOFTWARE ENGINEERING RESEARCH & PRACTICE**

**Co-Chairs:**

**July 27, 2023 (Thursday); 08:20am - 10:00am**

**(LOCATION: Ballroom Galleria D)**

- 08:20 - 08:40am: A Quantum Teleportation Protocol Secured by a Blockchain Technology  
Jaylin Butts, Emmanuel White, Jinsuk Baek\*  
Department of Computer Science, Winston-Salem State University, Winston-Salem, North Carolina, USA
- 08:40 - 09:00am: Evaluating the Impact of Noise on Variational Quantum Circuits in NISQ Era Devices  
Bikram Khanal\*, Pablo Rivas  
Department of Computer Science, Baylor University, Waco, Texas, USA
- 09:00 - 09:20am: Augias: a Model-based Software Development Kit for High-Performance Collaborative and Multiphysics Scientific Computing  
Didier Nassiet, Valentin Gaisset, David Lugato  
French Alternative Energies and Atomic Energy Commission (CEA), France; CEA / CESTA Le Barp - France
- 09:20 - 09:40am: Efficacy of Reported Issue Times as a Means for Effort Estimation  
Paul Maclean, Joshua Hernandez, Dale Dzielski, Tom Devine  
West Virginia University, West Virginia, USA
- 09:40 - 10:00am: A Cost-Effectiveness Metric for Association Rule Mining in Software Defect Prediction  
Kinari Nishiura\*, Takeki Kasagi, Akito Monden  
Graduate School of Natural Science and Technology, Okayama University, Okayama, Japan
- 10:00 - 10:20am: **BREAK (Refreshments)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**

**SESSION 38-THU (ICOMP & ICAI TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: ARTIFICIAL INTELLIGENCE AND APPLICATIONS +  
INTERNET COMPUTING & IoT**

**Co-Chairs:**

**July 27, 2023 (Thursday); 10:20am - 12:20pm**

**(LOCATION: Ballroom Galleria D)**

- 10:20 - 10:40am: LCP: A Low-Communication Parallelization Method for Fast Neural Network Inference for IoT  
Ramyad Hadidi, Jiashen Cao, Younmin Bae, Da Eun Shim, Hyojong Kim, Bahar Asgari, Sung-Kyu Lim, Michael S. Ryoo, and Hyesoon Kim  
Rain, AI, USA; University of Maryland, College Park, Maryland, USA; Georgia Institute of Technology, Atlanta, Georgia, USA; Stony Brook University, New York, USA; Google, Inc, USA
- 10:40 - 11:00am: Microgrid Intelligent Agent Control  
Mohammed Alaqtash, Salem Al-Agtash, Khaled Shaalan  
Department of Computer Science, The British University in Dubai, United Arab Emirates (UAE);  
Gerrman Jordanian University, Amman, Jordan;  
Department of Computer Science and Engineering, Santa Clara University, Santa Clara, California, USA
- 11:00 - 11:20am: Performance Evaluation of CNN Models in Urban Acoustic Event Recognition through MFCC Hyperparameter Search  
Ricardo Tangarife, Ricardo Velasquez, Fredy Rivera  
University of Antioquia, Medellin, Colombia
- 11:20 - 11:40am: Reinforcing a Monitoring System of a Regulated River using LSTM  
Md Julfiker Al Jewel, Yhocsan U. Guevara-Garcia, Md Muminul Hossain, Fred Wu, Fernando Rojano  
Department of Mathematics, Engineering and Computer Science, West Virginia State University, Institute, West Virginia, USA; Facultad de Estadística e Informática, Universidad Veracruzana, Xalapa, Ver, Mexico;  
Department of Computer Science, University of Memphis, Tennessee, USA; R. Gus Douglass Institute and Department of Biology, West Virginia State University, Institute, West Virginia, USA
- 11:40 - 12:00pm: Machine Learning for Assessing the Risk of Military Aircraft Failures  
Hokey Min\*, Ryan Wood, Seong-Jong Joo  
Allen and Carol Schmidthorst College of Business, Bowling Green State University, Bowling Green, Ohio, USA;  
Department of Operational Sciences, Air Force Institute of Technology, WPAFB, Ohio, USA;  
Harvard University, USA



12:00 - 12:20pm: Automated Generation of Health Care Dynamic Recommendation Reports through GPT-powered Interoperability in Health Care IoT Environment  
Shih-Yang Yang\*, Yu-Wei Qiu, Ling-Hsiang Hung, Ching-Hu Tasi  
Department of Media Arts, University of Kang Ning, Taipei, Taiwan; Department of Information Management, National Taipei University of Nursing and Health Sciences, Taipei, Taiwan; Department of Educational Psychology and Counseling, National Tsing Hua University, Hsinchu, Taiwan; Department of Long Term Care, University of Kang Ning, Taipei, Taiwan

12:20 - 01:20pm: LUNCH (On Your Own)

**SESSION 39-THU (IKE TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: INFORMATION & KNOWLEDGE ENGINEERING**

**Co-Chairs:**

**July 27, 2023 (Thursday); 01:20pm - 03:00pm**

**(LOCATION: Ballroom Galleria D)**

01:20 - 01:40pm: Basics of Possibilistic PSYOPS for Decoy/Countermeasure Methods

James A. Crowder, John Carbone  
CAES Advanced Program Development, Colorado Springs, Colorado, USA;  
Global Governments & Critical Infrastructure, USA

01:40 - 02:00pm: Atmospheric Meteorological Effects on Forecasting Daily Lightning Occurrence at Cape Canaveral Space Force Station

Jon Saul, Torrey Wagner\*, Eric Mbonimpa, Brent Langhals  
Graduate School of Engineering and Management, Air Force Institute of Technology, Wright-Patterson AFB, Ohio, USA

02:00 - 02:20pm: A Taxonomy Based Digital Platform Evaluation Model for Air Quality Data Management

Saba Siddiqui\*, Asif Qumer Gill  
Faculty of Engineering and Information Technology,  
University of Technology, Ultimo, NSW, Sydney, Australia

02:20 - 02:40pm: Machine Learning Prediction of DoD Personal Property Shipment Costs

Tiffany Tucker, Torrey Wagner, Paul Auclair, Brent Langhals  
Graduate School of Engineering and Management, Air Force Institute of Technology, Wright-Patterson AFB, Ohio, USA;  
Integrated Analytics & Support, LinQuest Corporation, Beavercreek, Ohio, USA

02:40 - 03:00pm: Context Extraction in Unsupervised Entity Resolution

Fumiko Kobayashi\*, John R. Talburt  
Donaghey College of Science, Technology, Engineering, and Mathematics, The University of Arkansas at Little Rock, Arkansas, USA

03:00 - 03:20pm: **BREAK (Refreshments) & POSTERS**

July 27, 2023 (Thursday)

(LOCATION: Galleria B & C; Registration Counter/Desk)

- 0. Using Machine Learning Algorithms in Concealment of Buyers to Reduce Prices in Large Volume Trades  
Jacob D Mapeka, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology, Pretoria, South Africa
- 0. Review Paper on Bitcoin Transaction Tracing with Deep Packet Inspection  
Letsie N. Mokoena, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa
- 0. Unsupervised Learning of Statistical Patterns for Industrial Internet of Things Security  
Honggang Wang  
Department of Technology and Operations Management, College of Business Administration, California State Polytechnic University-Pomona, Pomona, California, USA
- 0. An Improvement of a Secure Searchable Public Key Encryption Scheme with a Designated Tester Against Keyword Guessing Attacks and its Extension  
Min-Shiang Hwang, Shih-Ting Hsu, Cheng-Ying Yang  
Department of Computer Science and Information Engineering, Asia University, Wufeng, Taiwan, R.O.C.;  
Department of Management Information Systems, National Chung Hsing University, Taichung, Taiwan, R.O.C.;  
Department of Computer Science, University of Taipei, Taipei, Taiwan, R.O.C.
- 0. Microgrid Agents in SPADE  
Salem Al Agtash, Hima Bindu Mallampati  
Department of Computer Science and Engineering, Santa Clara University, Santa Clara, California, USA
- 0. A Control Engineering Approach to the Ripple Effect Analysis in Closed-loop Supply Chains  
M. de Arquer, B. Ponte, R. Pino, D. de la Fuente  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
- 0. Assessing Industry 4.0 Readiness: The Influence of Drivers and Information Technologies  
O. Leon, J. Puente, I. Fernandez, J. Parreno  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain

**SESSION 40-THU (IPCV TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: IMAGE PROCESSING, COMPUTER VISION, &  
PATTERN RECOGNITION + ARTIFICIAL INTELLIGENCE**

**Co-Chairs:**

**July 27, 2023 (Thursday); 03:20pm - 04:40pm  
(LOCATION: Ballroom Galleria D)**

- 03:20 - 03:40pm: Revisiting Spectral Clustering Techniques on Images:  
2-k-way vs. k-way Partitioning  
Laura E, Kaplan, Louis Petingi  
Computer Science Department, College of Staten Island  
(CUNY), Staten Island, New York, USA
- 03:40 - 04:00pm: Synthetic Data Generation: An Evaluation of the Saving Images  
Pipeline in Unity  
Kevin Sankar\*, Akash Pooransingh, Sarika Ramroop  
Faculty of Engineering, Department of Electrical and Computer  
Engineering, The University of the West Indies,  
Trinidad and Tobago;  
Virtana TT Ltd, Trinidad and Tobago
- 04:00 - 04:20pm: Intelligent Traffic Control System using YOLO Algorithm for  
Traffic Congested Cities  
Afsana Rahman Mou  
Department of Computer Science, University of Arkansas  
at Little Rock, Arkansas, USA
- 04:20 - 04:40pm: Classification of Functional and Nonfunctional Hand Movement  
Using Deep Learning and First-Person View Video  
Tan Tran\*, Lin-Ching Chang, Peter S. Lum  
Department of Electrical Engineering and Computer Science,  
The Catholic University of America, Washington, DC, USA;  
Department of Biomedical Engineering, The Catholic  
University of America, Washington, DC, USA;  
MedStar National Rehabilitation Network, Washington, DC, USA

**SESSION 41-THU (IPCV, ICOMP, ICAI TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: IMAGE PROCESSING, COMPUTER VISION, &  
PATTERN RECOGNITION + ARTIFICIAL INTELLIGENCE +  
INTERNET COMPUTING AND IoT**

**Co-Chairs:**

**July 27, 2023 (Thursday); 04:40 - 06:20pm  
(LOCATION: Ballroom Galleria D)**

- 04:40 - 05:00pm: Deep Learning-based Pothole Detection System with Aerial  
Image  
Soobin Jeon, Sujong Kim, Junhong Park, Dongmahn Seo\*  
School of Computer Software, Daegu Catholic University,  
Gyeongsan, Republic of Korea;  
Department of Computer Software, Daegu Catholic University,  
Gyeongsan, Republic of Korea

**July 27**

- 05:00 - 05:20pm: The Impact of Background Removal on Performance of Neural Networks for Fashion Image Classification and Segmentation  
Junhui Liang, Ying Liu, Vladimir Vlassov\*  
Department of Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden;  
Norna, Stockholm, Sweden
- 05:20 - 05:40pm: Non-Invasive Muzzle Matching for Cattle Identification using Deep Learning  
Arun Sanjel\*, Bikram Khanal, Pablo Rivas, Greg Speegle  
School of Engineering and Computer Science, Department of Computer Science, Baylor University, Waco, Texas, USA
- 05:40 - 06:00pm: Designing an Open Field Precision Agriculture System Using Drones  
Kwang Ho Yang, Meong Hun Lee, Hyun Yoe  
Department of Smart Agriculture Major, Suncheon National University, Suncheon si, Jeollanam-do, South Korea;  
Department of Information and Communication Engineering, Suncheon National University, Suncheon si, Jeollanam-do, South Korea
- 06:00 - 06:20pm: Unleashing the Potential of Machine Learning: A Comprehensive Exploration of State-of-the-Art Algorithms and Real-World Applications in Computer Vision  
Chris Cheng Zhang\*, Kevin Zhang  
Canada Youth Robotics Club;  
University of British Columbia, Vancouver, BC, Canada
- 06:20 - 06:40pm: **Congress Closing Remarks**  
**(LOCATION: Ballroom Galleria E)**

July 27

<----- LOCATION: Ballrooms Galleria E ----->

**SESSION 42-THU (CSC TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SCIENTIFIC COMPUTING + COMPUTATIONAL SCIENCE**

**Co-Chairs:**

**July 27, 2023 (Thursday); 08:20am - 08:40am**

**(LOCATION: Ballroom Galleria E)**

- 08:20 - 08:40am: On the Solutions of a Fifth Order Nonlinear Partial  
Differential Equation of Fluids  
Chaudry Masood Khaliq  
Material Science, Innovation and Modelling, School of  
Mathematical and Statistical Sciences, North-West University,  
Mafikeng Campus, Mmabatho, Republic of South Africa
- 08:40 - 09:00am: Numerical Diffusion of Material in Radiation  
Hydrodynamics Codes  
William Dai  
Los Alamos National Laboratory, Los Alamos, New Mexico, USA

**SESSION 43-THU (ICOMP TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: INTERNET COMPUTING AND IoT**

**Co-Chairs:**

**July 27, 2023 (Thursday); 09:00am - 10:00am**

**(LOCATION: Ballroom Galleria E)**

- 09:00 - 09:20am: Self-organizing QoS-aware Service Composition Framework  
for Edge Intelligence  
Giandomenico Spezzano  
National Research Council of Italy, Institute for High  
Performance Computing and Networking, Rende, Italy
- 09:20 - 09:40am: Design a Cloud-based Smart Indoor Plant Growing System  
Seung Jae Kim, Meong Hun Lee, Hyun Yoe  
Department of Information and Communication Engineering,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea; Department of Smart Agriculture Major,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea
- 09:40 - 10:00am: Intelligent Fall Detection Monitoring System  
Hassan Rajaei\*, Satya Upendra  
Department of Computer Science, Bowling Green State  
University, Bowling Green, Ohio, USA

**10:00 - 10:20am: BREAK (Refreshments)**

**(LOCATION: Galleria B & C; Registration Counter/Desk)**

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**SESSION 43-THU (ICOMP TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: INTERNET COMPUTING, IoT, NOVEL APPLICATIONS**

**Co-Chairs:**

**July 27, 2023 (Thursday); 10:20am - 12:20pm**

**(LOCATION: Ballroom Galleria E)**

- 10:20 - 10:40am: The Way Forward: The Environmental Implications of Bitcoin and a Possible Solution  
Elaine Ulsh\*, Xin Sun  
Computer Science Department, Ball State University,  
Muncie, Indiana, USA
- 10:40 - 11:00am: Integration of Green Aspect inside Internet of Things Standard  
Thierry Monteil  
IRIT, Universite de Toulouse, INSA, Toulouse, France
- 11:00 - 11:20am: An Onboard IoT-Based Communication System for Autonomous Vehicles  
Hassan Rajaei\*, Deepak Thammineni, Sampath Yelchuri  
Computer Science Department, Bowling Green State University,  
Bowling Green, Ohio, USA
- 11:20 - 11:40am: A Study of Honeybee-Guided Drones to Mitigate Damage from Honeybee Disappearance  
Si Eun Park, Hyun Yoe, Meong Hun Lee  
Department of Information and Communication Engineering,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea; Department of Smart Agriculture Major,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea
- 11:40 - 12:00pm: Designing a Livestock Management System with a Vet Call System  
Hyeon Seo Kim, Hyun Yoe, Meong Hun Lee  
Department of Information and Communication Engineering,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea; Department of Smart Agriculture Major,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea
- 12:00 - 12:20pm: Research on the Design and Application of Digital Twin-based Smart Agricultural Systems  
Hyun Jun Kim, Meong Hun Lee, Hyun Yoe  
Department of Information and Communication Engineering,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea; Department of Smart Agriculture Major,  
Suncheon National University, Suncheon si, Jeollanam-do,  
South Korea
- 12:20 - 01:00pm: **LUNCH (On Your Own)**

**SESSION 44-THU (SAM, ICWN, PDPTA, SERP TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SECURITY + WIRELESS NETWORKS + SCIENTIFIC  
COMPUTING + HPC + SOFTWARE ENGINEERING**

**Co-Chairs:**

**July 27, 2023 (Thursday); 01:00pm - 03:00pm  
(LOCATION: Ballroom Galleria E)**

- 01:00 - 01:20pm: Securing 5G/6G Communications in Smart Cities: Novel SNOW-V/ZUC-256 Multimode Architectures  
Evangelia Konstantopoulou\*, George S. Athanasiou, and Nicolas Sklavos  
u-blox Athens S.A., Athens, Greece;  
SCYTALE Group, Computer Engineering & Informatics Dept., University of Patras, Patras, Greece
- 01:20 - 01:40pm: The Case for the Simpler Cyber-Physical System  
Alain Kagi\*, Caitlyn Wilde, Levi Overcast, Aubrey Birdwell, Andrew Fowler, Jens Mache, Richard Weiss  
Lewis & Clark College, Portland, Oregon, USA;  
The Evergreen State College, Olympia, Washington, USA
- 01:40 - 02:00pm: Basic Safety Message (BSM) Test Data Generation for Vehicle Security Machine Learning Systems  
Guillermo Francia, III\*, Dallas Snider, Benjamin Cyphers  
Center for Cybersecurity, University of West Florida, Pensacola, Florida, USA;  
Department of Information Technology, University of West Florida, Pensacola, Florida, USA;  
Ben Cyphers ACES SFS Program, University of West Florida, Pensacola, Florida, USA
- 02:00 - 02:20pm: A Lightweight Encoder and Decoder for Non-Binary Polar Codes  
Franklin Cochachin, Fakhreddine Ghaffari\*  
ETIS UMR 8051, CY Cergy Paris Universite, ENSEA, CNRS, Cergy, France
- 02:20 - 02:40pm: Gradual Route Modification in Mobile Wireless Multihop Network with Combination of Carrying and Forwarding  
Ryota Kurabayashi, Hiroaki Higaki  
Department of Robotics and Mechatronics,  
Tokyo Denki University, Tokyo, Japan
- 02:40 - 03:00pm: Semantic Blockchain Software Tools and Services for Trustworthy Applications - ONTOCHAIN  
Klevis Shkempi, Petar Kochovski, Thanasis G. Papaioannou, Caroline Barelle, Anthony Simonet-Boulogne, Marco Ciaramella, Vlado Stankovski\*  
University of Ljubljana, Ljubljana, Slovenia;  
Athens University of Economics and Business, Athens, Greece;  
European Dynamics, Luxembourg; iExec SARL, Lyon, France;  
IntelliSemantic srl Rivoli, Italy

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03:00 - 03:20pm: BREAK (Refreshments) & POSTERS

July 27, 2023 (Thursday)

(LOCATION: Galleria B & C; Registration Counter/Desk)

0. Using Machine Learning Algorithms in Concealment of Buyers to Reduce Prices in Large Volume Trades  
Jacob D Mapeka, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology, Pretoria, South Africa
0. Review Paper on Bitcoin Transaction Tracing with Deep Packet Inspection  
Letsie N. Mokoena, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa
0. Unsupervised Learning of Statistical Patterns for Industrial Internet of Things Security  
Honggang Wang  
Department of Technology and Operations Management, College of Business Administration, California State Polytechnic University-Pomona, Pomona, California, USA
0. An Improvement of a Secure Searchable Public Key Encryption Scheme with a Designated Tester Against Keyword Guessing Attacks and its Extension  
Min-Shiang Hwang, Shih-Ting Hsu, Cheng-Ying Yang  
Department of Computer Science and Information Engineering, Asia University, Wufeng, Taiwan, R.O.C.;  
Department of Management Information Systems, National Chung Hsing University, Taichung, Taiwan, R.O.C.;  
Department of Computer Science, University of Taipei, Taipei, Taiwan, R.O.C.
0. Microgrid Agents in SPADE  
Salem Al Agtash, Hima Bindu Mallampati  
Department of Computer Science and Engineering, Santa Clara University, Santa Clara, California, USA
0. A Control Engineering Approach to the Ripple Effect Analysis in Closed-loop Supply Chains  
M. de Arquer, B. Ponte, R. Pino, D. de la Fuente  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
0. Assessing Industry 4.0 Readiness: The Influence of Drivers and Information Technologies  
O. Leon, J. Puente, I. Fernandez, J. Parreno  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain



- SESSION 45-THU (GCC, ICAI, ICOMP, EEE, HIMS, SAM, IKE TRACKS)**  
**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**  
**SCOPE: COMPUTATIONAL SCIENCE AND COMPUTATIONAL INTELLIGENCE**  
**Co-Chairs:**  
**July 27, 2023 (Thursday); 03:20pm - 06:20pm**  
**(LOCATION: Ballroom Galleria E)**
- 03:20 - 03:40pm: BIMEE: Blockchain based Incentive Mechanism Considering Endowment Effect  
 Jayanth Madupalli\*, Hui Liu  
 Department of Computer Science, Missouri State University, Springfield, Missouri, USA
- 03:40 - 04:00pm: Reinforcement Learning based Production Planning in the Aquaculture Industry  
 M. Luna, O. Perez-Mon, R. Rosillo, A. Gomez  
 Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
- 04:00 - 04:20pm: Investigating the Potential of Blockchain Technology for Improving Traceability in Agriculture  
 S. Fernandez-Vazquez, N. Alvarez, O. Leon, J. Costas  
 Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
- 04:20 - 04:40pm: Camera-Based Analysis of Human Pose for Fall Detection  
 Chris Cheng Zhang  
 Canada Youth Robotics Club, Canada
- 04:40 - 05:00pm: Market Research on Fall Prevention Products  
 Chris Cheng Zhang\*, Yanchang Wang, Chenran Wang, Yanyu Wang  
 Math and Science Association of Canada, Canada;  
 University of Toronto, Ontario, Canada;  
 Saint Patrick Regional Secondary School, Vancouver, BC, Canada
- 05:00 - 05:20pm: ESAI: An AI-Based Emotional Support System to Assist Mental Health Disorders  
 Gabriel Serrano\*, Daehan Kwak  
 Department of Computer Science and Technology, Kean University, Union, New Jersey, USA
- 05:20 - 05:40pm: FPGA Formal Verification: A Local Logic Correctness Approach  
 Jules Chenou\*, Laurent Njilla, Aurelia William, Tonya Fields  
 Cybersecurity Complex, Norfolk State University, Norfolk, Virginia, USA;  
 Information Assurance Branch (RIGA), Air Force Research Laboratory, Rome, New York, USA
- 05:40 - 06:00pm: STAR Antivirus Software  
 Tathagata Bhattacharya, Ramyasree Thungapati, Supriya Gurrupu, Anusha Madichetty, Sai Teja Veeramalla  
 Computer Information System Cybersecurity, Auburn University at Montgomery, Alabama, USA
- 06:00 - 06:20pm: The Usage of Biometric Based Authentication Scheme for Identity Theft Management  
 Malulyck Nthabiseng, Tonderai Muchenje  
 Tshwane University of Technology, Soshanguve, South Africa

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06:20 - 06:40pm: Congress Closing Remarks  
(LOCATION: Ballroom Galleria E)

<----- LOCATION: Ballrooms Galleria A ----->

**SESSION 32-THU (FECS & SAM TRACKS)**

(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)

SCOPE: FRONTIERS IN EDUCATION + SECURITY

Co-Chairs:

July 27, 2023 (Thursday); 08:20am - 10:00am

(LOCATION: Ballroom Galleria A)

08:20 - 08:40am: Examining Effective Student Support Services for STEM  
Graduate International Student Success  
Vedika S. Salunke\*, Kevin J. Bazner  
Department of Educational Leadership,  
Texas A&M University - Corpus Christi, Texas, USA

08:40 - 09:00am: The Role of Assessment Items in Determining Student  
Performance in CS1  
Permanand Mohan  
Department of Computing and Information Technology,  
The University of the West Indies,  
St. Augustine, Trinidad and Tobago

09:00 - 09:20am: Promoting K-12 Computer Science Education: A Computational  
Thinking Partnership Project  
Jiang Li\*, Jennifer Cuddapah, Marisel Torres-Crespo,  
Ann Stewart, Anthony Williams  
Department of Computer Science and Information Technology,  
Hood College, Fredrick, Maryland, USA;  
Department of Education, Hood College, Fredrick,  
Maryland, USA;  
Department of Math, Hood College, Fredrick, Maryland, USA;  
The Beacon House, Hagerstown, Maryland, USA

09:20 - 09:40am: Plagiarism in Entry-Level Computer Science Courses  
using ChatGPT  
Thomas Ryan Devine, Zachary Taylor, Cy Blair, Ethan Glenn  
West Virginia University, Morgantown,, West Virginia, USA

09:40 - 10:00am: Security Education Using Screen Reader: Utilizing a  
Problem-Posing Approach  
Masataka Kakinouchi\*, Kazumasa Omote  
Tsukuba University of Technology, Tsukuba city,  
Ibaraki, Japan

**July 27**

**10:00 - 10:20am: BREAK (Refreshments)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**

**SESSION 33-THU (SAM TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SECURITY AND NOVEL APPLICATIONS**

**Co-Chairs:**

**July 27, 2023 (Thursday); 10:20am - 12:20pm**

**(LOCATION: Ballroom Galleria A)**

**10:20 - 10:40am: R1CIDS: A Hybrid Dual Filters Intrusion Detection System**  
Zichun Wang, Samuel Temesgen, Fred Wu  
Department of Math, Engineering and Computer Science,  
West Virginia State University, Institute, West Virginia, USA

**10:40 - 11:00am: A Protocol for Monitoring Network Threats in Real-Time**  
Aftab Ahmad  
John Jay College of Criminal Justice, New York, USA

**11:00 - 11:20am: Lightweight Software Assurance for Distributed Mobile Networking**  
Sang-Yoon Chang\*, Simeon Wuthier, Jonghyun Kim, Jinho Kim  
University of Colorado, Colorado Springs, Colorado, USA;  
Electronics and Telecommunications Research Institute  
(ETRI), Daejeon, South Korea;  
Texas A&M University Commerce, Texas, USA

**11:20 - 11:40am: Attack Vectors Against ICS: A Survey**  
Destin Hinkel\*, Angela Buie, Amber Surles, George Clark  
School of Computing, University of South Alabama,  
Alabama, USA

**11:40 - 12:00pm: Physical Attacks on the Railway System**  
Lukas Ifflander\*, Thomas Buder, Teresa Loreth,  
Marina Alonso Villota, Stefan Pickl, Walter Schmitz,  
and Karl Adolf Neubecker  
German Centre for Rail Traffic Research Dresden, Germany;  
Faculty of Computer Science, Universitat der Bundeswehr,  
Munich, Germany;  
CreaLab GmbH, Feldkirchen-Westerham, Germany

**12:00 - 12:20pm: Investigation of Digital Forensics Tools Validation**  
Yahya Sayeed\*, Mehrdad S. Sharbaf  
Department of Computer Science, California State University  
Dominguez Hills Carson, California, USA

**12:20 - 01:20pm: LUNCH (On Your Own)**

**SESSION 34-THU (ICDATA TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: DATA SCIENCE AND METHODS**

**Co-Chairs:**

**July 27, 2023 (Thursday); 01:20pm - 03:00pm**

**(LOCATION: Ballroom Galleria A)**

- 01:20 - 01:40pm: Optimization of Magnetic Gripper Design for Efficient Robotic Sheet Metal Manipulation: A Comparative Study of Clustering Algorithms  
Luis Deutsch Garcia, Ana Paula Trevino Trevino  
Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico
- 01:40 - 02:00pm: Using Learning Algorithms in Synthetic Mobility Trace Generation  
Felipe Marques Megale\*, Richard W. Pazzi, Felipe D. Cunha  
Ontario Tech University, Canada
- 02:00 - 02:20pm: Challenges and Opportunities to Business Analytics and Integration due to Edge and 5G Technologies  
Sathish Sampath  
Boston University, Massachusetts, USA
- 02:20 - 02:40pm: Data Preprocessing Using AutoML: A Survey  
Abderahim Salhi  
U.S Army Engineer Research and Development Center, USA
- 02:40 - 03:00pm: Analyzing COVID-19 Impact in the US: Demographic, Economic, and Social Factors  
Daniel Ojeda\*, Anissa Champion, Ching-Yu Huang, Daehan Kwak  
Department of Computer Science and Technology,  
Kean University, Union, New Jersey, USA
- 03:00 - 03:20pm: **BREAK (Refreshments) & POSTERS**  
**July 27, 2023 (Thursday)**  
**(LOCATION: Galleria B & C; Registration Counter/Desk)**
0. Using Machine Learning Algorithms in Concealment of Buyers to Reduce Prices in Large Volume Trades  
Jacob D Mapeka, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa;  
Department of Information Technology, Tshwane University of Technology, Pretoria, South Africa
0. Review Paper on Bitcoin Transaction Tracing with Deep Packet Inspection  
Letsie N. Mokoena, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology, Soshanguve, South Africa
0. Unsupervised Learning of Statistical Patterns for Industrial Internet of Things Security  
Honggang Wang  
Department of Technology and Operations Management,  
College of Business Administration, California State Polytechnic University-Pomona, Pomona, California, USA

- O. An Improvement of a Secure Searchable Public Key Encryption Scheme with a Designated Tester Against Keyword Guessing Attacks and its Extension  
Min-Shiang Hwang, Shih-Ting Hsu, Cheng-Ying Yang  
Department of Computer Science and Information Engineering, Asia University, Wufeng, Taiwan, R.O.C.;  
Department of Management Information Systems, National Chung Hsing University, Taichung, Taiwan, R.O.C.;  
Department of Computer Science, University of Taipei, Taipei, Taiwan, R.O.C.
- O. Microgrid Agents in SPADE  
Salem Al Agtash, Hima Bindu Mallampati  
Department of Computer Science and Engineering, Santa Clara University, Santa Clara, California, USA
- O. A Control Engineering Approach to the Ripple Effect Analysis in Closed-loop Supply Chains  
M. de Arquer, B. Ponte, R. Pino, D. de la Fuente  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
- O. Assessing Industry 4.0 Readiness: The Influence of Drivers and Information Technologies  
O. Leon, J. Puente, I. Fernandez, J. Parreno  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain

**SESSION 35-THU (CSC TRACKS)**

**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**

**SCOPE: SCIENTIFIC COMPUTING + COMPUTATIONAL SCIENCE**

**Co-Chairs:**

**July 27, 2023 (Thursday); 03:20pm - 05:00pm**

**(LOCATION: Ballroom Galleria A)**

- 03:20 - 03:40pm: K-Hopped Link Prediction with Graph Embedding  
Tonni Das Jui\*, Erich Baker, Mary Lauren Benton  
Computer Science, Baylor University, Waco, Texas, USA
- 03:40 - 04:00pm: Simulation Framework and Big Data for Decision-Making Analyses in Sustainable Development - Higher Education Case Study  
Anatoly Kurkovsky  
University System of Georgia, Georgia Gwinnett College, Greater Atlanta, Georgia, USA
- 04:00 - 04:20pm: Overview of Empirical Distribution Function Computational Framework to Explore Chaotic Dynamic Systems  
Alexander Chtcheprov, William P. Rice, Andrei Chtcheprov\*  
Independent Researcher, Amarillo, Texas, USA;  
Independent Researcher, Chapel Hill, North Carolina, USA;  
Georgia Institute of Technology, Atlanta, Georgia, USA

**July 27**

- 04:20 - 04:40pm: Human and Cognitive Factors Involved in Phishing Detection - a Literature Review  
Diana Arevalo, Dario Valarezo, Walter Fuertes, Maria Fernanda Cazares, Roberto O. Andrade, Mayra Macas  
Universidad de las Fuerzas Armadas ESPE, Ecuador;  
Universidad Politecnica Salesiana, Ecuador;  
Escuela Politecnica Nacional, Quito, Ecuador
- 04:40 - 05:00pm: Challenges and Solutions for Integrating Neural Networks in Multiphysics CFD Simulations  
Aymeric Millan\*, David Lugato, Paul Novello  
Maison de la Simulation, CEA Saclay, Gif-sur-Yvette, France;  
CEA CESTA, Le Barp, France;  
DEEL, ANITI, IRT Saint Exupery, Toulouse, France

**SESSION 36-THU (EEE, ICAI, MSV TRACKS)**  
**(CONCURRENT SESSION WITH ON-SITE & ONLINE SESSIONS)**  
**SCOPE: E-BUSINESS, ENTERPRISE INFORMATION SYSTEMS + SIMULATION & MODELING + AI**  
**Co-Chairs:**  
**July 27, 2023 (Thursday); 05:00pm - 06:20pm**  
**(LOCATION: Ballroom Galleria A)**

- 05:00 - 05:20pm: Improving Performance of Integrated System Applications in an Organisation  
Joshua Mugisa Tibaleka\*, Emmanuel Yeeka  
Expanding Social Protection Programme in Uganda Ministry of Gender, Kampala, Uganda;  
Makerere University, Kampala, Uganda
- 05:20 - 05:40pm: Plant Disease Diagnosis Using Transfer Learning Based Models  
Vatsala Anand, Sheifali Gupta, Rupesh Gupta, Hani M. Alshahrani\*, Mohammed Hamdi, Mana Saleh Al Reshan, and Asadullah Shaikh  
Chitkara University Institute of Engineering and Technology, Chitkara University, Punjab, India;  
Department of Computer Science, College of Computer Science & Information Systems, Najran University, Najran, Saudi Arabia; Department of Information Systems, College of Computer Science & Information Systems, Najran University, Saudi Arabia
- 05:40 - 06:00pm: Towards Modeling Functional Requirements from Tacit Knowledge  
Rameen Jafar, Maram Fahaad Almufareh, Sundas Ashraf, Bushra Khan, Wasi Haider Butt, Mamoona Humayun  
Department of Computer and Software Engineering, National University of Sciences and Technology, Pakistan;  
Department of Information Systems, College of Computer and Information Sciences, Jouf University, Sakakah, Saudi Arabia

**July 27**

- 06:00 - 06:20pm: Artificial Virtual Reality Simulation Design for Children on Autism Spectrum Disorder  
Abeer Al-Nafjan, Hana Alarifi, Neehal Almuways,  
Aliah Alhameed, Renad Al Hussain  
Computer Science Department, Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia;  
Autism Center, King Faisal Specialists Hospital and Research Center, Riyadh, Saudi Arabia
- 06:20 - 06:40pm: Congress Closing Remarks  
(LOCATION: Ballroom Galleria E)

**LIST OF OTHER PAPERS & POSTERS (OPTIONS 0, 3, or NR):**

Due to challenges with the pandemic, authors and speakers were given the following options:

OPTION 1: Presenting the paper on site at the congress.

OPTION 2: Presenting the paper remotely: using Zoom (interactive).

OPTION 3: Presenting the paper remotely (non-interactive).

The link to these pre-recorded presentations will later be included in the "Book of Abstracts" and will be made available on the CSCE 2023 web site at <https://www.american-cse.org/csce2023/>

The list that appears below includes all those papers and posters whose authors selected OPTION 3 or NR (did Not Report).

**The 7th International Conference on Applied Cognitive Computing  
(ACC'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-ACC>**

- 0. Detection of Twitter Spam with Language Models: a Case Study on how to use BERT to Protect Kids from Spam on Twitter  
Bianca Jones, Marwan Omar  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA
- 0. Exploring the Journey to Drug Overdose: Applying the Journey to Crime Framework to Drug Sales Locations and Overdose Death Locations  
Murat Ozer, Ismail Onat, Halil Akbas, Nelly Elsayed, Zag Elsayed, and Said Varlioglu  
University of Cincinnati, Cincinnati, USA;  
University of Scranton, Scranton, Pennsylvania;  
Troy University, Troy, Alabama, USA
- 0. Performance Evaluation of Open-Set Classification in Human Activity Recognition via a Residual Neural Network Architecture  
Daniel Rodriguez Gonzalez, Yanzhen Qu  
Colorado Technical University, Colorado Springs, Colorado, USA



**The 24th International Conference on Bioinformatics &  
Computational Biology  
(BIOCOMP'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-BIOCOMP>**

- 0. Predicting Drug Response Using Two Factors from Cell Lines-Drug Sensitivity and Basal Gene Expression  
Chuan Wang, Yuan Tian, Wen Shi, Ying Zhou, Yi Zhou  
Vanderbilt University Medical Center, Nashville, Tennessee, USA;  
Department of Chemical Engineering, Department of Biosystems Engineering, Auburn University, Auburn, Alabama, USA;  
Department of Economics, TSYS School of Computer Science, Columbus State University, Columbus, Georgia, USA

**The 9th International Conference on Biomedical  
Engineering & Sciences  
(BIOENG'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-BIOENG>**

- 0. Exploring Deep Brain Stimulation Effects in a Hyperbolic-Based Computational Model of Neuronal Spiking Patterns  
Ardavan Vakil, Miad Faezipour  
School of Engineering Technology, Electrical and Computer Engineering Technology, Purdue University, West Lafayette, Indiana, USA
- 0. Vision Transformers and Bi-LSTM for Alzheimer's Disease Diagnosis from 3D MRI  
Taymaz Akan, Sait Alp, Mohammad Alfrad Nobel Bhuiyan  
Department of Medicine, Louisiana State University Health Sciences Center at Shreveport, Shreveport, Louisiana, USA;  
Department of Computer Engineering, Erzurum Technical University, Erzurum, Turkey

**The 21st International Conference on Scientific Computing  
(CSC'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-CSC>**

- 0. Digital Transformation and its Impact on Customer Service in Traditional Banks: A Case Study of a Zimbabwean Commercial Bank  
Edmore Masinire, Esnah Dzimba, John Andrew Van Der Poll  
Graduate School of Business Leadership (SBL), University of South Africa (Unisa), Midrand, South Africa
- 0. From Floats to Posits: A Conversion Framework  
Andrin Vuthaj, Elie Alhajjar  
Computer Science, United States Military Academy, West Point, New York, USA
- 0. Skin Condition Classification by Automatic Image Machine Learning  
Lichuan Liu, Wei Li  
Department of Electrical Engineering, CEET, Northern Illinois University, DeKalb, Illinois, USA;  
Applied AI R&D Laboratory, Intellikey Innovation LTD, Burnaby, Canada
- 0. A Survey of Applications for Deaf-Mute People Based on IoT and Cloud Computing Services  
Hector Caballero-Hernandez, Vianney Munoz-Jimenez, Marco A. Ramos-Corchado  
Faculty of Engineering, Autonomous University of State of Mexico, Mexico
- 0. A Systematic Review of Approaches for Reviewing Security-Related Aspects in Agile Requirements Specification of Web Applications  
Aqsa Munir, Mohammed Assiri, Saba Naveed Alam, Muzna Khan, Wasi Haider Butt, Mamoona Humayun  
Department of Computer and Software Engineering, College of Electrical and Mechanical Engineering (EME), National University of Science and Technology (NUST), Islamabad, Pakistan; Department of Computer Science, College of Sciences and Humanities, Aflaj, Prince Sattam bin Abdulaziz University, Saudi Arabia; Department of Software Engineering, College of Computer Engineering and Sciences, Prince Sattam bin Abdulaziz University, Saudi Arabia; Department of Information Systems, College of Computer and Information Sciences, Jouf University, Al-Jouf, Saudi Arabia
- 0. The Gap Between the Need and the Realities in Mentoring Computer Science Students by Faculty  
Sherrri Turner, Anne Hinderliter, Arshia Khan  
Department of Educational Psychology, University of Minnesota - Twin Cities Minneapolis, Minnesota, USA; Department of Chemistry & Biochemistry, University of Minnesota - Duluth, Duluth, Minnesota, USA; Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
- 0. Segmentation of Skin Cancer and Intensity Classification Using Deep Convolutional Neural Network  
Hanan Aljuaid, Rafaf Alnoghaimshi, Arwa Alhammad, Fay Aldhafer, and Noura Alsakran  
Department of Computer Sciences, College of Computer and Information Sciences, Princess Nourah bint Abdulrahman University (PNU), Riyadh, Saudi Arabia
- 0. Performance Evaluation of Anomaly Detection Algorithms in Machine Learning  
James Scheibmeir  
NorthWest Arkansas Community College, Bella Vista, Arkansas, USA;  
Gartner Inc., USA

- 0. Sarcasm Detection on Twitter: a Comparative Survey  
Hajar Abdulrahman Alghofaily, Fethi Fkih  
Department of Computer Science, College of Computer, Qassim University,  
Buraydah, Saudi Arabia
- 0. A Deep Learning-Based Hybrid Model for Optimal Anomaly Detection  
Frances Osamor  
Computer Science and Information Technology, University of the District  
of Columbia, Washington, DC, USA
- 0. Task-Based Content Delivery at the Wi-Fi Edge  
Anil L. Pereira  
Department of Information Technology, Georgia Gwinnett College,  
Lawrenceville, Georgia, USA
- 0. Comparative Analysis of Power Efficiency in Heterogeneous CPU-GPU Processors  
Rupinder Kaur, Farah Mohammadi  
Department of Electrical and Computer Engineering, Toronto Metropolitan  
University, Toronto, Canada
- 0. Minimizing Turns in Watchman Robot Navigation: Strategies and Solutions  
Hamid Hoorfar, Sara Moshtaghi Largani, Reza Rahimi, Alireza Bagheri  
Department of Epidemiology and Public Health, University of Maryland,  
Baltimore, Maryland, USA; Department of Computer Science, University  
of Cincinnati, Cincinnati, Ohio, USA; Department of Mathematics,  
University of Ottawa, Ottawa, Canada; Department of Computer  
Engineering, Amirkabir University of Technology, Tehran, Iran
- 0. Securing Pathways with Orthogonal Robots  
Hamid Hoorfar, Faraneh Fathi, Sara Moshtaghi Largani, Alireza Bagheri  
Department of Epidemiology and Public Health, University of Maryland,  
Baltimore, Maryland, USA; Department of Biomedical Engineering,  
University of Kentucky, Lexington, Kentucky, USA; Department of  
Computer Science, University of Cincinnati, Cincinnati, Ohio, USA;  
Department of Computer Engineering, Amirkabir University of Technology,  
Tehran, Iran

The 22nd International Conference on e-Learning, e-Business,  
Enterprise Information Systems, & e-Government  
(EEE'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-EEE>

- 0. The Influence of Artificial Intelligence in Education and Workplaces  
Amitava Karmaker  
University of Wisconsin-Stout, Menomonie, Wisconsin, USA
  
- 0. Realization of an Automated Validation of Learning Activities  
Prerequisites in Courses in the Learning Management System Moodle  
Considering the Qualifications-Based Learning Model Approach  
Ramona Srbecky, Alexander Zock, Simon-Alexander Wetzel,  
Michael Winterhagen, Wieland Fraas, Jan Dettmers, Matthias Hemmje  
Multimedia and Internet-Applications, University of Hagen, Germany;  
Work and Organizational Psychology, University of Hagen, Germany
  
- 0. Evaluation of Processing Time in Trial-and-Error Function of Security  
Exercise System for Security Beginners  
Ichitoshi Takehara, Mirei Ishizuka, Hitoshi Kamei, Koji Kida, Keizo Saisho  
Graduate School of Engineering, Kagawa University, Kagawa, Japan;  
Graduate School of Science for Creative Emergence, Kagawa University,  
Kagawa, Japan; Faculty of Engineering and Design, Kagawa University,  
Kagawa, Japan
  
- 0. Blockchain Technology in Education: A Comprehensive Review in Transparency  
Younghun Chae  
Department of Computer Science, Kent State University at Stark,  
North Canton, Ohio, USA

**The 21st International Conference on Embedded Systems,  
Cyber-physical Systems, & Applications  
(ESCS'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-ESCS>**

- 0. An Efficient Sparse Neural Network Accelerator for Low-cost Edge Systems  
Kyubaik Choi, Gerald E. Sobelman  
Department of Electrical and Computer Engineering,  
University of Minnesota, Minneapolis, Minnesota, USA
- 0. Smart Passive Ambient Control for Indoor Vertical Farming by Simulation  
Rafiqul Islam, Bahram Asiabanpour  
School of Engineering, Texas State University, San Marcos, Texas, USA
- 0. Autonomous Object Detection and Landing with Parrot Rolling Spider in Matlab Simulink  
Leonard Traeger, Omar Faruque  
Information Systems, University of Maryland, Baltimore County, Maryland, USA
- 0. Low-Cost High-Precision Contactless Robotic Gripper  
Thomas Adams, Samuel Bettencourt, Keily Valdez Sereno, Vida Vakilian  
Department of Computer Science, California State University  
Channel Islands, Camarillo, California, USA
- 0. Improving Automated Plant Seeding Through Design and Development of Automated Seeder and Route Optimization  
Lance Simon, Bahram Asiabanpour, Mark Summers  
Ingram School of Engineering, Texas State University,  
San Marcos, Texas, USA
- 0. EFI: Cache Replacement Policy using Eviction Frequency Integration  
Joe Tran, Byeong Kil Lee  
Department of Electrical and Computer Engineering,  
The University of Colorado, Colorado Springs (UCCS), Colorado, USA
- 0. Component-Based System Model Design of Multiple-Fault Injection Framework for DCV and Heating Systems  
Ali Behravan, Bahareh Kiamanesh, Siddharth Bhandari, Roman Obermaisser  
University of Siegen, Siegen, Germany

**The 19th International Conference on Frontiers in Education:  
Computer Science & Computer Engineering  
(FECS'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-FECS>**

- 0. The Considerations of Teaching Computer Science Course - Advanced C++  
Haiyi Zhang  
Jodrey School of Computer Science, Acadia University,  
Wolfville, NS, Canada
- 0. Investigating Persuasive Behaviors Across Different Opinion  
Polarities: A Study Of Video Messages  
Zvetomira Svetleff  
University of Nevada, Las Vegas, Nevada, USA
- 0. A Perspective on the Future of Higher Education  
Mehdi Zargham  
Department of Computer Science, University of Dayton, Dayton,  
Ohio, USA
- 0. Value-added Evaluation Strategies in C Language Teaching  
Yingxin Xu, Kai Zhang, Peiyu Liu, Ran Lu  
School of Information Science and Engineering,  
Shandong Normal University, Jinan, P. R. China
- 0. Curriculum for a New Four-Year Bachelor's Degree in Intelligent Systems  
Engineering  
Ashu M. G. Solo  
Maverick Trailblazers Inc., Wilmington, Delaware, USA
- 0. Using an Educational Robot for Teaching Environmental Issues in  
Early Childhood  
Rafaela Georgiadou, Jim Prentzas  
Department of Education Sciences in Early Childhood,  
Democritus University of Thrace, Alexandroupolis, Greece
- 0. Constructively Aligned Teaching of FPGA-SoC for Satellite Applications  
Markus Plattner  
Chair of Integrated Systems, School of Computation, Information  
and Technology, Technical University of Munich, Germany
- 0. Equity in the Preparation of Students for Software Engineering Coding  
Interviews: ChatGPT as a Mock Interviewer  
Marlon Mejias, Zef Vargas, William (Ted) Edwards, Gloria Washington,  
Legand Burge, Dale-Marie Wilson, Luce-Melissa Kouaho  
University of North Carolina, Charlotte, North Carolina, USA;  
Howard University, Washington, DC, USA
- 0. Design and Implementation of Cheating Prevention Features for  
Online Code Judge System  
Soojung Kim, Junhong Park, Sujong Kim, Soobin Jeon, Dongmahn Seo  
School of Computer Software, Daegu Catholic University, South Korea;  
Department of Computer Software, Daegu Catholic University,  
South Korea

**The 19th International Conference on Grid, Cloud, &  
Cluster Computing  
(GCC'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-GCC>**

- 0. Reinforcement Learning Approach to Server Selection and Load Balancing for Collaborative Virtual Services  
Sakir Yucel  
Wexford, PA, USA

**The 9th International Conference on Health Informatics &  
Medical Systems  
(HIMS'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-HIMS>**

- 0. A Preliminary Study about the Impact of Covid-19 on Mental Health and Depression of Swiss Population in 2020 using Data Mining  
Edona Mehmeti, Farshideh Einsele  
School of Business, Bern University of Applied Sciences, Bern, Switzerland
- 0. Empowering Healthcare Professionals and Patients with Chat GPT: Applications and Challenges  
Fateme Mosaiyebzadeh, Seyedamin Pouriye, Reza M. Parizi, Meng Han, Nasrin Dehbozorgi, Mohsen Dorodchi, Daniel Macedo Batista  
Department of Computer Science, University of Sao Paulo, Brazil;  
Department of Information and Technology, Kennesaw State University, Marietta, Georgia, USA; Decentralized Science Lab, Kennesaw State University, Marietta, Georgia, USA; Zhejiang University, Hangzhou, Zhejiang, China; Department of Software and Game Development, Kennesaw State University, Marietta, Georgia, USA; Department of Computer Science, University of North Carolina Charlotte, North Carolina, USA
- 0. Efficacy of Individual Cognitive Stimulation Therapy on People with Dementia: A Prisma Guided Review  
Alfia Parvez, Minza Nadeem Khan, Arshia Khan  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
- 0. Effects of Individual Cognitive Stimulation Therapy and Group Cognitive Stimulation Therapy on People with Dementia: A PRISMA-guided Systematic Review  
Sakina Rao, Isra Hassan, Arshia Khan  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
- 0. Maintenance Cognition Stimulus Therapy: A Survey Paper  
Hritik Rao, Maryam Kameli, Anne Hinderliter, Sherri Turner, Arshia Khan  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA; Department of Chemistry and Biochemistry, University of Minnesota - Duluth, Duluth, Minnesota, USA; Department of Educational Psychology, University of Minnesota - Duluth,

Minnesota, USA

0. Where Robots Can Fit In: A Systematic Review of the Incidence of Comorbid Dementia and the Prescribed Treatments  
Matthew Sawchuck, Arshia Khan  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
0. Robotics in Caregiving: A Concise Review of Literature  
Reilly Moberg, Arshia Khan  
Department of Computer Science, University of Minnesota - Duluth, Duluth, Minnesota, USA
0. Optimized Reading for ADHD and Dyslexia Users in VR  
Kyler Hoang, Leonidas Deligiannidis  
School of Computing and Data Science, Wentworth Institute of Technology, Boston, Massachusetts, USA; School of Engineering, Wentworth Institute of Technology, Boston, Massachusetts, USA
0. A Comparison of Public Sentiment on COVID-19 Vaccines on Twitter and Reddit: An Analysis Using VADER  
Joseph Wireman, Farnoosh Koleini, Nasseh Tabrizi  
Department of Computer Science, East Carolina University, Greenville, North Carolina, USA
0. Benefits of Gossip: A Prisma Guided Review  
Minza Nadeem Khan, Arshia Khan  
Computer Science Department, University of Minnesota - Duluth, Duluth, Minnesota, USA
0. Modeling Obesity Prevention Programs to Reduce Overweight Rates at Schools: A Perspective  
Lateefat Amao, Misagh Faezipour  
College of Basic and Applied Sciences, Healthcare Informatics, Middle Tennessee State University, Murfreesboro, Tennessee, USA; Department of Engineering Technology, Middle Tennessee State University, Murfreesboro, Tennessee, USA
0. Pediatric Epileptic Seizure Detection via EEG Signals and Convolutional Neural Networks  
Omneya Attallah, Maha Sharkas, Mona Khalil Mohamed, Tarek Omar  
Department of Electronics and Communications Engineering, Arab Academy for Science, Technology & Maritime Transport, Alexandria, Egypt; Pediatric Neurology Unit, Department of Pediatrics, Faculty of Medicine, Egypt
0. Smart Decision Making Using Data Science Technology with COVID-19 Data  
Shelley Zhang, Ankush Rathi, Shivraj Jagdish Patil  
Computer and Information Science, University of Massachusetts Dartmouth, North Dartmouth, Massachusetts, USA
0. Automating the Development of Stress Detection Systems  
Felix Beierle, Rudiger Pryss  
National Institute of Informatics, Tokyo, Japan; Institute of Clinical Epidemiology and Biometry, University of Wurzburg, Wurzburg, Germany



- 0. Abnormality Detection in Lung Sounds Using Feature Augmentation  
Shiva Shokouhmand, Md Motiur Rahman, Miad Faezipour, Smriti Bhatt  
School of Engineering Technology, Electrical and Computer  
Engineering Technology, Purdue University, West Lafayette, Indiana, USA;  
Department of Computer and Information Technology, Purdue University,  
West Lafayette, Indiana, USA
  
- 0. Exploring Risk Factors in PDAC Using System Dynamics  
Ashiat Ashake Adeogun, Misagh Faezipour  
College of Basic and Applied Sciences, Healthcare Informatics,  
Middle Tennessee State University, Murfreesboro, Tennessee, USA;  
Department of Engineering Technology, Middle Tennessee State  
University, Murfreesboro, Tennessee, USA

**The 25th International Conference on Artificial Intelligence  
(ICAI'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-ICAI>**

- 0. Obstacles Avoidance Using Reinforcement Learning for Safe Autonomous Navigation  
Mokhles M. Abdulghani, Abdulghani M. Abdulghani, Wilbur L. Walters,  
and Khalid H. Abed  
Jackson State University, Jackson, Mississippi, USA
- 0. Short Term Prediction of Rainfall in Columbia using a Generative Modeling Approach  
Eron Neill, Joshua Edwards, Timothy Reitz, Ethan Cook, Gulustan Dogan,  
and Narcisa Pricope  
University of North Carolina, Wilmington, North Carolina, USA
- 0. Uncentralized Artificial Intelligence Computing Agent with the Distributed Training and Computing Tasks Based on Open Source Cloud Proxy  
Ming-Shen Jian, Jian-Ting Guo, Xin-May Wu  
Department of Computer Science and Information Engineering,  
National Formosa University, Yunlin, Taiwan
- 0. Harnessing the Speed and Accuracy of Machine Learning to Advance Cybersecurity  
Rebet Jones, Marwan Omar, Derek Mohammed, Calvin Nobles, Maurice Dawson  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA;  
Saint Leo University, Saint Leo, Florida, USA
- 0. Detecting IoT Malware with Knowledge Distillation Technique  
Rebet Jones, Marwan Omar  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA
- 0. AI Resistant (AIR) Cryptography  
Gideon Samid  
Electrical, Computer and System Engineering, Computer and Data  
Sciences, Case Western Reserve University, Cleveland, Ohio, USA
- 0. A Comparative Study of DE, GA and ES for Evolutionary Reinforcement Learning of Neural Networks in Pendulum Task  
Hidehiko Okada  
Faculty of Information Science and Engineering,  
Kyoto Sangyo University, Kyoto, Japan
- 0. Siamese-NAS: Using Trained Samples Efficiently to Find Lightweight Neural Architecture by Prior Knowledge  
Yu-Ming Zhang, Jun-Wei Hsieh, Chun-Chieh Lee, Kuo-Chin Fan  
Department of Computer Science, National Central University,  
Taoyuan, Taiwan;  
College of AI and Green Energy, National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- 0. Analysis of Factors Influencing the Severity of Coronavirus Symptoms Using Predictive Modeling  
Anatoli Nachev  
Business Information Systems, Cairnes Business School,  
University of Galway, Ireland

- 0. Comparative Analysis of Deep Learning Approaches for Analysis and Prediction of Multivariate Time Series Data  
Nikhila Vintha, Kaur Devinder  
Electrical & Computer Science Engineering, University of Toledo,  
Toledo, Ohio, USA
- 0. Multi-Agent Reinforcement Learning System Using Value-Decomposition Network Algorithm in Starcraft Environment  
Abdulghani M. Abdulghani, Mokhles M. Abdulghani, Wilbur L. Walters, Khalid H. Abed  
Department of Electrical & Computer Engineering and Computer Science,  
Jackson State University (JSU), Jackson, Mississippi, USA
- 0. Construction of Concept-Base including Internet-Derived Words  
Misako Imono, Seiji Tsuchiya, Hirokazu Watabe  
Department of Information Systems, Daido University, Nagoya, Japan;  
Department of Intelligent Information Engineering, and Science,  
Doshisha University, Kyoto, Japan
- 0. Research Trend Analysis of Language Model Using Topic Modeling  
Woojin Kim, Yumi Kim, Heesop Kim, Jongwook Lee  
Department of Library and Information Science,  
Kyungpook National University, Daegu, South Korea
- 0. Impacts of Catastrophic Forgetting: From a Machine Learning Engineering Perspective  
Timothy Elvira, Juan Ortiz Couder, Tyler Thomas Procko, Omar Ochoa  
Department of Electrical Engineering and Computer Science,  
Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida, USA
- 0. Generating Realistic Multi-class Biosignals with BioSGAN:  
A Transformer-based Label-guided Generative Adversarial Network  
Xiaomin Li, Anne Hee Hiong Ngu, Vangelis Metsis  
Computing and Sensing (IMICS) Lab., Department of Computer Science,  
Texas State University, San Marcos, Texas, USA
- 0. A Comparative Study of Fishing Activity Detection Approaches in Maritime Surveillance  
Vinicius D. do Nascimento, Tiago A. O. Alves, Diego L. C. Dutra,  
and Sandip Kundu  
Systems Engineering and Computer Science Program (PESC), Federal  
University of Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil;  
Mathematics and Statistics Institute, State University of Rio de  
Janeiro (UERJ), Rio de Janeiro, Brazil;  
Electrical and Computer Engineering (ECE) Department, University of  
Massachusetts, Amherst, Massachusetts, USA
- 0. Designing an Electroencephalograph to Predict Suicidal Behavior  
Diana Karen Rangel Aguilar, Julio Cesar Martinez Romo,  
Francisco Javier Luna Rosas, Marisol Luna Medina  
Instituto Tecnológico Nacional campus Aguascalientes, Mexico;  
Universidad Autónoma de Aguascalientes, Mexico
- 0. Improving Energy Efficiency in Healthcare Machine Learning Models  
Ishanvi Kommula  
Monta Vista High, Cupertino, California, USA
- 0. A Reinforcement Learning Approach to Training Chess Engine Neural Networks  
Lily Young, Byeong Kil Lee  
Department of Electrical and Computer Engineering,  
The University of Colorado, Colorado Springs (UCCS), Colorado, USA

- 0. Fine-Tuned Large Language Models for Improved Clickbait Title Detection  
Chandra N. Sekharan, Pavan Sai Vuppala  
Department of Computer Science, Texas A&M University Corpus Christi,  
Texas, USA
- 0. Multi-Agent Reinforcement Learning System Using Multi-Agent Proximal  
Policy Optimizer Algorithm in SMAC Environment  
Abdulghani M. Abdulghani, Mokhles M. Abdulghani, Wilbur L. Walters,  
Khalid H. Abed  
Department of Electrical & Computer Engineering and Computer Science,  
Jackson State University (JSU), Jackson, Mississippi, USA
- 0. Accurately Forecasting the Energy Cost in Home-Based Small Businesses  
by Applying Deep Neural Networks  
Edwin Arrey Agbor, Yanzhen Qu  
Colorado Technical University, Colorado Springs, Colorado, USA
- 0. Regression Models for Solar Radiation Prediction  
AyateIrahman Elsayed, Mona Y. Elshinawy, Nada Ibrahim, Randall Woodall,  
Abdel-Hameed A. Badawy, Satish Ranade  
Klipsch School of Electrical & Computer Engineering,  
New Mexico State University, Las Cruces, New Mexico, USA
- 0. Comparison of Standard Machine Learning Classification Methods Using  
a Mammogram Dataset  
Ali Al-Faris, Gaurav Dhital  
Computer Science Department, Worcester State University,  
Worcester, Massachusetts, USA
- 0. Data Augmentation Using Brightness and Darkness to Enhance the  
Performance of YOLO7 Object Detection Algorithm  
Abdulghani M. Abdulghani, Mokhles M. Abdulghani, Wilbur L. Walters,  
Khalid H. Abed  
Jackson State University, Jackson, Mississippi, USA
- 0. Extraction of Breast Cancer Information from Clinical Records for Cancer  
Registry using Natural Language Processing  
Adhari Abdullah Alzaabi, Abdurahman AAlAbdulsalam  
College of Health Science and Medicine, Sultan Qaboos University, Oman;  
Department of Computer Science, Sultan Qaboos University, Oman
- 0. Assessing Industry 4.0 Readiness: The Influence of Drivers and  
Information Technologies  
O. Leon, J. Puente, I. Fernandez, J. Parreno  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n,  
Gijon (Asturias), Spain
- 0. Reinforcement Learning based Production Planning in the Aquaculture  
Industry  
M. Luna, O. Perez-Mon, R. Rosillo, A. Gomez  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n,  
Gijon (Asturias), Spain
- 0. Gender Analysis of European Job Offers through NLP Techniques  
Cristina Puente, Ivan Sanchez-Perez, Elisa Gutierrez, Jose A. Olivas  
Advanced Technical Faculty of Engineering - ICAI, Pontificia Comillas  
University, Madrid, Spain

- 0. Data Augmentation with Noise and Blur to Enhance the Performance of YOLO7 Object Detection Algorithm  
Abdulghani M. Abdulghani, Mokhles M. Abdulghani, Wilbur L. Walters, Khalid H. Abed  
Jackson State University, Jackson, Mississippi, USA
  
- 0. A Control Engineering Approach to the Ripple Effect Analysis in Closed-loop Supply Chains  
M. de Arquer, B. Ponte, R. Pino, D. de la Fuente  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain
  
- 0. Investigating the Potential of Blockchain Technology for Improving Traceability in Agriculture  
S. Fernandez-Vazquez, N. Alvarez, O. Leon, J. Costas  
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n, Gijon (Asturias), Spain

The 19th International Conference on Data Science  
(ICDATA'23: July 24-27, 2023; Las Vegas, USA)  
<https://icdata.org> & <https://www.american-cse.org/csce2023/>

- 0. Unstructured Data Analytics to Improve Digital Eligibility of E-commerce Listings  
Nikhitha Siddi, Sharan Sanjay Shirodkar, Matthew Lanham, Suneet Abraham, Akshay Deshmukh, Anish Jasti  
Purdue University, USA
- 0. Exploring the Trade-Off between Privacy and Predictive Power in Synthetic Data Generation  
Naveen Shaji, Matthew Lanham, Pratik Kamat, Anusha Reddy, Prashanth Suresh, Amisha Turkel  
Purdue University, USA
- 0. Text Mining Legal Documents for Clause Extraction  
David Baglee, Ken McGarry, Tony Vidler  
University of Sunderland, United Kingdom, UK
- 0. Improving Fleet Utilization - A Comprehensive Analysis With Solutions For Shipment Brokerage Market Entry  
Abhiram Chilukuri, Matthew Lanham, Aditya Uppuluri, Austin Bohlin, Hammad Nabi Khan, Nai-Wei Lu  
Purdue University, USA
- 0. On the Definition of Appropriate Trust and the Tools that Come with it  
Helena Lofstrom  
Jonkoping University, Sweden
- 0. Optimization of Loading Operations and Palletized Goods  
Xindi Liu, Udyog Pati, Matthew Lanham, Nelson Capote, Tommy Starnes  
Purdue University, USA
- 0. Predicting Atmospheric Air Pollution: A Convolutional-Transformer Approach for Spatial and Temporal Analysis of PM2.5  
Pratyush Muthukumar, Shaurya Pathak, Kabir Nagrecha, Dawn Comer, Navid Amini, Jeanne Holm, Mohammad Pourhomayoun, Janmesh Kalra, Hiram Hosseini  
California State University, Los Angeles, California, USA
- 0. Social Recommendation through Heterogeneous Graph Modeling of the Long-term and Short-term Preference Defined by Dynamic Time Spans  
Behafarid Mohammad Jafari, Xiao Luo, Ali Jafari  
Purdue University, USA
- 0. K-means Clustering for Large Data: Anomaly Detection in Supervisory Control and Data Acquisition System  
Corwin Stanford, April Tanner  
Jackson State University, Jackson, Mississippi, USA
- 0. Language Agnostic Readability Assessments  
Vedanti Parag Gulalkari, Matthew Lanham, Mrinmoy Dalal, Sankarsan Gautam, Amal Tom, Shreyas Joshi, Venkatesh Seetha  
Purdue University, USA
- 0. Made-to-Order: Targeted Marketing in Fast-Food Using Collaborative

Filtering

Oluwayemisi Ajayi, Yuqiu Chen, Jason Crawford, Kamalika Das,  
Venkata Rahul Karumuri, Matthew Lanham  
Purdue University, USA

- 0. Automation and Model Evaluation for Risk Mitigation in Banking  
Mahima Ashok Kriplani, Yang Wang, Thannir Malai Annamalai Kumar,  
Dae Sung Kim, Anushila Satpathi  
Purdue University, USA
  
- 0. Using Statistical and Forecasting Methods to Predict Arrival of  
Container Shipments  
Gauri Vaidya, Chethan Manjunath, Keerthana Nemili, Soham Patil,  
Sreeja Sessa, Matthew Lanham  
Purdue University, USA

**The 2nd International Conference on Emergent Quantum Technologies**  
(ICEQT'23: July 24-27, 2023; Las Vegas, USA)  
<https://baylor.ai/iceqt/> & <https://www.american-cse.org/csce2023/>

- 0. Vision Towards Quantum Humanities: An Architecture of a Holistic QML  
Environment  
Johanna Barzen  
University of Stuttgart, Institute of Architecture of Application Systems,  
Stuttgart, Germany

**The 24th International Conference on Internet Computing & IoT  
(ICOMP'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-ICOMP>**

- 0. Optimized Decision Trees to Detect IoT Malware  
Angel Jones, Marwan Omar  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA
- 0. IoT Malware Detection with GPT Models  
Marwan Omar, Derek Mohammed, Rebet Jones, Calvin Nobles, Maurice Dawson  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA;  
Saint Leo University, Saint Leo, Florida, USA
- 0. A Comparative Performance Analysis of Vulnerability Detection Schemes  
for Specific Blockchain Applications  
Jae Geun Song, Cheol Hun Park, Dong Hwan Jo, Ju Wook Jang  
Department of Electronic Engineering, Sogang University,  
Seoul, South Korea
- 0. A Latency-aware Container Scheduling in Edge Cloud Computing Environment  
Hajime Miyazawa  
Department of Electronics and Communication Technology,  
Nanzan University, Nagoya, Japan
- 0. Harnessing the Power of GPT Model to Generate Adversarial Examples  
Rebet Jones, Marwan Omar, Derek Mohammed  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA;  
Saint Leo University, Saint Leo, Florida, USA
- 0. Information Exchange Among Routers Using Newly Defined IP Options for  
Traffic Control  
Hirotoshi Hoshida, Kenji Ichijo, Akiko Narita  
Graduate school of Science and Technology, Hirosaki University,  
Hirosaki, Japan

**The 22nd International Conference on Wireless Networks  
(ICWN'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-ICWN>**

- 0. Advanced Detection and Prevention of DDoS Attacks in SDN  
Gumede Bhekumuzi, Tonderai Muchenje  
Tshwane University of Technology, Soshanguve, South Africa



The 22nd International Conference on Information &  
Knowledge Engineering  
(IKE'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-IKE>

- 0. Application of Machine Learning Classifiers Interfacing Google Colab and SKlearn to Intrusion Detection CSE-CIC IDS2017 Dataset  
Morgan L. Smith, Tor A. Kwembe  
Department of Mathematics and Statistical Sciences,  
Jackson State University, Mississippi, USA
- 0. Studying the Effects of Social Media Content on Kids Safety and Well-being  
Bianca Jones, Marwan Omar  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA
- 0. The Usage of Biometric Based Authentication Scheme for Identity Theft Management  
Malulyck Nthabiseng, Tonderai Muchenje  
Department of Information Technology, Tshwane University of Technology,  
Soshanguve, South Africa
- 0. Content Analysis of Items in Newspaper Data Using Table Arrangement Technology and ChatGPT for Stock Price Prediction  
Masaki Murata  
Graduate School of Engineering, Tottori University, Tottori, Japan
- 0. A Study on Situation Awareness Estimation for Network Security  
Jong-Shin Chen, Cheng-Ying Yang, Jenq-Foung JF Yao, Min-Shiang Hwang  
Department of Information and Communication Engineering, Chaoyang University of Technology, Taichung, Taiwan;  
Department of Computer Science, University of Taipei, Taipei, Taiwan;  
Department of Computer Science, Georgia College and State University, Milledgeville, Georgia, USA;  
Department of Computer Science and IE, Asia University, Taichung, Taiwan
- 0. Measuring the Impact of Global Health Emergencies on Self-disclosure Using Language Models  
Bianca Jones, Marwan Omar  
Illinois Institute of Technology, Chicago, Illinois, USA;  
Capital Technology University, Maryland, USA
- 0. Influence Maximization in Dynamic Social Networks Under Partially Observable Environments  
Gkolfo I. Smani, Vasileios Megalooikonomou  
Department of Computer Engineering and Informatics,  
University of Patras, Patras, Greece

**The 27th International Conference on Image Processing,  
Computer Vision, & Pattern Recognition  
(IPCV'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-IPCV>**

- 0. Skin Cancer Prediction Using CNN-based Decision Fusion with Dermoscopic Images  
Saeka Rahman, Sudip Vhaduri, Asheka Rahman, Miad Faezipour  
School of Engineering Technology, Electrical and Computer Engineering  
Technology, Purdue University, West Lafayette, Indiana, USA;  
Department of Computer and Information Technology, Purdue University,  
West Lafayette, Indiana, USA;  
Department of Computer Electronics and Graphic Technology,  
Central Connecticut State University, New Britain, Connecticut, USA
- 0. Machine Learning with Adaptive Image Colorization for Improving Facial Recognition  
Michelle Hu, Yen-Hung Hu  
Woodside High School and Governor's School for Science and Technology,  
Newport News, Virginia, USA;  
Department of Computer Science, Norfolk State University,  
Norfolk, Virginia, USA
- 0. Strawberry Pests and Disease Recognition with Self-supervised Learning  
Aung Si Min Htet, Hyo Jong Lee  
Division of Computer Science and Engineering,  
Jeonbuk National University, Jeonju, Republic of Korea
- 0. Fall Detection in SoccerNet Data  
Jonathan Sturdivant, Ethan Lee, Brian Alvarez, Savitha Rachuri,  
and Gulustan Dogan  
Department of Computer Science, University of North Carolina Wilmington,  
North Carolina, USA
- 0. Automatic Pill Identification System based on Deep Learning and Image Preprocessing  
Eric Ponte, Xavier Amparo, Kuan Huang, Daehan Kwak  
Department of Computer Science and Technology, Kean University,  
Union, New Jersey, USA
- 0. Underwater Image Enhancement Using Fusion-based Deep Neural Networks  
Chien-Lin Tsao, Jin-Jang Leou  
Department of Computer Science and Information Engineering,  
National Chung Cheng University, Taiwan
- 0. Unsupervised Video Anomaly Detection Using Memory-augmented Deep Neural Networks  
Yi-Ying Wang, Jin-Jang Leou  
Department of Computer Science and Information Engineering,  
National Chung Cheng University, Taiwan

**The 20th International Conference on Modeling, Simulation &  
Visualization Methods  
(MSV'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-MSV>**

- 0. Interaction Petri Nets for Modeling Multiagent Interactions  
Nora Aldahash, Steve King, Abir Binabid  
University of York, United Kingdom;  
King Saud University, Saudi Arabia
  
- 0. Evaluation of Using Virtual Reality for Applied Behavioral Intervention  
Hana Alarifi, Hesham Aldhalaan, Laura Barcelos Nomicos, Linda Hayes  
Center For Autism Research, King Faisal Specialists Hospital &  
Research Center, Riyadh, Saudi Arabia;  
University of Nevada, Reno, Nevada, USA
  
- 0. Vitrification and Crystallization of Ti and Ti<sub>2</sub>Ni Alloy Studied by  
Computer Simulation  
Dmitri V. Louzguine-Luzgin  
WPI Advanced Institute for Materials Research, Tohoku University,  
Sendai, Japan;  
Mathematics for Advanced Materials-OIL, National Institute of Advanced  
Industrial Science and Technology (AIST), Sendai, Japan

**The 29th International Conference on Parallel & Distributed  
Processing Techniques & Applications  
(PDPTA'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-PDPTA>**

- 0. GLG: Visual Language for the Development of Parallel Programs in CUDA  
Rodrigo Rivera-Ceron, Jose Luis Quiroz-Fabian, Miguel Alfonso Castro-Garcia,  
Graciela Roman-Alonso, Manuel Aguilar-Cornejo  
Department of Electrical Engineering, Universidad Autonoma Metropolitana,  
Mexico City, Mexico
- 0. Application Aware Green Datacenter Networks  
Ishanvi Kommula  
Monta Vista High, Cupertino, California, USA

**The 22nd International Conference on Security & Management  
(SAM'23: July 24-27, 2023; Las Vegas, USA)  
<http://sam.udmercy.edu/sam23> & <https://www.american-cse.org/csce2023/>**

- 0. Harnessing the Efficiency of Reformers to Detect Software Vulnerabilities  
Angel Jones, Marwan Omar  
College of Computing, Capital Technology University, Maryland, USA;  
College of Computing, Illinois Institute of Technology,  
Chicago, Illinois, USA
- 0. Machine Learning in Connected Vehicles Environment  
Jean Bezerra, Rawa Adla  
Department of Computer Engineering,  
Florida Polytechnic University Lakeland, Florida, USA
- 0. ExFake: Towards an Explainable Fake News Detection Based on Content and  
Social Context Information  
Sabrine Amri, Henri-Cedric Mputu Boleilanga, Esma Aimeur  
DIRO, University of Montreal, Montreal, Canada
- 0. Online Fake Logo Detection System  
Vivek Tanniru, Tathagata Bhattacharya, Sai Teja Veeramalla  
Department of Computer Science and Information Management Systems,  
Auburn university at Montgomery, Alabama, USA
- 0. Cybersecurity in Industrial Networks: Overview of Artificial Intelligence  
Techniques Applied to Intrusion Detection Systems  
Ralf Luis De Moura, Virginia N. L. Franqueira, Gustavo Pessin  
Operational Tecnology Architecture, Vale S.A, Brazil;  
School of Computing and Institute of Cyber Security for Society (iCSS),  
University of Kent, United Kingdom;  
Instituto Tec Vale, Brazil

- 0. Assessing the Positive Impact of the Process for Ensuring Diffusion and Adhesion of Cybersecurity Innovations to Reduce Software Vulnerability Severity  
Yanzhen Qu, Gregory Vsevolozhsky, Chuan Yue  
Colorado Technical University, Colorado Springs, Colorado, USA;  
Colorado School of Mines, Golden, Colorado, USA
- 0. Preventing Twitter from Being Used for Defamation, Doxing, Impersonation, Threats of Violence, and Intimate Images  
Ashu M. G. Solo  
Maverick Trailblazers Inc., Wilmington, Delaware, USA
- 0. PhishGuard: Machine Learning - Powered Phishing URL Detection  
Saydul Akbar Murad, Nick Rahimi, Abu Jafar Md Muzahid  
School of Computing Sciences & Computer Engineering,  
University of Southern Mississippi, Hattiesburg, Mississippi, USA;  
Faculty of Computing, University Malaysia Pahang, Pahang, Malaysia
- 0. FPGA Formal Verification: A Local Logic Correctness Approach  
Jules Chenou, Laurent Njilla, Aurelia William, Tonya Fields  
Cybersecurity Complex, Norfolk State University, Norfolk,  
Virginia, USA;  
Information Assurance Branch (RIGA), Air Force Research Laboratory,  
Rome, New York, USA
- 0. A Study of Phishing Websites and Scan Evasion Techniques  
Christian Liguori, Jean Chu, Daehan Kwak  
Department of Computer Science and Technology,  
Kean University, Union, New Jersey, USA
- 0. Addressing IoT Security and Privacy Challenges  
K. I. Wijesinghe, U. U. Samantha Rajapaksha  
Department of Graduate Studies and Research, Sri Lanka Institute of  
Information and Technology, Sri Lanka
- 0. STAR Antivirus Software  
Tathagata Bhattacharya, Ramyasree Thungapati, Supriya Gurrapu,  
Anusha Madichetty, Sai Teja Veeramalla  
Computer Information System Cybersecurity,  
Auburn University at Montgomery, Alabama, USA
- 0. Empirical Analysis of Cryptocurrency Mixer: Tornado Cash  
Minwoo Youn, Kota Chin, Kazumasa Omote  
University of Tsukuba, Tsukuba, Japan;  
National Institute of Information and Communications Technology,  
Tokyo, Japan
- 0. Towards Building a Versatile Tool for Social Media Spam Detection  
Jalal Abdel Halim, Weiqing Sun  
College of Engineering, University of Toledo, Ohio, USA
- 0. An Empirical Evaluation of Encryption and Decryption Times on Block Cipher Techniques  
Funminiyi Olajide, Kwame Assa-Agyei, Onome Christopher Edo  
Department of Computer Science, Nottingham Trent University,  
Nottingham, United Kingdom (UK);  
Department of Information Systems, Auburn University,  
Montgomery, Alabama, USA

- 0. Intelligent Monitoring and Management of Smart Buildings Using Machine Learning: Optimizing User Behavior and Energy Efficiency  
Mais Nijim, Viswas Kanumuri, Hisham Albetaineh, Ayosh Goyal  
Department of Electrical Engineering and Computer Science,  
Texas A&M University-Kingsville, Kingsville, Texas, USA
  
- 0. Assessing the Efficacy of Machine Learning and Deep Learning in the field of Cybersecurity  
Rajesh Eswarawaka, Mais Nijim, Viswas Kanumuri, Hisham Albetaineh  
Department of Artificial Intelligence and Machine Learning,  
AMC Engineering College, Bangalore, Karnataka, India;  
Department of Electrical Engineering and Computer Science,  
Texas A&M University-Kingsville, Kingsville, Texas, USA
  
- 0. DDoS Attack Detection on a 5G NSA Based Hybrid Energy Communications Network: A Case Study  
M. Hackett, P. Thulasiraman, J. Ries, A. Edmond, J. Seville, P. Ashok  
California State University Monterey Bay, California, USA;  
California State University Long Beach, California, USA;  
US Ignite, Washington D.C., USA;  
Naval Postgraduate School, Monterey, California, USA
  
- 0. A Multi-model Rouge Nodes Detection System for Fog Computing  
Thanh Duc Bui, Brajendra Panda  
Department of Computer Science and Computer Engineering,  
University of Arkansas, Fayetteville, Arkansas, USA

**The 21st International Conference on Software Engineering  
Research & Practice  
(SERP'23: July 24-27, 2023; Las Vegas, USA)  
<https://american-cse.org/csce2023/conferences-SERP>**

- 0. Optimal Solution Through Fast Convergence for Transportation of Shipping Wood in Los Angeles  
Chandrasekhar Putcha, Rakeshkumar Mahto, Sapankumar Patel, Ramesh Battu, and Andy Iniguez  
Department of Civil and Environmental Engineering, California State University, Fullerton, California, USA;  
Department of Electrical and Computer Engineering, California State University, Fullerton, California, USA
- 0. Creating Continuous Improvement in Agile Software Development Using Lean Six Sigma  
Eric Malvar, Ning Chen  
Department of Computer Science, California State University, Fullerton, California, USA
- 0. On the Interoperability of Programming Languages via Translation  
Dante Broggi, Yi Liu  
Department of Computer & Information Science,  
University of Massachusetts Dartmouth, Massachusetts, USA
- 0. Systematic Behavioral Design Algorithms  
Devon M. Simmonds  
University of North Carolina Wilmington, Wilmington, North Carolina, USA
- 0. Data-Driven Requirements Verification in a Tool to Support the Cybersecurity Risk Management Process in Maritime Transportation Ecosystem  
Mark McKenzie, Yanzhen Qu  
Colorado Technical University, Colorado Springs, Colorado, USA
- 0. Integrating Sample Iterative Communication Model into Project Management Life Cycle Phases  
Stephanie Onyemowo Omakwu, Lei Chen  
Department of Information Technology, Georgia Southern University, Statesboro, Georgia, USA
- 0. Events-Based Test Suite Reduction for Mobile App Test Suites Generated by Reinforcement Learning  
Abdullah Alenzi, Waleed Alhumud, Renee Bryce, Ryan Michaels, and Md Khorrom Khan  
Department of Computer Science and Engineering, University of North Texas, Denton, Texas, USA;  
Department of Computer Science, St. Edward's University, Austin, Texas, USA