

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 papers, authors names, affiliations, ... are not reflected in this program. The FINAL versions of the papers (uploaded to the publication portal) will have the correct information.

REGISTRATION: For Congress Receipt Pickup & Booklet(s), ...
(LOCATION: Lotus Ballrooms 1)
July 26 (Sunday): 05:00pm - 07:00pm
July 27 (Monday): 07:30am - 05:00pm
July 28 (Tuesday): 07:30am - 05:00pm

BREAKFASTS: July 27 (Monday): 07:30am - 08:30am
July 28 (Tuesday): 07:30am - 08:30am
(LOCATION: Lotus Ballrooms 1)

DINNER: July 27 (Monday): 07:30pm - 10:00pm
(LOCATION: Velvet Room Blue)

BREAKS: Refreshments
July 27 (Monday): 10:20am - 10:40am
July 27 (Monday): 03:00pm - 03:40pm
July 28 (Monday): 10:20am - 10:40am
July 28 (Monday): 03:00pm - 03:40pm
(LOCATION: Lotus Ballrooms 1)

PROVISIONAL PLAN FOR JULY 29 AND/OR JULY 30:
Informal panel discussions can be arranged on-site at the congress (this will be discussed with the attendees on July 27 - the logistics will be managed as a team).

- 07:30a - 05:00p: REGISTRATION**
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)
- 08:30 - 09:00am: CONGRESS WELCOME REMARKS - July 27, Monday:**
Professor Emeritus Hamid R. Arabnia (Chair, Steering Committee & Coordinator), Department of Computer Science, 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 B-C)
- 09:00 - 09:10am: WELCOME - July 27, Monday:**
Richard Bayley
Business Development Manager
Colorado Engineering, Inc., Colorado Springs, Colorado, USA
(LOCATION: Galleria B-C)
- 09:10 - 10:10am: KEYNOTE LECTURE/ADDRESS - July 27, Monday:**
THE PSYCHOLOGY OF ARTIFICIAL INTELLIGENCE: A CONVERSATION WITH SANDI
Dr. James A. Crowder
Systems Fellow at Colorado Engineering, Inc., USA
(Formerly at Raytheon Technologies. Recipient of technical achievement awards from Lockheed Martin, General Dynamics, Northrup Grumman, & Raytheon Technologies)
(LOCATION: Galleria B-C)
- 10:10 - 10:20am: COMMENTS - CONGRESS LOGISTICS/PLAN**
(LOCATION: Galleria B-C)
- 10:20 - 10:40am: BREAK**
(LOCATION: Lotus Ballrooms 1)
- SESSION 1-MON: COMPUTATIONAL SCIENCE, DATA SCIENCE, AI/GAN AND APPLICATIONS**
Chair: Jonathan Fowler; Department of Computer Science,
Colorado Technical University, Colorado Springs, Colorado, USA
July 27, 2020 (Monday); 10:40am - 11:40am
(LOCATION: Galleria B-C)
- 10:40 - 11:00am: FCS4092**
Evaluation of Classical Data Structures in the Java Collections Framework
Anil L. Pereira
School of Science and Technology, Georgia Gwinnett College,
Lawrenceville, Georgia, USA
- 11:00 - 11:20am: ICA2533**
Fine Tuning a Generative Adversarial Network's Discriminator for Student Attrition Prediction
Eric Stenton, Pablo Rivas*, Eitel Lauria
Department of Computer Science, Marist College,
Poughkeepsie, New York, USA

- 11:20 - 11:40am: IKE3029
A Dynamic Data and Information Processing Model for Unmanned Aircraft Systems
Mikaela D. Dimaapi, Ryan D. L. Engle*, Brent T. Langhals, Michael R. Grimaila, Douglas D. Hodson
US Air Force Institute of Technology (AFIT), USA
- SESSION 2-MON: COMPUTATIONAL SCIENCE, DATA SCIENCE, AND APPLICATIONS**
Chair: Jonathan Fowler; Department of Computer Science,
Colorado Technical University, Colorado Springs, Colorado, USA
July 27, 2020 (Monday); 11:40am - 12:20pm
(LOCATION: Galleria B-C)
- 11:40a - 12:00p: HIM2143
DRDr: Automatic Masking of Exudates and Microaneurysms Caused By Diabetic Retinopathy Using Mask R-CNN and Transfer Learning
Farzan Shenavarmasouleh*, Hamid R. Arabnia
Department of Computer Science, University of Georgia, USA
- 12:00 - 12:20pm: HIM2374
Security and Usability Considerations for a mHealth Application for Emergency Medical Services
Abdullah Murad, Benjamin Schooley*, Thomas Horan
College of Computer & Information Systems, Umm A-Qura University, Mecca, Saudi Arabia; College of Engineering and Computing, University of South Carolina, Columbia, South Carolina, USA; School of Business, University of Redlands, California, USA
- 12:20 - 01:20pm: LUNCH (On Your Own)
- SESSION 3-MON: AI, COGNITIVE COMPUTING, CPS/IOT, AND APPLICATIONS**
Chair: Ehsan Asali; Department of Computer Science,
University of Georgia, USA
July 27, 2020 (Monday); 01:20pm - 03:00pm
(LOCATION: Galleria B-C)
- 01:20 - 01:40pm: ESC2277
Wireless Blind Spot Detection and Embedded Microcontroller
Bassam Shaer*, Danita L. Marcum, Curtis Becker, Gabriella Gressett, Meridith Schmieder
Electrical and Computer Engineering Department, University of West Florida, Fort Walton Beach, Florida, USA
- 01:40 - 02:00pm: ICA2391
Dynamic Heuristics for Surveillance Mission Scheduling with Unmanned Aerial Vehicles in Heterogeneous Environments
Dylan Machovec, James A. Crowder, Howard Jay Siegel, Sudeep Pasricha, Anthony A. Maciejewski
Department of Electrical & Computer Engineering, Colorado State University, Fort Collins, Colorado, USA; Department of Computer Science, Colorado State University, Fort Collins, Colorado, USA; Colorado Engineering Inc., Colorado Springs, Colorado, USA;
- 02:00 - 02:20pm: ACC2214
A Hybrid Cognitive System for Radar Monitoring and Control using the Rasmussen Cognition Model
James A. Crowder*, John N. Carbone
Colorado Engineering Inc., Colorado Springs, Colorado, USA; Department of Electrical and Computer Engineering, Southern Methodist University, Dallas, Texas, USA

- 02:20 - 02:40pm: ICA2289
Human Motion Recognition Using Zero-Shot Learning
Farid Ghareh Mohammadi*, Ahmed Imteaj, M. Hadi Amini, H. Arabnia
Department of Computer Science, University of Georgia, USA;
School of Computing & Information Sciences, Florida International
University, Miami, Florida, USA
- 02:40 - 03:00pm: ICD8035
Integrated Plant Growth and Disease Monitoring with IoT and
Deep Learning Technology
Jonathan Fowler*, Soheyla Amirian
Department of Computer Science, Colorado Technical University,
Colorado Springs, Colorado, USA; Department of Computer Science,
University of Georgia, Athens, Georgia, USA
- 03:00 - 03:20pm: **BREAK & POSTERS**
July 27, 2020 (Monday)
(LOCATION: Lotus Ballrooms 1)
- 03:20 - 06:00pm: Due to challenges with the Coronavirus pandemic, authors and
speakers were given the following options: (a) Not presenting;
(b) Providing pre-recorded presentations; and (c) Presenting
online via Zoom. Unfortunately, some authors/speakers did not
select any options: if any of these authors/speakers unexpectedly
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scheduled during this period - if no speaker shows up, then
- Congress attendees are encouraged to attend the talks in
Ballroom Galleria D-E (next door) where online (ZOOM)
presentations are in progress; OR
- Congress attendees can arrange an informal panel discussion
(INTERESTING SUBJECTS: The Impact of CS/IT to Employment;
Societal Impact of AI; AI and Ethical Issues; Online classes
and Impact on Institutions; ...)
- 07:30 - 10:00pm: **CONFERENCE RECEPTION DINNER / SOCIAL**
July 27 - Monday; 07:30pm
(LOCATION: Velvet Room Blue)

Due to challenges with the Coronavirus pandemic, authors and speakers were given the following options: (a) Not presenting; (b) Providing pre-recorded presentations; and (c) Presenting online via ZOOM. All online/ZOOM presentations are scheduled in Ballroom Galleria D-E. The online/ZOOM sessions are identified as such in this program. The ZOOM links will be provided to all registered attendees before the conference (around July 20, 2020). Due to different time-zones and time differences (globally), there are no BREAKs in the ZOOM sessions. The ZOOM sessions will have BOTH, virtual AND on-site attendees. These presentations will be projected on to a large screen for the benefit of on-site audience (with amplified audio).

Speakers can (if they wish) ZOOM RECORD their own presentations and provide a URL/web address to the congress (cs@american-cse.org) - we would then provide the URL to others AFTER the congress (during the month of August).

SESSION ZOOM-1-MON: ONLINE/ZOOM SESSION

DATA SCIENCE, AI, LEARNING STRATEGIES, AND SOFTWARE ENGINEERING & APPLICATIONS

Chairs: TBA

July 27, 2020 (Monday); 08:20am - 10:00am

(LOCATION: Galleria D-E)

- 08:20 - 08:40am: ICD8064
How is Twitter Talking about COVID-19?
Jesus Leopoldo Llano Garcia, Hector G. Ceballos,
Francisco J. Cantu
Tec de monterrey, Mexico
- 08:40 - 09:00am: PDP2604
Challenges for Swarm of Drone-Based Intelligence
Muhammed Akif Agca*, Peiman Alipour Sarvari, Sebastien Faye,
Djamel Khadraoui
Luxembourg Institute of Science and Technology - LIST,
Esch-Sur-Alzette, Luxembourg
- 09:00 - 09:20am: EEE2342
Emerging Interactions of ERP, Big Data and Automotive Industry
Florie Bandara, Uchitha Jayawickrama*
School of Business and Economics, Loughborough University,
Loughborough, United Kingdom
- 09:20 - 09:40am: EEE4059
The Effect of Matching Learning Material to Learners' Dyslexia
Type on Reading Performance
Hadeel Al-Dawsari*, Robert Hendley
Department of Computer Sciences, Princess Nourah Bint
Abdulrahman University, Riyadh, Saudi Arabia;
School of Computer Science, University of Birmingham,
Birmingham, United Kingdom
- 09:40 - 10:00am: EEE2908
Agile IT Service Management Frameworks and Standards - a Review
Manuel Mora*, Jorge Marx-Gomez, Fen Wang, Oswaldo Diaz
Information Systems, Autonomous University of Aguascalientes,
Aguascalientes, Ags., Mexico; Informatics, University of
Oldenburg, Germany; Information Technology and Administration
Management, Central Washington University, Ellensburg,
Washington, USA; Central Data Center, INEGI, Aguascalientes,
Ags., Mexico

SESSION ZOOM-2-MON: ONLINE/ZOOM SESSION**ARTIFICIAL INTELLIGENCE, CPS, AND APPLIED COGNITIVE COMPUTING****Chairs: TBA****July 27, 2020 (Monday); 10:00am - 11:00am****(LOCATION: Galleria D-E)**

- 10:00 - 10:20am: ACC2970
Defending Aviation Cyber-Physical Systems From DDOS Attack Using NARX Model
Abdulaziz A. Alsulami*, Saleh Zein-Sabatto
Department of Electrical and Computer Engineering, Tennessee State University, Nashville, Tennessee, USA
- 10:20 - 10:40am: ICA2333
The Effectiveness of Data Mining Techniques at Estimating Future Population Levels for Isolated Moose Populations
Charles E. Knadler, Jr.
Computer Science, Utah Valley University, Orem, Utah, USA
- 10:40 - 11:00am: ICA2995
Using Games for Problem Solving in Complex Environments with Cultural Algorithms
Faisal Waris*, Robert Reynolds
Wayne State University, Detroit, Michigan, USA

SESSION ZOOM-3-MON: ONLINE/ZOOM SESSION - SPECIAL SESSION**(LOCATION: Galleria D-E)**

- 11:00 - 11:40am: Want to Publish a Book?
Join our Webinar with a Springer Editor
Mary James
Senior Editor, Springer, New York, USA

SESSION ZOOM-4-MON: ONLINE/ZOOM SESSION**SCIENTIFIC COMPUTING AND COMPUTATIONAL SCIENCE****Chairs: TBA****July 27, 2020 (Monday); 11:40am - 01:00pm****(LOCATION: Galleria D-E)**

- 11:40a - 12:00p: CSC2487
Long-Short Term Memory Neural Network on the Trajectory Computing of Directly Dynamics Simulation
Fred Wu*, Colmenares-Diaz Eduardo, Poojitha Chapala, Tejaswi Jonnalagadda, Sailaja Peruka, Pooja Sonmale
Department of Mathematics and Computer Science, West Virginia State University Institute, West Virginia, USA;
Department of Computer Science, Midwestern State University, Wichita Falls, USA

- 12:00 - 12:20pm: CSC2517
Dielectric Polymer Genome: Integrating Valence-Aware Polarizable Reactive Force Fields and Machine Learning
Kuang Liu*, Antonina Nazarova, Ankit Mishra, Yingwu Chen, Haichuan Lyu, Longyao Xu, Yue Yin, Qinai Zhao, Rajiv Kalia, Aiichiro Nakano, Ken-ichi Nomura, Priya Vashishta, Pankaj Rajak
Collaboratory of Advanced Computing and Simulations, Department of Computer Science, Department of Physics & Astronomy, Department of Chemical Engineering & Materials Science, Department of Biological Sciences, University of Southern California, Los Angeles, California, USA; Loker Hydrocarbon Research Inst. and the Bridge@USC, Department of Chemistry, University of Southern California, California, USA; Mork Family Department of Chemical Engineering & Materials Science, University of Southern California, California, USA; Argonne Leadership Computing Facility, Argonne National Laboratory, Illinois, USA
- 12:20 - 12:40pm: CSC2920
Orientation and Line Thickness Determination in Binary Images
Sean Matz
Claremont Graduate University, Claremont, California, USA
- 12:40 - 01:00pm: CSC2907
Comparison of the IaaS Security Available from the Top Three Cloud Providers
L. Kate Tomchik
Kennesaw State University, Marietta, Georgia, USA

SESSION ZOOM-5-MON: ONLINE/ZOOM SESSION

FRONTIERS IN EDUCATION: TEACHING AND LEARNING STRATEGIES AND SYSTEMS
Chairs: TBA
July 27, 2020 (Monday); 01:00pm - 02:20pm
(LOCATION: Galleria D-E)

- 01:00 - 01:20pm: FEC2347
Parent Teacher Portal (PTP): A Communication Tool
Mudasser F. Wyne*, Matthew Hunter, Joshua Moran, and Babita Patil
School of Professional Studies, National University, San Diego, California, USA
- 01:20 - 01:40pm: FEC2527
Computational Thinking and Flipped Classroom Model for Upper Division Computer Science Majors
Antonio-Angel L. Medel*, Anthony C. Bianchi, Alberto C. Cruz
Department of Computer & Electrical Engineering and Computer Science, California State University, Bakersfield, California, USA
- 01:40 - 02:00pm: FEC4038
A Dynamic Teaching Learning Methodology Enabling Fresh Graduates Starting Career at Mid-Level
Abubokor Hanip*, Mohammad Shahadat Hossain
Founder and CEO, PeopleNTech Institute of Information Technology, Inc., USA; Department of Computer Science and Engineering, University of Chittagong, Bangladesh

02:00 - 02:20pm: FEC4037
Preparing Computing Graduates for the Workplace:
An Assessment of Relevance of Curricula to Industry
Ioana Chan Mow*, Elisapeta Mauai, Vaisualua Okesene, and
Ioana Sinclair
Faculty of Science, National University of Samoa, Samoa

SESSION ZOOM-6-MON: ONLINE/ZOOM SESSION

APPLIED COGNITIVE COMPUTING, AI, AND APPLICATIONS

Chairs: TBA

July 27, 2020 (Monday); 02:20pm - 04:00pm

(LOCATION: Galleria D-E)

02:20 - 02:40pm: ACC2446
An Adaptive Tribal Topology for Particle Swarm Optimization
Kenneth Brezinski*, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, Canada

02:40 - 03:00pm: ACC2596
A Hybrid Chaotic Activation Function for Artificial
Neural Networks
Siobhan Reid*, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, MB, Canada

03:00 - 03:20pm: ACC2927
A Cognitive Unsupervised Clustering for Detecting Cyber Attacks
Kaiser Nahiyani*, Samilat Kaiser, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, MB, Canada

03:20 - 03:40pm: ACC2936
Variance Fractal Dimension Feature Selection for Detection of
Cyber Security Attacks
Samilat Kaiser*, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, MB, Canada

03:40 - 04:00pm: ACC4078
Simulated Annealing Embedded Within Personal Velocity Update
of Particle Swarm Optimization
Ainslee Heim*, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, MB, Canada

SESSION ZOOM-7-MON: ONLINE/ZOOM SESSION**INFORMATION & KNOWLEDGE ENGINEERING + DATA SCIENCE +
HEALTH INFORMATICS****Chairs: TBA****July 27, 2020 (Monday); 04:00pm - 06:40pm****(LOCATION: Galleria D-E)**

- 04:00 - 04:20pm: EEE2409
Research on Efficient and Fuzzy Matching Algorithm in Information Dissemination System
Qinwen Zuo, Fred Wu*, Fei Yan, Shaofei Lu, Colmenares-Diaz Eduardo, Junbin Liang (Heng Wu)
Information System Department, State Key Laboratory of NBC, Protection for Civilian,
Beijing, P. R. China; Department of Mathematics and Computer Science, West Virginia
State University Institute, West Virginia, USA; Department of Information Technology,
Central Research Institute of History and Documents, Beijing, P. R. China; College
of Computer Science & Electronic Engineering, Hunan University, Changsha,
P. R. China; Department of Computer Science, Midwestern State
University, Wichita Falls, Texas, USA; School of Computer and
Electronics Information, Guangxi University, P. R. China
- 04:20 - 04:40pm: HIM2933
ICT and the Environment: Strategies to Tackle Health and
Environmental Challenges in Nigeria
Tochukwu Ikwunne*, Lucy Hederma
ADAPT Centre, Trinity College Dublin, Ireland
- 04:40 - 05:00pm: IKE2490
A Human Resources Competence Actualization Approach for
Expert Networks
Mikhail Petrov
SPIIRAS, Saint Petersburg, Russia
- 05:00 - 05:20pm: IKE2555
Human-Computer Interaction Interface for Driver Suspicious
Action Analysis in Vehicle Cabin
Igor Lashkov*, Alexey Kashevnik
SPIIRAS, Saint Petersburg, Russia
- 05:20 - 05:40pm: IKE2140
Utilizing Economic Activity and Data Science to Predict and
Mediate Global Conflict
Kaylee-Anna Jayaweera, Jens Mache, Caitlin Garcia,
Quinn Vinlove, Alain Kagi, Kris Gado
Lewis and Clarke College, USA
- 05:40 - 06:00pm: ICD8048
Automated Prediction of Voter's Party Affiliation using AI
Sabiha Mahmud
Mercyhurst University, USA
- 06:00 - 06:20pm: IKE4118
Data-driven Environmental Management: A Digital Prototype Dashboard
to Analyze and Monitor the Precipitation on Susquehanna River Basin
Siamak Aram*, Maria H. Rivero, Nikeshe Pahuja, Roozbeh Sadeghian,
Joshua L. R. Paulino, Michael Meyer, James Shallenberger
Harrisburg University School of Science and Technology,
Harrisburg, PA, USA; Susquehanna River Basin Commission, Harrisburg,
PA, USA
- 06:20 - 06:40pm: MSV4084
How do Decorations and Word Appearance Influence the Relative Size
Perception in Viewers of Tag Clouds?
Khaldoon Dhou*, Robert Kosara, Mirsad Hadzikadic, Mark Faust
Texas A&M University Central Texas, Texas, USA;

- 07:00a - 05:00p: REGISTRATION**
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)
- SESSION 4-TUE: ARTIFICIAL INTELLIGENCE AND NOVEL APPLICATIONS**
Chair: Ehsan Asali; Department of Computer Science,
University of Georgia, USA
July 28, 2020 (Tuesday); 08:20am - 10:20am
(LOCATION: Galleria B-C)
- 08:20 - 08:40pm: FREE SLOT**
- 08:40 - 09:00am: ICA2939**
A Prototype Implementation of the NNEF Interpreter
Nakhoon Baek
School of Computer Science and Engineering,
Kyungpook National University, Daegu, Republic of Korea
- 09:00 - 09:20am: ICA4013**
Artificially Intelligent Cyber Security: Reducing Risk
and Complexity
John Carbone*, James Crowder
Colorado Engineering, Colorado Springs, Colorado, USA;
Forcepoint, LLC, USA; Baylor University, Texas, USA
- 09:20 - 09:40am: ICA4108**
Neural-Based Adversarial Encryption of Images in ECB Mode
P. Rivas-Perea, Prabuddha Banerjee*
School of Computer Science and Mathematics,
Marist College, Poughkeepsie, New York, USA
- 09:40 - 10:00am: ICA2222**
Synthetic AI Nervous/Limbic Derived Instances (SANDI)
Shelli Friess, James A. Crowder*, Michael Hirsch
School of Counseling, Walden University, Minneapolis,
Minnesota, USA; Colorado Engineering Inc., Colorado, USA;
President and CTO, ISEA TEK LLC, Maitland, Florida, USA
- 10:00 - 10:20am: ICA2249**
The Systems AI Thinking Process (SATP) for Artificial
Intelligent Systems
James A. Crowder*, Shelli Friess
Colorado Engineering Inc., Colorado Springs, Colorado, USA;
School of Counseling, Walden University, Minneapolis,
Minnesota, USA
- 10:20 - 10:40am: BREAK**
- SESSION 5-TUE: INFORMATION ENGINEERING + IMAGING SCIENCE + COMPUTATIONAL BIOLOGY
+ ARTIFICIAL INTELLIGENCE**
Chairs: TBA
July 28, 2020 (Tuesday); 10:40am - 12:20pm
(LOCATION: Galleria B-C)
- 10:40 - 11:00am: ICA2381**
Combination of Variational Autoencoders and Generative Adversarial
Network into an Unsupervised Generative Model
Ali Jaber Almalki*, Pawel Wocjan
Department of Computer Science, University of Central Florida,
Orlando, Florida, USA

- 11:00 - 11:20am: IKE2405
Content-Based Image Retrieval Using Deep Learning
Tristan Jordan, Heba Elgazzar*
School of Engineering and Computer Science, Morehead State
University, Morehead, Kentucky, USA
- 11:20 - 11:40am: ICA2091
Priority Management in a Cybernetic Organization:
A Simulation Study
Puche J.*, Costas J., Ponte B., Pino R., De la Fuente D.
Department of Applied Economics, Faculty of Economics and
Business, University of Burgos, Plaza Infanta Dona Elena s/n,
Burgos, Spain
- 11:40 - 12:00pm: IPC2142
DeepMSRF: A novel Deep Multimodal Speaker Recognition
Framework with Feature Selection
Ehsan Asali, Farzan Shenavarmasouleh*, Farid Ghareh Mohammadi,
Prasanth Sengadu Suresh, Hamid R. Arabnia
Department of Computer Science, University of Georgia, USA
- 12:00 - 12:20pm: BIC2972
Structural Exploration of RVFV L Protein Domain in Implicit and
Explicit Solvents by Molecular Dynamics
Gideon K. Gogovi
Department of Computational and Data Sciences,
George Mason University, Fairfax, Virginia, USA
- 12:20 - 01:20pm: **LUNCH (On Your Own)**
- 01:20 - 03:00pm: Due to challenges with the Coronavirus pandemic, authors and speakers were given the following options: (a) Not presenting; (b) Providing pre-recorded presentations; and (c) Presenting online via Zoom. Unfortunately, some authors/speakers did not select any options: if any of these authors/speakers unexpectedly show-up at the congress, their talks/presentations will be scheduled during this period - if no speaker shows up, then
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- Congress attendees can arrange an informal panel discussion (INTERESTING SUBJECTS: The Impact of CS/IT to Employment; Societal Impact of AI; AI and Ethical Issues; Online classes and Impact on Institutions; ...)
- 03:00 - 03:40pm: **BREAK & POSTERS**
July 28, 2020 (Tuesday)
(LOCATION: Lotus Ballrooms 1)

03:40 - 06:00pm: Due to challenges with the Coronavirus pandemic, authors and speakers were given the following options: (a) Not presenting; (b) Providing pre-recorded presentations; and (c) Presenting online via Zoom. Unfortunately, some authors/speakers did not select any options: if any of these authors/speakers unexpectedly show-up at the congress, their talks/presentations will be scheduled during this period - if no speaker shows up, then

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SESSION ZOOM-8-TUE: ONLINE/ZOOM SESSION

DATA SCIENCE, MACHINE LEARNING, AND APPLICATIONS

Chairs: TBA

July 28, 2020 (Tuesday); 08:20am - 09:40am

(LOCATION: Galleria D-E)

- 08:20 - 08:40am: ICD8022
Towards a Reference Model for Artificial Intelligence Supporting Big Data Analysis
Thoralf Reis*, Marco X. Bornschlegl, Matthias L. Hemmje
University of Hagen, Germany
- 08:40 - 09:00am: ICD8059
Phoenix: A Scalable Streaming Hypergraph Analysis Framework
Kuldeep Kurte, Neena Imam, S. M. Shamimul Hasan, and Ramakrishnan Kannan
Oak Ridge National Laboratory, USA
- 09:00 - 09:20am: ICD8042
Performance Analysis of Deep Neural Maps
Boren Zheng*, Lutz Hamel
University of Rhode Island, USA
- 09:20 - 09:40am: ICD8074
Detecting Asian Values in Asian News via Machine Learning Text Classification
Li-Jing Chang
Jackson State Univeristy, Jackson, Mississippi, USA

SESSION ZOOM-9-TUE: ONLINE/ZOOM SESSION

EMBEDDED SYSTEMS, CYBER-PHYSICAL SYSTEMS, & APPLICATIONS

Chairs: TBA

July 28, 2020 (Tuesday); 09:40am - 10:40am

(LOCATION: Galleria D-E)

- 09:40 - 10:00am: ESC2905
Real-Time Operating Systems: Course Development
Michael Rivnak, Leonidas Deligiannidis
Department of Computer Science and Networking,
Wentworth Institute of Technology, Boston, Massachusetts, USA

- 10:00 - 10:20am: ESC4027
Software Defined Global Navigation Satellite Systems and Resilient Navigation for Embedded Automation
Jeffrey Wallace*, Angelica Valdivia
Rocket Technology Systems LLC, Washington, DC, USA
- 10:20 - 10:40am: ESC4095
Uncertainty Theory based Software Hardware Partitioning for Reliable Cyber-Physical System Design
Amrita Chatterjee*, Hassan Reza
School of Electrical Engineering and Computer Science, University of North Dakota, North Dakota, USA
- SESSION ZOOM-10-TUE: ONLINE/ZOOM SESSION**
CLOUD COMPUTING SYSTEMS, SECURITY, AND APPLICATIONS
Chairs: TBA
July 28, 2020 (Tuesday); 10:40am - 11:40am
(LOCATION: Galleria D-E)
- 10:40 - 11:00am: GCC4033
Securing Mobile Cloud Computing Using Encrypted Biometric Authentication
Iehab Alrassan
College of Computer and Information Sciences, King Saud University, Riyadh, Saudi Arabia
- 11:00 - 11:20am: GCC3000
The Abaco Platform: A Performance and Scalability Study on the Jetstream Cloud
Christian R. Garcia*, Joe Stubbs, Julia Looney, Anagha Jamthe, Mike Packard, Kreshel Nguyen
Texas Advanced Computing Center, University of Texas at Austin, Texas, USA; Department of Aerospace Engineering, The University of Texas at Austin, Texas, USA
- 11:20 - 11:40am: SAM9715
Enhancing Data Security in the User Layer of Mobile Cloud Computing Environment: A Novel Approach
Noah Oghenfe Ogwara*, Krassie Petrova, Mee Loong Yang, and Stephen MacDonell
Computer and Mathematical Sciences, Auckland University of Technology, Auckland, New Zealand

- SESSION ZOOM-11-TUE: ONLINE/ZOOM SESSION**
ARTIFICIAL INTELLIGENCE + MACHINE LEARNING + IMAGING SCIENCE AND APPLICATIONS
Chairs: TBA
July 28, 2020 (Tuesday); 11:40am - 01:00pm
(LOCATION: Galleria D-E)

- 11:40a - 12:00p: ICA2401
Long Short Term Memory in Chemistry Dynamics Simulation
Heng Wu*, Shaofei Lu, Colmenares-Diaz Eduardo, Junbin Liang, Jingke She, Xiaolin Tan
Department of Mathematics and Computer Science, West Virginia State University Institute, West Virginia, USA; College of Computer Science and Electronic Engineering, Hunan University, Changsha, P. R. China; Department of Computer Science, Midwestern State University, USA; School of Computer and Electronics Information, Guangxi University, P. R. China

- 12:00 - 12:20pm: ICA2054
A Design on Multilayer Perceptron (MLP) Neural Network for Digit Recognition
Isaac Westby, Hakduran Koc, Jiang Lu, Xiaokun Yang*
University of Houston Clear Lake, Houston, Texas, USA
- 12:20 - 12:40pm: ICA2092
A Model for the Strategic Management of Innovation and R&D based on Real Options Valuation: Options to Abandon and Expand Clinical Trials per Disease
Gascon F.*, Alonso Bonis S., Puente J., Ponte B., De la Fuente D.
Department of Business Administration, Faculty of Economics and Business, University of Oviedo, Avda. del Cristo, s/n, Oviedo, Asturias, Spain
- 12:40 - 01:00pm: IPC2589
Deep Convolutional Likelihood Particle Filter for Visual Tracking
Reza Jalil Mozhdehi*, Henry Medeiros
Marquette University, Milwaukee, Wisconsin, USA

SESSION ZOOM-12-TUE: ONLINE/ZOOM SESSION**DISTRIBUTED SYSTEMS, HIGH-PERFORMANCE COMPUTING, INTERNET COMPUTING AND APPLICATIONS****Chairs: TBA****July 28, 2020 (Tuesday); 01:00pm - 02:40pm
(LOCATION: Galleria D-E)**

- 01:00 - 01:20pm: PDP2544
Preliminary Performance and Programmability Comparison of the Thick Control Flow Architecture and Current Multicore CPUs
Martti Forsell*, Sara Nikula, Jussi Roivainen
VTT, Oulu, Finland
- 01:20 - 01:40pm: PDP4111
Tree-Based Fixed Data Transmission for Healthcare Sensor Networks
Susumu Shibusawa*, Toshiya Watanabe
Ibaraki University, Hitachi, Ibaraki, Japan;
National Institute of Technology, Gunma College, Gunma, Japan
- 01:40 - 02:00pm: ICM3027
Per-user Access Control Framework for Link Connectivity and Network Bandwidth
Shogo Kamata*, Chunghan Lee, Susumu Date
Graduate School of Information Science and Technology, Osaka University, Japan; Toyota Motor Corporation, Japan; Cybermedia Center, Osaka University, Japan
- 02:00 - 02:20pm: ICM2978
Dynamic IoT Clustering Method for Massive IoT Systems
Yunseok Chang
Department of Computer Engineering, Daejin University, Pocheon, Republic of Korea
- 02:20 - 02:40pm: ICM2410
ISLSTM: An Intelligent Scheduling Algorithm for Internet of Things
Heng Wu*, Shaofei Lu, Qinwen Zuo, Jon Musselwhite, Raj Vijeshbhai Patel, Sweya Reddy Dava
Department of Mathematics and Computer and Science, West Virginia State University Insititute, West Virginia, USA; College of Electrical and Information Engineering, Hunan University, Changsha, P. R. China; State Key Laboratory of NBC, Protection for Civilian, Beijing Institute of Chemical Defense, Beijing, P. R. China

SESSION ZOOM-14-TUE: ONLINE/ZOOM SESSION**SOFTWARE ENGINEERING****Chairs: TBA****July 28, 2020 (Tuesday); 02:40pm - 03:40pm****(LOCATION: Galleria D-E)**

- 02:40 - 03:00pm: SER2953
Change Request Prediction in an Evolving Legacy System:
A Comparison
Lamees Alhazaa*, Anneliese Amschler Andrews
Computer Science Department, Al-Imam Muhammad Bin Saud Islamic
University, Riyadh, Saudi Arabia; Department of Computer
Science, University of Denver, Denver, Colorado, USA
- 03:00 - 03:20pm: SER2386
Technical Personality as Related to Intrinsic Personality Traits
Marwan Shaban*, Craig Tidwell, Janell Robinson, Adam J. Roche
Seminole State College, Sanford, Florida, USA
- 03:20 - 03:40pm: SER2564
Analysis of Bug Types of Textbook Code with Open Source Software
Young Lee*, Jeong Yang
Department of Computing and Cyber Security,
Texas A&M University - San Antonio, Texas, USA

SESSION ZOOM-15-TUE: ONLINE/ZOOM SESSION**INFORMATION & KNOWLEDGE ENGINEERING + IMAGING SCIENCE AND
APPLICATIONS****Chairs: TBA****July 28, 2020 (Tuesday); 03:40pm - 04:40pm****(LOCATION: Galleria D-E)**

- 03:40 - 04:00pm: IKE2966
GeoDataLinks: A Suggestion for a Replacement for the ESRI Shapefile
Vitit Kantabutra
Department of Electrical Engineering, Idaho State University,
Pocatello, Idaho, USA
- 04:00 - 04:20pm: IKE4066
Clearview, an Improved Temporal GIS Viewer and Its Use in
Discovering Spatiotemporal Patterns
Vitit Kantabutra
Department of Electrical Engineering, Idaho State University,
Pocatello, Idaho, USA
- 04:20 - 04:40pm: IPC2497
Evolution of Convolutional Neural Networks for Lymphoma
Classification
Christopher David Walsh*, Nicholas Kenelm Taylor
Department of Computer Science, Heriot-Watt University,
Edinburgh, Scotland

SESSION ZOOM-16-TUE: ONLINE/ZOOM SESSION**CYBER SECURITY + SIMULATION, MODELING, AND VISUALIZATION + SOFTWARE SYSTEMS AND APPLICATIONS****Chairs: TBA****July 28, 2020 (Tuesday); 04:40pm - 07:00pm****(LOCATION: Galleria D-E)**

- 04:40 - 05:00pm: MSV2367
 A Virtual Serious Game for Nursing Education
 Youxin Luo*, Abel A. Reyes, Parashar Dhakal, Manisa Baker, Julia Rogers, Xiaoli Yang
 Electrical and Computer Engineering Department, Purdue University Northwest, Hammond, Indiana, USA; Electrical & Computer Science Engineering, The University of Toledo, Toledo, Ohio, USA; College of Nursing, Purdue University Northwest, Hammond, Indiana, USA
- 05:00 - 05:20pm: MSV2373
 An Interactive Software to Learn Pathophysiology with 3D Virtual Models
 Abel A. Reyes*, Youxin Luo, Parashar Dhakal, Julia Rogers, Manisa Baker, Xiaoli Yang
 Electrical and Computer Engineering Department, Purdue University Northwest, Hammond, Indiana, USA;
 Electrical and Computer Engineering Department, University of Toledo, Toledo, Ohio, USA; College of Nursing, Purdue University Northwest, Hammond, Indiana, USA
- 05:20 - 05:40pm: SAM9718
 A Hybrid Recommender System for Cybersecurity Based on a Rating Approach
 Carlos Ayala, Edison Loza-Aguirre*, Kevin Jimenez, and Roberto O. Andrade
 Escuela Politecnica Nacional, Quito, Ecuador
- 05:40 - 06:00pm: SAM9735
 The Impact of 21st Century Skills and Computing Cognition Cyber Skills on Graduates' Work Readiness in Cyber Security
 Anna Griffin, Nicola Johnson, Craig Valli
 Cyber Security CRC, Australia; Security Research Institute, Edith Cowan University, Australia
- 06:00 - 06:20pm: SAM9731
 CyberCheck.me: A Review of a Small to Medium Enterprise Cyber Security Awareness Program
 Craig Valli, Ian Martinus, Jayne Stanley, Michelle Kirby
 Security Research Institute, Edith Cowan University, Australia; WA AustCyber Innovation Hub, Australia
- 06:20 - 06:40pm: SAM4006
 Analysis of Conpot and its BACnet Features for Cyber-Deception
 Warren Z. Cabral*, Craig Valli, Leslie F. Sikos, Samuel G. Wakeling
 Cyber Security Co-Operative Research Centre, Australia; Security Research Institute, Edith Cowan University, WA, Australia
- 06:40 - 07:00pm: ICA2360
 A Similarity-Based Decision Process for Implementation Decisions
 Maryna Averkyna
 Estonian Business School, Tallinn, Estonia; The National University of Ostroh Academy, Seminarska, Ostroh, Ukraine

Due to challenges with the Coronavirus pandemic, authors and speakers were given the following options: (a) Not presenting; (b) Providing pre-recorded presentations; and (c) Presenting online via Zoom. Unfortunately, some authors/speakers did not select any options; if any of these authors/speakers show-up at the congress, their talks/presentations will be scheduled on-site at the congress (correct as of July 16, 2020):

- o. BIC2977
MinCNE: Identifying Conserved Non-Coding Elements using Min-Wise Hashing
Sairam Behera*, Jitender S. Deogun, Etsuko N. Moriyama
Department of Computer Science and Engineering, University of Nebraska-Lincoln, Lincoln, Nebraska, USA; School of Biological Sciences, Center for Plant Science Innovation, University of Nebraska-Lincoln, Lincoln, Nebraska, USA
- o. BIE2583
Electrocardiogram Classification using Long Short-Term Memory Networks
Shijun Tang
Department of Science and Mathematics, Alvernia University, Reading, PA, USA
- o. CSC2932
Elemental Analysis of Oil Paints
Shijun Tang*, Rosemarie C. Chinni, Amber Malloy, Megan Olsson
Alvernia University, Reading, PA, USA
- o. EEE2413
Tourism Service Auction Market for Saudi Arabia
Saad Nasser Almutwa, Sungchul Hong
Computer and Information Sciences Department, Towson University, Towson, Maryland, USA
- o. FEC2462
Examining the Influence of Participating in a Cyber Defense Track on Students' Cybersecurity Knowledge, Awareness, and Career Choices
Michelle Peters*, T. Andrew Yang, Wei Wei, Kewei Sha, Sadegh Davari
University of Houston - Clear Lake, Houston, Texas, USA
- o. GCC2141
Enterprise Backend as a Service (EBaaS)
Gokay Saldamli*, Aditya Doshatti, Darshil Kapadia, Devashish Nyati, Maulin Bodiwala, Levent Ertaul
Computer Engineering Department, San Jose State University, San Jose, California, USA; Department of Computer Science, California State University East Bay, Hayward, California, USA
- o. ICA2125
Cognitive Mathematics in Research and Education
Konstantin Kozerenko, Elena B. Kozerenko*
Lyceum "The Second School", Moscow, Russia; Institute of Informatics Problems of the Federal Research Center, Computer Science and Control of the Russian Academy of Sciences, Moscow, Russia

- o. ICA2126
Discourse Profiling based on Analytical Textology
Elena B. Kozerenko*, Mikhael Yu. Mikheev, Lev I. Erlikh,
Konstantin I. Kuznetsov, Nikolai V. Somin
Institute of Informatics Problems of the Federal Research Center,
Computer Science and Control of the Russian Academy of Sciences;
Moscow State University, Research Computer Center, Moscow, Russia
- o. ICA2127
The Contrastive Study of Spatial Constructions on NPloc in the Russian
Language and NP in the Chinese Language in the Cognitive Aspect
Irene M. Kobozeva*, Lie Dan
Moscow State University, Moscow, Russia; Jilin Huaqiao Foreign
Languages Institute, Changchun, P. R. China
- o. ICA2128
Methods and Algorithms for Generating Sustainable Cognitive Systems
Based on Thematic Category Hierarchies for the Development of
Heterogeneous Information Resources in Technological and Social Spheres
Michael M. Charnine, Elena B. Kozerenko*
Institute of Informatics Problems of the Federal Research Center,
Computer Science and Control of the Russian Academy of Sciences,
Moscow, Russia
- o. ICA2129
Mental Model of Educational Environments
Natalia R. Sabanina*, Valery S. Meskov
Moscow Pedagogical State University (MPSU), Moscow, Russia
- o. ICD8030
A Comparison of Important Features for Predicting Polish and Chinese
Corporate Bankruptcies
Yifan Ren, Gary Weiss*
Fordham University, USA
- o. ICD8027
Improving Physician Decision-Making and Patient Outcomes Using Analytics:
A Case Study with The World's Leading Knee Replacement Surgeon
Anish Pahwa*, Shikhar Jamuar, Varun Kumar Singh, Matthew Lanham
Purdue University, USA
- o. ICD8040
The Effectiveness of Pre-Trained Code Embeddings
Ben Trevett*, Donald Reay, Nick Taylor
Heriot-Watt University, Edinburgh, Scotland, United Kingdom
- o. ICD8046
Nested Named Sets in Database Retrieval
H. Paul Zellweger
ArborWay Labs, USA
- o. ICD8023
A Holistic Approach for Determining Effective Promotional Product
Groupings
Rahul Raj*, Matthew Lanham, Vinitha Ravindran, Siddharth Harisankar,
Mehul Zavar, Xuanming Hu
Purdue University, USA

- o. ICD8044
Enhancing User Experience by Integrating Real-Time Search Data with Historical Data to Personalize Recommendations for a Timeshare Exchange Company
Hemanya Tyagi*, Matthew Lanham, Robin Jindal, Mohinder Pal Goyal, Dibyamshu Shrestha
Purdue University, USA
- o. ICW3015
Extended RTS/CTS Control based on Transmission Request Distribution in Wireless Ad-Hoc Networks
Momoka Hara, Hiroaki Higaki*
Department of Robotics and Mechatronics, Tokyo Denki University, Tokyo, Japan
- o. ICW3016
Interference of Overhearing by Eavesdropper Nodes for Secure Wireless Ad-Hoc Networks
Hinano Amano, Hiroaki Higaki*
Department of Robotics and Mechatronics, Tokyo Denki University, Tokyo, Japan
- o. IPC2540
Superpixel-based Stereoscopic Video Saliency Detection Using Support Vector Regression Learning
Ting-Yu Chou, Jin-Jang Leou*
Department of Computer Science and Information Engineering, National Chung Cheng University, Chiayi, Taiwan
- o. IPC2542
Superpixel-based Multi-focus Image Fusion
Kuan-Ni Lai, Jin-Jang Leou*
Department of Computer Science and Information Engineering, National Chung Cheng University, Chiayi, Taiwan
- o. MSV2400
Dealing Bridge Hands: A Study in Random Data Generation
Peter M. Maurer
Department of Computer Science, Baylor University, Waco, Texas, USA
- o. MSV4084
How do Decorations and Word Appearance Influence the Relative Size Perception in Viewers of Tag Clouds?
Khaldoon Dhou*, Robert Kosara, Mirsad Hadzikadic, Mark Faust
Texas A&M University Central Texas, Texas, USA;
Tableau Software, USA;
University of North Carolina Charlotte, North Carolina, USA
- o. MSV4127
Modeling Digital Business Strategy During Crisis
Sakir Yucel
NetApp, Wexford, Pittsburgh, USA
- o. MSV4067
Modelling and Simulation of MEMS Gyroscope with Coventor MEMS+ and Matlab/SIMULINK Software
Jacek Nazdrowicz*, Adam Stawinski, Andrzej Napieralski
Department of Microelectronics and Computer Science, Lodz University of Technology, Poland

- o. PDP2586
Reverse Engineering Process for NoSQL Databases
Fatma Abdelhedi, Amal Ait Brahim, Rabah Tighilt Ferhat*,
Gilles Zurfluh
CBI2 - TRIMANE, Paris, France; Toulouse Institute of Computer
Science Research (IRIT), Toulouse Capitole University,
Toulouse, France
- o. PDP2600
Two-Phase Commitment Problem in Distributed Systems with
Fail-Stop Model
Sung-Hoon Park*, Yong-cheol Seo, Su-Chang Yoo
Department of Computer Engineering, Chungbuk National University,
Chungbuk, Republic of Korea
- o. SAM9705
Phishing Detection using Deep Learning
Beatrice M. Cerda, Shengli Yuan*, Lei Chen
University of Houston - Downtown, Houston, Texas, USA;
Georgia Southern University Statesboro, Georgia, USA
- o. SAM9714
The Organizational Cybersecurity Success Factors: An Exhaustive
Literature Review
Nancy Poehlmann, Kevin Matthe Caramancion*, Mehdi Barati,
Irem Tatar, Terry Merz
Department of Information Science, University at Albany,
State University of New York, Albany, New York, USA
- o. SAM9719
Vulnerability of Virtual Private Networks to Web Fingerprinting
Attack
Khaleque Kamal, Sultan Almuhammadi*
King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
- o. SAM4093
Lightweight Network Steganography for Distributed Electronic Warfare
System Communications
Tim Lei, Jeremy Straub*, Benjamin Bernard
Department of Computer Science, San Francisco State University,
San Francisco, California, USA; Institute for Cyber Security
Education and Research, North Dakota State University, Fargo,
North Dakota, USA; Department of Computer Science, North Dakota
State University, Fargo, North Dakota, USA
- o. SER4031
Modeling Unmanned Aircraft System Maintenance Using Agile Model-Based
Systems Engineering
Justin R. Miller, Ryan D. L. Engle*, Brent T. Langhals,
Michael R. Grimaila, Douglas D. Hodson
Air Force Institute of Technology, USA

Due to challenges with the Coronavirus pandemic, authors and speakers were given the following options: (a) Not presenting; (b) Providing pre-recorded presentations; and (c) Presenting online via ZOOM.

The list of papers whose authors have provided pre-recorded presentations (or plan to do so) appears below: (The web/URLs to presentations appear on the CSCE 2020 web site)

- o. Cognitive Discovery Pipeline Applied to Informal Knowledge
Nicola Severini*, Pietro Leo, Paolo Bellavista
Alma Mater Studiorum, Bologna, Italy;
IBM Active Intelligence Center, IBM Italy, Bologna, Italy
- o. Feature Set Optimization by Clustering, Univariate Association, Deep and Machine Learning Omics Wide Association Study (DMWAS) for Biomarkers Discovery as Tested on GTEx Pilot Dataset for Death due to Heart-Attack
Abhishek Narain Singh
ABioTek www.tinyurl.com/abinarain, Kuopio, Finland
- o. A Novel Method for the Inverse Qsar/Qspr to Monocyclic Chemical Compounds based on Artificial Neural Networks and Integer Programming
Ren Ito, Naveed Ahmed Azam*, Chenxi Wang, Aleksandar Shurbevski, Hiroshi Nagamochi, Tatsuya Akutsu
Department of Applied Mathematics & Physics, Kyoto University, Japan;
Bioinformatics Center, Institute for Chemical Research,
Kyoto University, Uji, Japan
- o. Mathematical Modeling and Computer Simulations of Cancer Chemotherapy
Frank Nani, Mingxian Jin*
Department of Mathematics and Computer Science, Fayetteville State University, Fayetteville, North Carolina, USA
- o. A New Literature Based Discovery (LBD) Application Using the Pubmed Database
Matthew Schofield*, Gabriela Hristescu, Aurelian Radu
Computer Science Department, Rowan University, Glassboro, New Jersey;
Department of Cell, Developmental and Regenerative Biology,
Icahn School of Medicine at Mount Sinai, New York, USA
- o. Common Motifs in KEGG Cancer Pathways
Bini Elsa Paul, Olaa Kasem, Haitao Zhao, Zhong-Hui Duan*
Department of Computer Science, University of Akron, Ohio, USA
- o. Phenome to Genome - Application of GWAS to Asthmatic Lung Biomarker Gene Variants
Adam Cankaya*, Ravi Shankar
College of Computer Engineering and Science, Florida Atlantic University, Florida, USA
- o. POST-DS: A Methodology to Boost Data Science
Carlos J. Costa
Universidade de Lisboa, Portugal
- o. Graph Network Community Based Regulatory Medicine and 'More' Using GraphBreak
Abhishek Narain Singh
ABioTek www.tinyurl.com/abinarain, Kuopio, Finland

- o. Shallow SqueezeNext Architecture Implementation on Bluebox2.0
Jayan Kant Duggal*, Mohamed El-Sharkawy
Department of Electrical and Computer Engineering, IoT Collaboratory,
Purdue School of Engineering and Technology, IUPUI, Indiana, USA
- o. Julia and Singularity for High Performance Computing
Joesph Tippit, Douglas Hodson, Michael Grimaila
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
- o. Trojan Banker Simulation Utilizing Python
Drew Campbell, Jake Hall, Iyanu Odebode, Douglas Hodson, and
Michael Grimaila
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
- o. CovidLock a New Form of Ransomware
Amber Modlin, Andres Gregory, Iyanu Odebode, Douglas Hodson, and
Michael Grimaila
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
- o. MSECT: Genome Wide Massive Sequence Exhaustive Comparison Tool
Abhishek Narain Singh
ABioTek www.tinyurl.com/abinarain, Kuopio, Finland
- o. The New Office Threat: A Simulation Environment of Watering Hole
Cyber Attacks
Braeden Bowen, Jeremy Erqybar, Iyanu Odebode, Douglas Hodson, and
Michael Grimaila
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
- o. Simulation of SYN Flood Attacks and Counter-Attack Methods Using
Average Connection Times
Hai Vo, Raymond Kozlowski, Iyanu Odebode, Douglas Hodson, and
Michael Grimaila
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
- o. A Note on the Sensitivity of Generic Approximate Sparse Pseudoinverse
Matrix for Solving Linear Least Squares Problems
A. D. Lipitakis*, G. A. Gravvanis, C. K. Filelis-Papadopoulos, and
D. Anagnostopoulos
Department of Informatics and Telematics, Harokopio University of
Athens, Greece; Department of Electrical and Computer Engineering,
School of Engineering, Democritus University of Thrace, University
Campus, Kimmeria, Xanthi, Greece; University College Cork,
University College Cork, Cork, Ireland
- o. Large-scale Parallelization of Lattice QCD on Sunway Taihulight
Supercomputer
Ailin Xu*, Zhongzhi Luan, Ming Gong, Xiangyu Jiang
School of Computer Science and Engineering, Beihang University,
Beijing, P. R. China; Institute of High Energy Physics, Chinese
Academy of Sciences, Beijing, P. R. China

- o. Are Collaboration Tools Safe? An Assessment of Their Use and Risks
Cquoya Haughton, Maria Isabel Herrmann, Tammi Summers, Sonya Worrell,
Samuel Olatunbosun*, Taiwo Ajani
Department of Computer Science, Norfolk State University,
Virginia, USA; Department of Computer and Information Systems,
Ferrum College, Virginia, USA
- o. Scaleable Undergraduate Cyber-Security Curriculum Through
Auto-Graded E-Learning Labs
Aspen Olmsted
Department of Computer Science, Fisher College, Boston, MA, USA
- o. Smart Automation of an Integrated Water System
Fatema Tuz Zohra, Bahram Asiabanpour*
Ingram School of Engineering, Texas State University,
San Marcos, Texas, USA
- o. Data Collection and Generation for Radio Frequency Signal Security
Tarek A. Youssef, Guillermo A. Francia, III *, Hakki Erhan Sevil
Department of Electrical and Computer Engineering, University of
West Florida, Florida, USA; Center for Cybersecurity, University
of West Florida, Florida, USA; Department of Intelligent Systems
and Robotics, University of West Florida, Florida, USA
- o. BumpChat: A Secure Mobile Communication System
Brian Kammourieh, Nahid Ebrahimi Majd*, Ahmad Hadaeagh
Department of Computer Science and Information Systems,
California State University San Marcos, California, USA
- o. How to Extend the Single-Processor Paradigm to the Explicitly
Many-Processor Approach
Janos Vegh
Kalimanos BT, Debrecen, Hungary
- o. Random Self-Modifiable Computation
Michael Stephen Fiske
Aemea Institute, San Francisco, California, USA
- o. Introducing Temporal Behavior to Computing Science
Janos Vegh
Kalimanos BT, Debrecen, Hungary
- o. An Educational Guide to Creating Your Own Cryptocurrency
Paul Medeiros, Leonidas Deligiannidis*
Department of Computer Science and Networking, Wentworth
Institute of Technology, Boston, Massachusetts, USA
- o. Using Dear Data Project to Introduce Data Literacy, and Information
Literacy to Undergraduates
Vetria L. Byrd
Purdue University, West Lafayette, Indiana, USA
- o. A Project-Based Approach to Teaching IoT
Varick L. Erickson*, Pragya Varshney, Levent Ertaul
Department of Computer Science, California State University,
East Bay, California, USA
- o. Developing a Scalable Platform and Analytics Dashboard for Manual
Physical Therapy Practices Using Pressure Sensing Fabric
Tyler V. Rimaldi, Daniel R. Grossmann, Donald R. Schwartz*
School of Computer Science and Mathematics, Marist College,
Poughkeepsie, New York, USA

- o. Peer Assistant Role Models in a Graduate Computer Science Course
Evava Pietri, Leslie Ashburn-Nardo, Snehasis Mukhopadhyay*
Department of Psychology, Indiana University Purdue University
Indianapolis (IUPUI), Indiana, USA; Department of Computer and
Information Science, Indiana University Purdue University
Indianapolis (IUPUI), Indiana, USA
- o. Team-Based Online Multidisciplinary Education on Big Data +
High-Performance Computing + Atmospheric Sciences
Jianwu Wang, Matthias K. Gobbert*, Zhibo Zhang, Aryya Gangopadhyay
Department of Information Systems, University of Maryland,
Baltimore County, Maryland, USA; Department of Mathematics and
Statistics, University of Maryland, Baltimore County, Maryland,
USA; Department of Physics, University of Maryland,
Baltimore County, Maryland, USA
- o. An Educational Tool for Exploring the Pumping Lemma Property of
Regular Languages
Josue N. Rivera*, Haiping Xu
Computer and Information Science Department, University of
Massachusetts Dartmouth, Dartmouth, Massachusetts, USA
- o. Secure Business Intelligence Markup Language (secBIML)
Aspen Olmsted
Department of Computer Science, Fisher College, Boston, MA, USA
- o. 'SasCsvToolkit' - A Versatile Parallel 'Bag-Of-Tasks' Job Submission
Application on Heterogeneous and Homogeneous Platforms for Big Data
Analytics such as for Biomedical Informatics
Abhishek Narain Singh
ABioTek www.tinyurl.com/abinarain, Kuopio, Finland
- o. ActiviX: Non-Invasive Solution to Mental Health
Morgan Whittemore, Shawn Toubeau, Zach Griffin, Leon Deligiannidis*
Department of Computer Science and Networking, Wentworth Institute
of Technology, Boston, Massachusetts, USA
- o. Using Artificial Intelligence for Medical Condition Prediction and
Decision-Making For COVID-19 Patients
Mohammad Pourhomayoun, Mahdi Shakibi*
Department of Computer Science, California State University,
Los Angeles, California, USA
- o. Semantic Tree Driven Thyroid Ultrasound Report Generation by
Voice Input
Lihao Liu*, Mei Wang, Weiliang Zhao, Jian Yang, Xueyang Li
School of Computer Science and Technology, Donghua University,
Shanghai, P. R. China;
Computing Department, Macquarie University, NSW, Australia
- o. The Unmasking of 'Mitochondrial Adam' and Structural Variants Larger
than Point Mutations as Stronger Candidates for Traits, Disease
Phenotype and Sex Determination
Abhishek Narain Singh
ABioTek www.tinyurl.com/abinarain, Kuopio, Finland
- o. Implementation of a Medical Data Warehouse Framework to
Support Decisions
Nedra Amara*, Olfa Lamouchi, Said Gattoufi
Institute of Management, University of Tunis, Bardo, Tunisia;
LR-RISC-ENIT (LR-16-ES07), Tunisia

- o. Post-Operative Hip Fracture Rehabilitation Model
Akash Gupta*, Adnan Al-Anbuky, Peter McNair
School of Engineering, Computer and Mathematical Sciences,
Auckland University of Technology, Auckland, New Zealand;
School of Clinical Sciences, Auckland University of Technology,
Auckland, New Zealand
- o. Exergames for Systemic Sclerosis Rehabilitation: a Pilot Study
Federica Ferraro, Marco Trombini*, Matteo Morando, Marica Doveri,
Gerolamo Bianchi, Silvana Dellepiane
Department of Electrical, Electronic, Telecommunications
Engineering and Naval Architecture (DITEN), Università degli Studi
di Genova, Genoa, Italy; Azienda Sanitaria Locale 3, Division of
Rheumatology, Department of Locomotor System, Genoa, Italy
- o. Classification of Craniostomosis Images by Vigilant Feature
Extraction
Saloni Agarwal*, Rami R. Hallac, Ovidiu Daescu, Alex Kane
University of Texas at Dallas, Richardson, Texas, USA;
UT Southwestern Medical Center, Dallas, Texas, USA
- o. Using Persuasive AI Voice Assisted Technologies to Motivate and
Encourage Physical Activity
Benjamin Schooley, Dilek Akgun*, Prashant Duhon, Neset Hikmet
Health Information Technology, University of South Carolina,
Columbia, South Carolina, USA; Innovation Think Tank Lab,
University of South Carolina, Columbia, South Carolina, USA;
Department of Information Technology, University of South Carolina,
Columbia, South Carolina, USA; Engineering & Computing, University
of South Carolina, Columbia, South Carolina, USA
- o. A Machine Learning Driven Approach to Predict the Outcome of
Prostate Biopsy: Identifying Cancer, Clinically Significant Disease,
and Unfavorable Pathological Features on Prostate Biopsy
John L. Pfail*, Dara J. Lundon, Parita Ratnani, Vinayak Wagaskar,
Peter Wiklund, Ashutosh K. Tewari
Icahn School of Medicine at Mount Sinai, New York, USA
- o. Using Natural Language Processing to Optimize Engagement of Those
with Behavioral Health Conditions That Worsen Chronic
Medical Disease
Peter Bearse, Atif Farid Mohammad, Intisar Rizwan I Haque*,
Susan Kuypers, Rachel Fournier
Catasys Inc., Santa Monica, California, USA
- o. Effects of Domain Randomization on Simulation-to-Reality Transfer
of Reinforcement Learning Policies for Industrial Robots
Christian Scheiderer*, Nik Dorndorf, Tobias Meisen
Institute of Technologies and Management of the Digital Transformation,
University of Wuppertal, Germany; RWTH Aachen University, Germany
- o. Growing Artificial Neural Networks
John Mixter*, Ali Akoglu
ECE, The University of Arizona, Tucson, Arizona, USA
- o. Hybrid Car Trajectory by Genetic Algorithms with Non-Uniform Key Framing
Dana Vrajitoru
Department of Computer and Information Sciences, Indiana University
South Bend, Indiana, USA

- o. Food Type Recognition and Estimation of Calories Using Neural Network
R. Dinesh Kumar, E. Golden Julie, Y. Harold Robinson, Sanghyun Seo*
School of Computer Art, College of Art and Technology,
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Physics and Computer Science Department, Wilfrid Laurier University, Waterloo, Canada

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