

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: CONFERENCE REGISTRATION DESK:

July 25 (Sunday): 04:00pm - 07:00pm
July 26 (Monday): 07:00am - 05:00pm
July 27 (Tuesday): 07:00am - 05:00pm
July 28 (Wednesday): 07:00am - 05:00pm
July 29 (Thursday): 07:00am - 05:00pm
(LOCATION: Lotus Ballrooms 1)

BREAKFASTS: July 26 (Monday): 07:00am - 08:20am
July 27 (Tuesday): 07:00am - 08:20am
July 28 (Wednesday): 07:00am - 08:00am
July 29 (Thursday): 07:00am - 08:00am
(LOCATION: Lotus Ballrooms 1)

DINNER: July 26 (Monday): 07:30pm - 10:00pm
(LOCATION: Velvet Room)

BREAKS: REFRESHMENTS
July 26 (Monday): 10:00am - 10:20am
July 26 (Monday): 03:20pm - 03:40pm
July 27 (Tuesday): 10:20am - 10:40am
July 27 (Tuesday): 03:00pm - 03:20pm
July 28 (Wednesday): 10:20am - 10:40am
July 28 (Wednesday): 03:00pm - 03:20pm
July 29 (Thursday): 10:20am - 10:40am
July 29 (Thursday): 03:00pm - 03:20pm
(LOCATION: Lotus Ballrooms 1)

July 25

04:00p - 07:00p: REGISTRATION
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)

- 07:00a - 05:00p: REGISTRATION**
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)
- 08:30 - 08:55am: CONGRESS WELCOME REMARKS - July 26, 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)
- 08:55 - 09:55am: KEYNOTE LECTURE/ADDRESS - July 26, Monday:**
THE COMING PROBLEM OF SELF-AWARE ROBOTS
Dr. James A. Crowder
Engineering 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)
- 10:00 - 10:20am: BREAK**
(LOCATION: Lotus Ballrooms 1)
- SESSION 1-ICDATA: DATA MINING + DATA SCIENCE + TOOLS AND APPLICATIONS**
Chairs: TBA
July 26, 2021 (Monday); 10:20am - 12:20pm
(LOCATION: Galleria B)
- 10:20 - 10:40am: Trends and Challenges of Clustering Techniques in Complex Networks Analysis**
Matin Pirouz
Department of Computer Science, California State University, Fresno, California, USA
- 10:40 - 11:00am: Random Database Creation and Use in a Context-Free Grammar Data Generator**
Peter M. Maurer
Department of Computer Science, Baylor University, Waco, Texas, USA
- 11:00 - 11:20am: A Priori Unification vs A Posteriori Composition for Better Data Science**
Ravishankar Nair
Chief Consultant, PassionBytes LLC, Jacksonville, Florida, USA
- 11:20 - 11:40am: Tyro: A First Step Towards Automatically Generating Parallel Programs from Sequential Programs**
Greg Speegle, Arun Sanjel
Baylor University, Waco, Texas, USA
- 11:40a - 12:00p: Exploring Deep Learning to Improve Compton Camera Based Prompt Gamma Image Reconstruction for Proton Radiotherapy**
Gerson Kroiz, Carlos Barajas, Matthias Gobbert, Jerimy Polf
University of Maryland, Baltimore County, Maryland, USA
- 12:00 - 12:20pm: The Winning Mining Formula for Football Competitions**
Ana Clarissa Miranda Pena, Francisco J. Cantu
Tecnologico de Monterrey, Mexico

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

SESSION 2-CSC: MILITARY AND DEFENSE MODELING AND SIMULATION
Co-Chairs: Dr. Douglas D. Hodson*, Dr. Michael R. Grimaila**,
Dr. Ryan D. Engle***
*Computer Science and Engineering Department;
**Head, Systems Engineering & Management Department;
***Systems Engineering;
US Air Force Institute of Technology (AFIT), USA
July 26, 2021 (Monday); 01:20pm - 03:20pm
(LOCATION: Galleria B)

01:20 - 01:40pm: DDS-Cerberus: Data Distribution via Ticketing
Andrew Park, Richard Dill, Douglas Hodson, Wayne Henry
US Air Force Institute of Technology (AFIT), USA

01:40 - 02:00pm: Comparison of Archetypal Entity-Component Systems and
Relational Databases
Bailey Compton, Douglas Hodson, Richard Dill, Michael Grimaila
US Air Force Institute of Technology (AFIT), USA

02:00 - 02:20pm: AFSIM's Entry into Aircraft Hardware in the Loop
Nathaniel Peck, Douglas Hodson, Richard Dill, Michael Grimaila
US Air Force Institute of Technology (AFIT), USA

02:20 - 02:40pm: Understanding Unity's ECS Architecture
Brett Martin, Douglas Hodson, Laurence D. Merkle
US Air Force Institute of Technology (AFIT), USA

02:40 - 03:00pm: A Data Oriented ECS-Based Design to Send DIS Packets
Noah Scott, Douglas Hodson, Richard Dill, Michael Grimaila
US Air Force Institute of Technology (AFIT), USA

03:00 - 03:20pm: Quantifying DDS Network Overhead
Nathaniel Peck, Douglas Hodson, Richard Dill, Michael Grimaila
US Air Force Institute of Technology (AFIT), USA

03:20 - 03:40pm: BREAK & POSTERS
July 26, 2021 (Monday)
(LOCATION: Lotus Ballrooms 1)

SESSION 3-SAM: SECURITY AND MANAGEMENT

Chairs: TBA

July 26, 2021 (Monday); 03:40pm - 04:40pm

(LOCATION: Galleria B)

- 03:40 - 04:00pm: FPGA-Based Edge Detector Ring Oscillator Physical Unclonable Function for IoT Devices Security
Amin A. Zayed, Hanady H. Issa, Khaled A. Shehata, Hani Fikry Ragai
Department of Electronics and Communication Engineering, Faculty of Engineering, Ain Shams University, Cairo, Egypt;
Department of Electronics and Communications, Faculty of Engineering, Arab Academy for Science, Technology and Maritime Transport, Cairo, Egypt
- 04:00 - 04:20pm: Introducing Zero Trust by Design: Principles and Practice Beyond the Zero Trust Hype
Dwight Horne
AT&T Center for Virtualization, Southern Methodist University, Dallas, Texas, USA
- 04:20 - 04:40pm: A Virtual Reality Home Security System
Nathan Robinson, Leonidas Deligiannidis
School of Computing and Data Science, Wentworth Institute of Technology, Boston, Massachusetts, USA

SESSION 4-IKE-MSV-ESCS-FECS:**INFORMATION & KNOWLEDGE ENGINEERING + EMBEDDED SYSTEMS,
CYBER-PHYSICAL SYSTEMS + MODELING & SIMULATION + EDUCATION**

Chairs: TBA

July 26, 2021 (Monday); 04:40pm - 07:00pm

(LOCATION: Galleria B)

- 04:40 - 05:00pm: A Comparative Performance Analysis of Estimation Techniques in Community Detection
Matin Pirouz
Department of Computer Science, California State University, Fresno, California, USA
- 05:00 - 05:20pm: DeepQ: A System to Peek Inside the eCommerce Deep Web
Amal Aljohani
Department of Computer Science, University of Idaho, Moscow, Idaho, USA
- 05:20 - 05:40pm: A Clustering Based Data Quality Consistency Assessment Architecture for Categorical Data
Mahmood Mohammed, John R. Talburt, Onais Mohammed
Information Science, University of Arkansas at Little Rock, Arkansas, USA; Hyderabad, TS, IND
- 05:40 - 06:00pm: Achieving Reliable Automated Off-grid Indoor Vertical Farming by FMEA and Digital Twin
Muzafer Hosen Akanda, Stephen Smyth, Fatema Tuz Zohra, Otto Randolph, Bahram Asiabanpour
Ingram School of Engineering, Texas State University, San Marcos, Texas, USA
- 06:00 - 06:20pm: Smart Control of Commercially Available Atmospheric Water Generators for Reduced Power Consumption
Natalie Ownby, Mark Summers, Bahram Asiabanpour
Ingram School of Engineering, Texas State University, San Marcos, Texas, USA

- 06:20 - 06:40pm: Virtual Simulation of 3D Modeling
Juanita L. Benjamin
Texas Tech University, Texas, USA
- 06:40 - 07:00pm: Collaborative Culture: Analyzing Global Trends in
Computing Education
Maira Marques Samary, Stephanie Lunn, Alan Peterfraud
Boston College, Chestnut Hill, Massachusetts, USA;
Florida Intenational University, Miami, Florida, USA;
Sagefox Consulting Group, Amherst, Massachusetts, USA
- 07:30 - 10:00pm: **CONFERENCE RECEPTION DINNER / SOCIAL**
July 26 - Monday; 07:30pm
(LOCATION: Velvet Room)

- SESSION 1-ZOOM: ---> SERP-ICDATA-IKE-IPCV-EEE-ICAI:
SOFTWARE ENGINEERING + AGILE TECHNOLOGY + DATA SCIENCE +
INFORMATION ENGINEERING + IMAGING SCIENCE + ANN
Chairs: TBA
July 26, 2021 (Monday); 07:00am - 09:00am
(ON-LINE / ZOOM)**
- 07:00 - 07:20am: Cumulative Effort Estimation in an Evolving Legacy System
Lamees Alhazaa, Anneliese Amschler Andrews, Aiman Gannous
CS Department, Al-Imam Muhammad Bin Saud Islamic
University, Riyadh, Saudi Arabia; Department of CS,
University of Denver, Denver, Colorado, USA; Department
of Health Info, University of Benghazi, Benghazi, Libya
- 07:20 - 07:40am: Data Science in Procurement - a case study of a wind
turbine manufacturer
Manuel Lutz, Niklas Stepanek
Technical University of Munich, DE, Germany
- 07:40 - 08:00am: Recycling 4.0 - Solving the Information Puzzle of the
Circular Economy
Lars Kintscher, Sebastian Lawrenz, Hendrik Poschmann,
and Priyanka Sharma
Institute of Distributed Systems, Ostfalia University of
Applied Sciences, Wolfenbuttel, Germany; Institute for
Software and Systems Engineering, Clausthal University
of Technology, Clausthal-Zellerfeld, Germany;
Institute of Production Technology, Ostfalia University
of Applied Sciences, Wolfenbuttel, Germany
- 08:00 - 08:20am: Regression Networks for Automatic Pain Intensity
Recognition in Video using Facial Expression on the X-ITE
Pain Database
Ehsan Othman, Philipp Werner, Frerk Saxen, Ayoub Al-Hamadi,
and Steffen Walter
Department of Neuro-Information Technology, Otto-von-Guericke
University, Magdeburg, Germany; Department of Medical
Psychology, Ulm University, Ulm, Germany
- 08:20 - 08:40am: Agile vs Rigor-Oriented IT Service Design Practices - A
Comparative Analysis
Manuel Mora, Jorge Marx-Gomez, Olayele Adelakun, Fen Wang
Information Systems, Autonomous University of Aguascalientes,
Aguascalientes, AGS, Mexico; Informatics, University of
Oldenburg, Oldenburg, Lower Saxony, Germany; Computer
Science, De Paul University, Chicago, Illinois, USA;
Information Technology and Administration Management,
Central Washington University, Ellensburg, Washington, USA
- 08:40 - 09:00am: Generalization Over Different Cellular Automata Rules
Learned by a Deep Feed-Forward Neural Network
Marcel Aach, Jens Henrik Goebbert, Jenia Jitsev
Juelich Supercomputing Centre, Forschungszentrum Juelich
GmbH, Wilhelm-Johnen-Strasse, Germany; University of
Cologne, Mathematical Institute, Cologne, Germany;
Helmholtz AI, Forschungszentrum Juelich GmbH, Germany

- 09:00 - 10:00am: ON-LINE KEYNOTE:**
ENHANCING SECURITY OF COMMUNICATION NETWORKS WITH RANDOM NEURAL NETWORKS
Prof. Erol Gelenbe
IEEE FACM FIET FRSS FIFIP; Professor, Institute of Theoretical and Applied Informatics (IITIS-PAN), Polish Academy of Sciences; Inventor of the random neural network & the eponymous G-networks. Fellow of the National Academy of Technologies of France & of the Science Academies of Belgium, Hungary, Poland & Turkey.
(ON-LINE / ZOOM)
- SESSION 2-ZOOM: ---> SERP:**
SOFTWARE ENGINEERING RESEARCH AND PRACTICE + TOOLS
Chairs: TBA
July 26, 2021 (Monday); 10:20am - 11:40am
(ON-LINE / ZOOM)
- 10:20 - 10:40am: Technical Lag in OSS Integration**
Thomas Weber, Rene Peinl
Institute of Information Systems, Hof University of Applied Sciences, Hof, Germany
- 10:40 - 11:00am: A Data-Driven Approach to Rethinking Open Source Software Organizations as a Team of Teams**
Elaine M. Raybourn, Reed Milewicz, David M. Rogers, Benjamin H. Sims, Greg Watson, Elsa Gonsiorowski, and Jim Willenbring
Sandia National Laboratories, Albuquerque, New Mexico, USA;
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA;
Los Alamos National Laboratory, Los Alamos, New Mexico, USA;
Lawrence Livermore National Laboratory, Livermore, CA, USA
- 11:00 - 11:20am: Evaluation of Change Impact Analysis Tools in a Real-World Case Study**
Arezoo Tajmoradi, Christoph Knieke, Sebastian Lawrenz, and Andreas Rausch
Institute for Software and Systems Engineering, Clausthal University of Technology, Clausthal-Zellerfeld, Germany
- 11:20 - 11:40am: Automating Software Productivity Planning: Lightweight Tools for Upgrading Team Practices**
Elaine M. Raybourn, Greg Watson, Elsa Gonsiorowski, Reed Milewicz, David M. Rogers, Benjamin H. Sims, and Jim Willenbring
Sandia National Laboratories, Albuquerque, New Mexico, USA;
Oak Ridge National Laboratory, Oak Ridge, Tennessee, USA;
Los Alamos National Laboratory, Los Alamos, New Mexico, USA;
Lawrence Livermore National Laboratory, Livermore, CA, USA

- SESSION 3-ZOOM: ---> ICDATA-SERP:**
DATA SCIENCE + OPTIMIZATION + SOFTWARE TOOLS
Chairs: TBA
July 26, 2021 (Monday); 11:40am - 01:40pm
(ON-LINE / ZOOM)
- 11:40 - 12:00pm: Optimizing Global Processing Time in the Detection of Patterns Related to Depression in Social Networks
 Damian Martinez Diaz, Francisco Javier Luna Rosas
 Departamento de Sistemas y, Computacion Instituto Tecnologico de Aguascalientes, (ITA), Aguascalientes, Mexico
- 12:00 - 12:20pm: Search Algorithms for Automated Hyper-Parameter Tuning
 Leila Zahedi, Farid Ghareh Mohammadi, Shabnam Rezapour, Matthew W. Ohland, M. Hadi Amini
 Knight Foundation School of Computing and Information Sciences, Florida International University, Miami, Florida, USA; Sustainability, Optimization, and Learning for InterDependent Networks Laboratory (solid lab), Florida International University, Miami, Florida, USA; Department of CS, University of Georgia, USA; Enterprise and Logistics Engineering, Florida International University, Miami, Florida, USA; School of Engineering Education, Purdue University, West Lafayette, Indiana, USA
- 12:20 - 12:40pm: Detecting Informed Traders in the Financial Markets
 Damian Etchevest, Sebastian Calzadilla, Louis Alvarez, and Sean Mondesire
 St. Thomas University, USA
- 12:40 - 01:00pm: Metadata Provenance for Analysis Applied to Ecological Niche Modelling
 Agnei C. Silva, Pedro L. P. Correa, Cleverton Borba
 University of Sao Paulo, Brazil; Andrews University, USA
- 01:00 - 01:20pm: Prediction of Days-On-Market for Single-Family Homes in the Housing Market of Southeast Georgia
 Keagan Galbraith, Ray R. Hashemi, Omid M. Ardakani, and Jason S. Beck
 Department of CS, Honors College, Georgia Southern University, USA; Department of CS, Georgia Southern University-Armstrong Campus, Savannah, Georgia, USA; Department of Economics, Georgia Southern University-Armstrong Campus, Savannah, Georgia, USA
- 01:20 - 01:40pm: A LibTooling-Based Refactoring Tool for CUDA Memory Management
 Kian Nejadfard, Alan Hylton, Janche Sang, Haodong Wang, and Jingru Zhang
 Department of EE & CS, Cleveland State University, Cleveland, Ohio, USA; Space Communications and Navigation, NASA Glenn Research Center, Cleveland, Ohio, USA

- SESSION 4-ZOOM: ---> BIOCAMP-BIOENG:
COMPUTATIONAL BIOLOGY, BIOMEDICAL ENGINEERING + MEDICAL
DEVICES AND SERVICES
Chairs: TBA
July 26, 2021 (Monday); 01:40pm - 03:20pm
(ON-LINE / ZOOM)**
- 01:40 - 02:00pm: Multimodal Analysis of Plant Root Composition as a Function of Drought
Daniela Ushizima, Esther Singer, Elizabeth Carpenter, and Dilworth Parkinson
Lawrence Berkeley National Laboratory, Berkeley, CA, USA;
University of California Berkeley, Berkeley, California, USA
- 02:00 - 02:20pm: Accurate and Robust Trypan Blue-Based Cell Viability Measurement Using Neural Networks
Adele Peskin, Joe Chalfoun, Steven P. Lund, Chenyi Ling, Laura Pierce, Sumona Sarkar, Firdavs Kurbanov, Michael Halter, and John Elliott
National Institute of Standards and Technology, NIST, Maryland, USA; National Institute of Standards and Technology, NIST, Colorado, USA
- 02:20 - 02:40pm: Tridimensional Structure Prediction and Purification of Human Protein GPN2 to High Concentrations by Nickel Affinity Chromatography in Presence of Amino Acids for Improving Impurities Elimination
Jorge Juarez Lucero, Maria del Rayo Guevara-Villa, Anabel S Sanchez Sanchez, Raquel Diaz Hernandez, and Leopoldo Altamirano Robles
Instituto Nacional de Astrofisica, Optica y Electronica, Mexico; Universidad Politecnica de Puebla, Mexico
- 02:40 - 03:00pm: Formulating the Correlation between Speech Recognition Tests and Word Recognition Test
Mai Trinh, Sarah Beaver, Eduardo Colmenares
University of Houston, Texas, USA; University of North Texas, Texas, USA; Midwestern State University, Texas, USA
- 03:00 - 03:20pm: Effect of Software-Created Ground Truth Images in Photoacoustic Tomography
Ivan Gomez-Arista, Raquel Diaz-Hernandez, Leopoldo Altamirano-Robles, Elsi V. Mejia-Uniarte, Oleg Kolokoltsev, Cesar L. Ordonez-Romero, Marco A. Canchola-Chavez, Maria del Transito Borrach-Arguello
CONACYT-INAOE, Tonantzintla, Puebla, Mexico; INAOE, Tonantzintla, Puebla, Mexico; ICAT-UNAM, Ciudad Universitaria, Mexico; IF-UNAM, Ciudad Universitaria, Mexico; Universidad Politecnica de Puebla, Puebla, Mexico

- SESSION 5-ZOOM: ---> CSC-PDPTA:**
SCIENTIFIC COMPUTING + PARALLEL AND DISTRIBUTED PROCESSING
TECHNIQUES AND APPLICATIONS
Chairs: TBA
July 26, 2021 (Monday); 03:20pm - 05:00pm
(ON-LINE / ZOOM)
- 03:20 - 03:40pm: Comparing Machine Learning Techniques for Alfalfa Biomass Yield Prediction
Jonathan M. Vance, Christopher D. Whitmire, Hend K. Rasheed, Christian Adkins, Ali Missaoui, Khaled M. Rasheed, and Frederick W. Maier
Department of CS, University of Georgia, USA; Institute for Artificial Intelligence, University of Georgia, USA; Department of Crop and Soil Sciences, Institute of Plant Breeding Genetics and Genomics, University of Georgia, USA
- 03:40 - 04:00pm: MedSensor: Medication Adherence Monitoring Using Neural Networks on Smartwatch Accelerometer Sensor Data
Chrisogonas Odhiambo, Pamela Wright, Cindy Corbett, and Homayoun Valafar
CSE Department, University of South Carolina, Columbia, South Carolina, USA; College of Nursing, University of South Carolina, Columbia, South Carolina, USA
- 04:00 - 04:20pm: Application of Linear Mixed-Effects Models in Sleep Study: A Comparison and Assessment with Linear Models for Large Data
Mahmoud Affouf, Rebecca Robbins
School of Mathematical Sciences, Kean University, Union, New Jersey, USA; Division of Sleep and Circadian Disorders, Departments of Medicine and Neurology, Brigham and Women's Hospital, Boston, Massachusetts, USA; Division of Sleep Medicine, Harvard Medical School, Boston, Massachusetts, USA
- 04:20 - 04:40pm: Novel Prime Finding Algorithm
Yujin Yoshimura, Eduardo Colmenares
Department of Computer Science, Midwestern State University, Wichita Falls, Texas, USA
- 04:40 - 05:00pm: BCT-Voting: A Blockchain Technology Based Voting System
Deepali Raikar, Avimanyou K. Vatsa
Fairleigh Dickinson University, Teaneck, New Jersey, USA
deepali31@student.fdu.edu, avatsa@fdu.edu

- SESSION 6-ZOOM: ---> PDPTA:**
MATHEMATICAL MODELING AND PROBLEM SOLVING (MPS)
Chairs: Prof. Masahito Ohue*, Prof. Masakazu Sekijima*,
Prof. Kazuki Joe**
*** Tokyo Institute of Technology, Japan;**
****chair of Life Computing and Communication Department,**
Nara Women's University, Japan
July 26, 2021 (Monday); 05:00pm - 09:40pm
(ON-LINE / ZOOM)
- 05:00 - 05:20pm: NARU: Natural-gradient AutoRegressive Unlossy Audio Compressor
 Taiyo Mineo, Hayaru Shouno
 The University of Electro-Communications, Chofu, Tokyo, Japan
- 05:20 - 05:40pm: Generating Diverse Solutions for Nurse Scheduling
 Naoaki Katoh, Wei Wu, Atsuko Ikegami
 Seikei University, Japan
- 05:40 - 06:00pm: An Improved Branch-and-Bound MCT Algorithm for Finding a
 Maximum Clique
 Etsuji Tomita, Jiro Yanagisawa, Kengo Katayama, Kazuho Kanahara,
 Takanori Toda, Hiro Ito, Mitsuo Wakatsuki, Tetsuro Nishino
 The University of Electro-Communications, Chofu, Tokyo, Japan
- 06:00 - 06:20pm: OptWedge: Cognitive Optimized Guidance toward Off-screen POIs
 Shoki Miyagawa
 Mitsubishi Electric Co., Kanagawa, Japan
- 06:20 - 06:40pm: Antisense Oligonucleotide Activity Analysis based on Opening
 and Binding Energies to Targets
 Kazuya Isawa, Keisuke Yanagisawa, Masahito Ohue, Yutaka Akiyama
 School of Computing, Tokyo Institute of Technology, Ookayama,
 Meguro-ku, Tokyo, Japan
- 06:40 - 07:00pm: Face Impression Classification in Cosmetic Counseling Using
 Deep Convolutional Neural Network
 Masaharu Kurosawa, Hayaru Shouno
 Graduate School of Informatics and Engineering, University
 of Electro-Communications, Japan
- 07:00 - 07:20pm: Proposal of an Essential Oil Blending Method using Q-learning
 Kyoka Nakano, Masami Takata
 Nara Women's University, Nara, Japan
- 07:20 - 07:40pm: Implementation of Singular Value Decomposition for Complex
 Matrices Using the Two-sided Jacobi Method
 Takahiro Miyamae, Masami Takata, Kinji Kimura, and
 Yoshimasa Nakamura
 Nara Women's University, Nara, Japan
- 07:40 - 08:00pm: MEGADOCK-Web-Mito: Human Mitochondrial Protein-Protein
 Interaction Prediction Database
 Masahito Ohue, Hiroki Watanabe, Yutaka Akiyama
 Department of CS, School of Computing, Tokyo Institute of
 Technology, Nagatsutacho, Midori-ku, Yokohama City, Japan
- 08:00 - 08:20pm: Timing to Start to Feel Anxious while Moving with an
 Autonomous Personal Mobility Vehicle
 Kotoyu Sasayama, Tomoya Uefune
 Information Technology R & D Center, Mitsubishi
 Electric Co., Kamakura, Kanagawa, Japan

- 08:20 - 08:40pm: MEGADOCK-GUI: A GUI-based Complete Cross-docking Tool for Exploring Protein-Protein Interactions
Masahito Ohue, Yutaka Akiyama
Department of CS, School of Computing, Tokyo Institute of Technology, Midori-ku, Yokohama City, Kanagawa, Japan
- 08:40 - 09:00pm: Prediction of G4(MP2)-level Quantum Chemical Properties from DFT-level Molecular Structures by Delta Machine Learning
Wan Mingda, Nobuaki Yasuo, Masakazu Sekijima
School of Computing, Tokyo Institute of Technology, Nagatsuta-Cho Midori-Ku, Yokohama, Japan
- 09:00 - 09:20pm: Estimating Concrete Interior using a 3D-CNN
Miho Chiyonobu, Sayaka Iida, Yu Ishikawa, Masaharu Nishikino, Ryuta Kawakami, Kazuki Joe
Nara Women's University, Nara, Japan
- 09:20 - 09:40pm: Generating an Estimated Font Set for Early-Modern Japanese Printed Character Recognition
Yuki Takemoto, Yu Ishikawa, Masami Takata, Kazuki Joe
Nara Women's University, Nara, Japan

- 07:00a - 05:00p: REGISTRATION**
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)
- SESSION 6-ICDATA-SERP: DATA SCIENCE + MACHINE LEARNING AND APPLICATIONS + SOFTWARE ENGINEERING**
Chairs: TBA
July 27, 2021 (Tuesday); 08:00am - 09:20am
(LOCATION: Galleria B)
- 08:00 - 08:20am:** Correlation Between Reliability and Risk Priority Numbers (RPN) for Bridges
Chandrasekhar Putcha, Ahin Banerjee, Debanshee Datta, and Subhrajit Datta
California State University, Fullerton, California, USA;
Indian Institute of Technology (BHU), Varanasi, India;
National Institute of Technology, Silchar, India
- 08:20 - 08:40am:** Smoking Classification using Novel Plasma Cytokines by Implementing Machine Learning and Statistical Methods
Seema Singh Saharan, Pankaj Nagar, Kate Townsend Creasy, Eveline O. Stock, James Feng, Mary J. Malloy, John P. Kane
Department of Statistics, University of Rajasthan, India;
UCSF Kane Lab, San Francisco, California, USA;
University of California Berkeley Extension, CA, USA;
Cardiovascular Research Institute, Department of Medicine, University of California, San Francisco, California, USA;
Cardiovascular Research Institute, Departments of Medicine and Pediatrics, University of California, San Francisco, California, USA; Cardiovascular Research Institute, Department of Medicine, Department of Biochemistry and Biophysics, University of California, San Francisco, CA, USA
- 08:40 - 09:00am:** Logistic Regression and Statistical Regularization Techniques for Risk Classification of Cardiovascular Disease using Cytokines Transported by High Density Lipoproteins (HDL)
Seema Singh Saharan, Pankaj Nagar, Kate Townsend Creasy, Eveline O. Stock, James Feng, Mary J. Malloy, John P. Kane
Department of Statistics, University of Rajasthan, India;
UCSF Kane Lab, San Francisco, California, USA; University of California Berkeley Extension, CA, USA; Cardiovascular Research Institute, Department of Medicine, University of California, San Francisco, CA, USA; Cardiovascular Research Institute, Departments of Medicine and Pediatrics, University of California, San Francisco, CA, USA; Cardiovascular Research Institute, Department of Medicine, Department of Biochemistry & Biophysics, UC San Francisco, CA, USA
- 09:00 - 09:20am:** Effects of Alpha, Beta and Patch Size on Performance of Layer-wise Relevance Propagation
Lijun Sun, Douglas Talbert
Tennessee Technological University, Tennessee, USA
- 09:20 - 10:20am: KEYNOTE LECTURE: SAM'21 & GENERAL - July 27, Tuesday: CYBER SECURITY - PRIVACY; HOW CAN I PROTECT MYSELF IN CYBER SPACE? CAN I GET SOME PRIVACY, PLEASE?**
Professor Levent Ertaul
Department of Computer Science, California State University, East Bay, California, USA
(LOCATION: Galleria B)
- 10:20 - 10:40am: BREAK**

SESSION 7-PDPTA-GCC: PARALLEL AND DISTRIBUTED PROCESSING + CLOUD & APPLICATIONS**Chairs: TBA****July 27, 2021 (Tuesday); 10:40am - 12:00pm****(LOCATION: Galleria B)**

- 10:40 - 11:00am: Clustered Visualization of Large Scenes using Actors
Kurt D. Hardee, Mark C. Lewis
Department of Computer Science, Trinity University,
San Antonio, Texas, USA
- 11:00 - 11:20am: Distributed Photometry of Large Scenes Using Spark
Connor Weisenberger, Mark C. Lewis
Department of Computer Science, Trinity University,
San Antonio, Texas, USA
- 11:20 - 11:40am: Selfish-Stabilizing Spanning Tree for Two-Colored Graphs
Anurag Dasgupta
CS, Valdosta State University, Valdosta, Georgia, USA
- 11:40 - 12:00pm: Investigations of Micro-Benchmarks for Performance Profiling
in Multi-Tenant Clouds
Hamidreza Moradi, Wei Wang, Dakai Zhu
University of Mississippi Medical Center, Mississippi, USA;
University of Texas at San Antonio, Texas, USA
- 12:00 - 01:00pm: LUNCH (On Your Own)

SESSION 8-CSC-IPCV-FECS: SCIENTIFIC COMPUTING + IMAGING SCIENCE AND PROGRAMMING LANGUAGES**Chairs: TBA****July 27, 2021 (Tuesday); 01:00pm - 03:00pm****(LOCATION: Galleria B)**

- 01:00 - 01:20pm: Soft Body Collisions for Ring Simulations with Rust
Jonathan Rotter, Mark C. Lewis
Department of Computer Science, Trinity University,
San Antonio, Texas, USA
- 01:20 - 01:40pm: Fuzzy Evaluation Modeling and its Combination with
Factorial Analysis
Rajan Alex
Department of Engineering and Computer Science, School of
Engineering, Computer Science, and Mathematics, West
Texas A&M University, Canyon, Texas, USA
- 01:40 - 02:00pm: Hash Function Visualization Language
Andrew Chabot, Hans-Peter Bischof
Department of Computer Science, Rochester Institute of
Technology, Rochester, New York, USA
- 02:00 - 02:20pm: Photometric Rendering of Dust and Freed Regolith in Ring
Simulations
Elizabeth Ruetschle, Lance Ellis, Mark C. Lewis
Department of Computer Science, Trinity University,
San Antonio, Texas, USA
- 02:20 - 02:40pm: Tracking of Shorelines Using Unmanned Aerial Systems
Adnan Yunus, Garrett Shake, Dulal Kar
University Of California Santa Cruz, Santa Cruz, CA, USA;
Texas A&M University - Corpus Christi, Texas, USA

- 02:40 - 03:00pm: JavaScript Frameworks
Jonathan Fuqua, Luay A. Wahsheh
Department of Computer Science and Engineering, University of Tennessee at Chattanooga, Chattanooga, Tennessee, USA
- 03:00 - 03:20pm: **BREAK & POSTERS**
July 27, 2021 (Tuesday)
(LOCATION: Lotus Ballrooms 1)
- 0. An Analysis of the Relationship Between Household Income and School Prestige on Student Income
Christina Sherpa, Jiselle Ramirez, Naomi Giancola
Smith College, USA
 - 0. Machine Learning for Surrogate Modeling in Ground Vehicle Mobility Analysis
Jeremy Mange
US Army - DEVCOM Ground Vehicle Systems Center (GVSC), Analytical Methods, Warren, Michigan, USA
 - 0. Automated Graphing for Modeling and Simulation
Sara Boyle
US Army - DEVCOM GVSC - Analytical Development and Data Science, Warren, Michigan, USA
 - 0. ...
- 03:20 - 04:20pm: **KEYNOTE LECTURE: SAM'21 & GENERAL - July 27, Tuesday:**
ZERO-TRUST: SECURING THE NEW PERIMETER
Dr. Nader Nassar
Program Director & Senior Technical Staff member,
IBM CIO, Assured Identity & Cyber Ops Organization;
Master Inventor at IBM; IBM, USA
- SESSION 9-ICAI-CSC-ICOMP: ARTIFICIAL INTELLIGENCE + SCIENTIFIC COMPUTING + INTERNET TECHNOLOGIES**
Chairs: TBA
July 27, 2021 (Tuesday); 04:20pm - 06:00pm
(LOCATION: Galleria B)
- 04:20 - 04:40pm: A Fog-Assisted Architecture for Urban Surveillance Using AI and Data Fusion
Arslan Munir, Jisu Kwon, Joonho Kong, Erik Blasch, Alexander Aved, Khan Muhammad
Kansas State University, Manhattan, Kansas, USA;
Kyungpook National University, Daegu, South Korea;
Air Force Office of Scientific Research (AFOSR), Arlington Virginia, USA; Air Force Research Laboratory (AFRL), Rome, New York, USA; Sejong University, Seoul, South Korea
- 04:40 - 05:00pm: Assessing the Role of Demand Response Program in the Performance of Residential Energy Hub
H. A. Shayanfar, H. Shayeghi, L. Bagherzadeh
College of Technical & Engineering, South Tehran Branch, Islamic Azad University, Tehran, Iran; Energy Management Research Center, University of Mohaghegh Ardabili, Iran
- 05:00 - 05:20pm: Entropy-Based Algorithm of Transfer Learning and Genetic Algorithm
Tami Alghamdi, Robert B. Heckendorn, Terence Soule
Department of Computer Science, University of Idaho, Moscow, Idaho, USA

- 05:20 - 05:40pm: Economic and Environmental Optimization of Demand Side Management in the Presence of Multi-DG and DR
H. Shayeghi, H. A. Shayanfar, M. Alilou
Energy Management Research Center, University of Mohaghegh Ardabili, Iran; College of Technical & Engineering, South Tehran Branch, Islamic Azad University, Tehran, Iran; Electrical Engineering Department, Urmia University, Iran
- 05:40 - 06:00pm: A Scheme to Reduce MVCC Conflict by Adjusting Block Size in Hyperledger Fabric
Hyeonwoo Shin, Taerim Lee, Ho-Se Moon, Juwook Jang
Department of EE, Sogang University, Seoul, Korea
- 06:00 - 07:00pm: **ICDATA KEYNOTE LECTURE/ADDRESS - July 27, Tuesday:
BADGES & NEURAL NETWORKS: IMPROVING LAW ENFORCEMENT WITH AI
Andrew Johnston
Consultant with Mitiga, CEO and Co-Founder of Recluse Laboratories;
Adjunct Professor at Fordham University, USA
(LOCATION: Galleria B)**

- SESSION 7-ZOOM: ---> BIOCAMP-HIMS:**
BIOINFORMATICS & COMPUTATIONAL BIOLOGY + HEALTH
INFORMATICS & MEDICAL SYSTEMS
Chairs: TBA
July 27, 2021 (Tuesday); 07:00am - 08:40am
(ON-LINE / ZOOM)
- 07:00 - 07:20am: First Theory of Cancer Gene Data Analysis by 169 Microarrays and Four Universal Data Structures for Big Data
 Shuichi Shinmura
 Professor Emeritus Seikei University, Sakasai Kashiwa City, Chiba, Japan
- 07:20 - 07:40am: Seventeen Serious Mistakes of Cancer Gene Data Analysis Since 1995
 Shuichi Shinmura
 Professor Emeritus Seikei University, Sakasai Kashiwa City, Chiba, Japan
- 07:40 - 08:00am: Towards Genomics Data-Based Disease Prediction with Graph Neural Networks
 Laura Hernandez-Lorenzo, Vanesa Pytel, Jordi A. Matias-Guiu, Jorge Matias-Guiu, Jose L. Ayala
 Department of Computer Architecture and Automation, Complutense University of Madrid, Spain; Department of Neurology, Hospital Clinico San Carlos, San Carlos Institute for Health Research (IdiSSC), Complutense University of Madrid. Madrid, Spain
- 08:00 - 08:20am: Signal Processing and Machine Learning Pipeline for EEG Manipulation in the Diagnosis of Dementia
 Carlos Moral Rubio, Vanesa Pytel, Jordi A. Matias-Guiu, Jorge Matias-Guiu, Jose L. Ayala
 Department of Computer Architecture and Automation, Complutense University of Madrid, Spain; Department of Neurology. Hospital Clinico, San Carlos, San Carlos Institute for Health Research (IdiSSC), Complutense University of Madrid. Madrid, Spain
- 08:20 - 08:40am: Data Visualization for Knowledge Discovery and Sense-Making in Coronary Heart Diseases
 Prajwal Koirala, Abeer Alsadoon, Mokhtar Mohammadi, Tarik A. Rashid, P.W.C. Prasad, Thair Al-Dala'in, Nectar Costadopoulos, Angelika Maag
 School of Computing and Mathematics, Charles Sturt University, Sydney, Australia; Information Technology Department, Asia Pacific International College (APIC), Sydney, Australia; School of Computing Engineering and Mathematics, Western Sydney University, Sydney City Campus, Australia

- SESSION 8-ZOOM: ---> SAM-ICWN:**
SECURITY AND MANAGEMENT + WIRELESS NETWORKS
Chairs: TBA
July 27, 2021 (Tuesday); 08:40am - 10:20am
(ON-LINE / ZOOM)
- 08:40 - 09:00am: Security in Distributed Systems by Verifiable Location-Based Identities
Simon Tschirner, Katharina Zeuch, Sascha Kaven, Lorenz Bornholdt, and Volker Skwarek
RTC Digital Business Processes, Faculty of Life Sciences, Hamburg University of Applied Sciences, Hamburg, Germany
- 09:00 - 09:20am: On the Use of Semantic Web Technologies for Forest Fire Emergencies in Resilient Societies
Panagiota Masa, Georgios Meditskos, Anastasios Karakostas, Stefanos Vrochidis, Ioannis Kompatsiaris
CERTH / Information Technologies Institute, Centre for Research and Technology Hellas, Greece
- 09:20 - 09:40am: A Secure Communication between Patient and Psychiatrist in Telepsychology: Hyper Chaotic Advanced Encryption Standard (HCAES)
Anish Adhikari, Noha Hazzazi, Abeer Alsadoon, Ahmed Dawoud, P.W.C. Prasad, Tarik Rashid
School of Computing and Mathematics, Charles Sturt University (CSU), Australia; Department of EE & CS, Howard University, Washington DC, USA; School of Computer Data and Mathematical Sciences, University of Western Sydney (UWS), Sydney, Australia; CSE, University of Kurdistan Hewler, Erbil, Iraq
- 09:40 - 10:00am: Electronic Design Automation (EDA) and Integrated Circuits: Systems Security and Protection
Nicolas Sklavos, Charikleia Salaga
University of Patras, Greece
- 10:00 - 10:20am: Survey on Blockchain-Based Frameworks for Secure, Anonymous yet Verifiable e-Voting
Michel Verwer, Ioanna Dionysiou, Harald Gjermundrod
Department of Computer Science, School of Sciences and Engineering, University of Nicosia, Nicosia, Cyprus

- SESSION 9-ZOOM: ---> ICDATA
DATA SCIENCE + FORECASTING + OPTIMIZATION
Chairs: TBA
July 27, 2021 (Tuesday); 10:20am - 11:20am
(ON-LINE / ZOOM)**
- 10:20 - 10:40am: An Approach to Bridge the Gap Between State-of-the-art Predictive AI Algorithms and Real-world Activity
Forecasting Constraints
Anna Nesvijevskaia, Edoardo Aliprandi, Catherine Lesperance, Sophie Ouillade, Valentin Masdeu, Cyril Esnault, and Jean-Daniel Zucker
Quinten, France
- 10:40 - 11:00am: Using Social Signals Predict Bitcoin Price Fluctuations
Tanzhou Liu, Wei Zhang, Yilmazcan Ayurt
Nanjing University, China
- 11:00 - 11:20am: Multi-Objective Quantum-Behaved Particle Swarm Optimization Training Feed-Forward Neural Network
Pei-Yau Weng, Gilbert S. Young
Department of Computer Science, California State Polytechnic University, Pomona, California, USA
- SESSION 10-ZOOM: ---> FECS
FRONTIERS IN EDUCATION: STEM, TEACHING STRATEGIES & TOOLS
Chairs: TBA
July 27, 2021 (Tuesday); 11:20am - 02:00pm
(ON-LINE / ZOOM)**
- 11:20 - 11:40am: Enabling Underprivileged Non-technical Women for Technology Careers: A Case Study
Bushra Anjum, Faiza Yousuf
CodeGirls Global Advisor, Santa Margarita, California, USA; CodeGirls Co-Founder, Karachi, Pakistan
- 11:40 - 12:00pm: CodeAPeel: An Integrated and Layered Learning Technology for Computer Architecture Courses
A. Yavuz Oruc, A. Atmaca, Yusuf Nevzat Sengun, and Ali Semi Yenimol
Department of Electrical and Computer Engineering, University of Maryland, College Park, Maryland, USA; Department of Computer Engineering, Bilkent University, Ankara, Turkey
- 12:00 - 12:20pm: Evention: Online Event Management System
Mudasser F. Wyne, Shahrbanoo M. Gargari, Yousuf Diarra, and Armen Sherbeitjian
College of Professional Studies, National University, San Diego, California, USA
- 12:20 - 12:40pm: Incorporating the ARM Raspberry Pi into a Computer Architecture Course
C. Gerousis, C. Baker
Department of Physics, Computer Science, and Engineering, Christopher Newport University, Newport News, Virginia, USA
- 12:40 - 01:00pm: On Leveraging Computing Connection in STEM Domains
Ray Kresman
Department of Computer Science, Bowling Green State University, Bowling Green, Ohio, USA

- 01:00 - 01:20pm: Research Experience for Undergraduates in Applied Computing with Regional Research Themes
Dulal C. Kar, Longzhuang Li, Ahmed Mahdy
Texas A&M University - Corpus Christi, Texas, USA
- 01:20 - 01:40pm: **FREE SLOT** ←-----
A Custom Web Service for Analyzing Athletic Performance Data in Collegiate Sports
Nathan Alden, Daniel Haugen, Andrzej Przybyla
Department of Computer Science, University of North Georgia, Dahlonega, Georgia, USA; Department of Physical Therapy, University of North Georgia, Dahlonega, Georgia, USA
- 01:40 - 02:00pm: Renewable Energy Research and Capacity Building for STEM Recruitment and Reinforcement
Bahram Asiabanpour
Ingram School of Engineering, Texas State University, San Marcos, Texas, USA
- SESSION 11-ZOOM: ---> ICAI-ACC:
ARTIFICIAL INTELLIGENCE + APPLIED COGNITIVE COMPUTING
Chairs: TBA
July 27, 2021 (Tuesday); 02:00pm - 04:00pm
(ON-LINE / ZOOM)**
- 02:00 - 02:20pm: The "Room Theory": A Computational Model to Account Subjectivity into Natural Language Processing
Carlo Lipizzi, Dario Borrelli, Fernanda de Oliveira Capela
School of Systems and Enterprises, Stevens Institute of Technology, Hoboken, New Jersey, USA
- 02:20 - 02:40pm: Least-Squares Estimation of Circuit Element Values from Measured Voltage and Current Waveforms
Charles Kim
EE & CS, Howard University, Washington, DC, USA
- 02:40 - 03:00pm: Avoiding Catastrophic Forgetting with Short-Term Memory During Continual Learning
James A. Reggia, Garrett E. Katz, Gregory P. Davis, and Rodolphe Gentili
Department of CS, University of Maryland, College Park, Maryland, USA; Department of Kinesiology, University of Maryland, College Park, Maryland, USA; Department of EE & CS, Syracuse University, Syracuse, New York, USA
- 03:00 - 03:20pm: Deep Learning for Uniformity and Texture Feature Extraction in Oral Cancer: Enhanced Scalar Probability of Number of Images
Ashok Bhatta, Abeer Alsadoon, P.W.C. Prasad, Indra Seher, Tarik A. Rashid, Ahmed Dawoud, Mokhtar Mohammadi, Sarkhel H.Taher Karim, Azheen Ghafour Mohammed, Omar Hisham Alsadoon, Oday D. Jerew
School of Computing and Mathematics, Charles Sturt University (CSU), Australia; School of Computer Data and Mathematical Sciences, University of Western Sydney (UWS), Sydney, Australia; School of Information Technology, Southern Cross University (SCU), Sydney, Australia; Crown Institute of Higher Education, Information Technology Department, Sydney, Australia; CSE, University of Kurdistan Hewler, Erbil, KRG, Iraq; Department of IT, Lebanese French University, Erbil, KRG, Iraq; Computer Department, College of Science, University of Halabja, Halabja, KRG, Iraq

- 03:20 - 03:40pm: Finding Phishing and Fraudulent Websites using Logo Detection
Abhilash Garimella, Matin Hosseini, Abhishek Dubey, and
Shashi Prakash
Department of Research, Bolster, Inc., California, USA
- 03:40 - 04:00pm: Detecting Phishing and Fraud Sites at Scale Using Deep
Learning During Covid
Matin Hosseini, Abhilash Garimella, Abhishek Dubey, and
Shashi Prakash
Research Department, Bolster Inc., Los Altos, California, USA
- SESSION 12-ZOOM: ---> SAM-ICWN-EEE:
SECURITY AND MANAGEMENT + SECURITY EDUCATION +
WIRELESS NETWORKS + AUTHENTICATION METHODS
Chairs: TBA
July 27, 2021 (Tuesday); 04:00pm - 07:00pm
(ON-LINE / ZOOM)**
- 04:00 - 04:20pm: Smart Grid Communication Technologies and their Applications
for Smart Cities
Deok Hee Nam
Wilberforce University, Wilberforce, Ohio, USA
- 04:20 - 04:40pm: Teaching Network Security, Digital Forensics, and
Mathematical Topics in the Pandemic
Eamon P. Doherty, Elly Goei
School of Public and Global Affairs, Fairleigh Dickinson
University (FDU), Hackensack, New Jersey, USA
- 04:40 - 05:00pm: Deep Learning Algorithm for Threat Detection in Hackers
Forum (Deep Web)
Victor Adewopo, Nelly Elsayed, Bilal Gonen, Murat Ozer
School of IT, University of Cincinnati, Ohio, USA
- 05:00 - 05:20pm: Security Improvement on HMAC-based One-time Password (HOTP)
Shushan Zhao, Xiaobing Hou
Department of Computer Electronics & Graphics Technology,
Central Connecticut State University, New Britain,
Connecticut, USA
- 05:20 - 05:40pm: Visualizing Static Analysis Warnings by Dynamic Trace
Young Lee
Department of Computing and Cyber Security,
Texas A&M University-San Antonio, Texas, USA
- 05:40 - 06:00pm: Applying Equivalent Mutant to Refactoring the Security
Vulnerabilities
Chunyang Tang, Young Lee
Department of Computing and Cyber Security,
Texas A&M University-San Antonio, Texas, USA
- 06:00 - 06:20pm: Experimental Validation of Structured Attack Patterns
Walter Alan Cantrell, Edwin Michael Bearss,
Katia P. Maxwell, Spencer York, Mikel D. Petty,
Laurel Strelzoff, C. Daniel Colvett, Marshall Rosenhoover
Lipscomb University, Nashville, Tennessee, USA;
University of Alabama in Huntsville, Alabama, USA;
Athens State University, Athens, Alabama, USA

- 06:20 - 06:40pm: Secure End-to-End Communications with Lightweight Cryptographic Algorithm
Augustine Ukpebor, James Addy, Kamal Ali, Ali Abu-El Humos
Jackson State University, Jackson, Mississippi, USA
- 06:40 - 07:00pm: A Study of Secure Algorithms for Vertical Federated Learning: Take Secure Logistic Regression as an Example
Huan-Chih Wang, Ja-Ling Wu
Department of CSIE, National Taiwan University,
Taipei, Taiwan

- 07:00a - 05:00p: REGISTRATION**
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)
- SESSION 10-CSC: SCIENTIFIC COMPUTING + SYSTEMS PROGRAMMING AND TOOLS + APPLICATIONS**
Chairs: TBA
July 28, 2021 (Wednesday); 08:20am - 10:20am
(LOCATION: Galleria B)
- 08:20 - 08:40am: Fileless Keystroke Logging and Security Vulnerabilities**
Andrew A. Su, Bryson Payne
Department of Computer Science and Information Systems,
University of North Georgia, Dahlonega, Georgia, USA
- 08:40 - 09:00am: A School Redistricting Integer Programming Model for Achieving Connected School Attendance Zones**
Joshua C. Detwiler, Layne T. Watson, Naren Ramakrishnan,
and David S. Bieri
Department of Computer Science, Virginia Tech, Blacksburg,
Virginia, USA; School of Public and International Affairs,
Virginia Tech, Blacksburg, Virginia, USA
- 09:00 - 09:20am: Threaded Multi-Core GEMM with MoA and Cache-Blocking**
Stephen Thomas, Rishi Khan, Lenore Mullin, and
Kasia Swirydowicz
National Renewable Energy Laboratory, Golden, Colorado, USA;
Extreme Scale Computing, Wilmington, Delaware, USA;
University of Albany, SUNY, Albany, New York, USA;
Pacific Northwest Laboratory, Richland, Washington, USA
- 09:20 - 09:40am: Formal Specification of Aptitude Architecture for Recommendation and Adaptation of Learning Contents and Activities Based on Learning Analytics**
Adelina Aleksieva-Petrova, Milen Petrov
Faculty of Computer System and Technologies, Technical
University of Sofia, Sofia, Bulgaria; Faculty of Mathematics
& Informatics, Sofia University "St. Kl.Ohridski", Bulgaria
- 09:40 - 10:00am: Communication in Agile Software Development - A Mapping Study**
Suddhasvatta Das, Kevin Gary
Arizona State University, Tempe, Arizona, USA
- 10:00 - 10:20am: Extracting Data Element Names from Natural Language Definitions**
Bader Alshemaimri, Ramez Elmasri, Tariq Alsaifi, and
Abdullah Almoqbil
King Saud University, Saudi Arabia; University of Texas at
Arlington, Texas, USA; Jeddah University, Saudi Arabia;
University of North Texas, Texas, USA
- 10:20 - 10:40am: BREAK**

SESSION 11-IKE-ICDATA: INFORMATION & KNOWLEDGE ENGINEERING + DATA SCIENCE

Chairs: TBA

July 28, 2021 (Wednesday); 10:40am - 12:20pm

(LOCATION: Galleria B)

- 10:40 - 11:00am: Identifying and Using Phases of Flight for Unmanned Aircraft Systems through Machine Learning
Li Yu, Brent T. Langhals, Ryan D. L. Engle, Michael R. Grimaila, Douglas D. Hodson
US Air Force Institute of Technology (AFIT), USA
- 11:00 - 11:20am: Token Correction for the Data Washing Machine: Types and Comparisons
Fumiko Kobayashi, John R. Talburt, Awaad K. Al Sarkhi
Donaghey College of Science, Technology, Engineering, and Mathematics, The University of Arkansas at Little Rock, USA
- 11:20 - 11:40am: Performance Characteristics and Techniques of Discrete Database Schemas
Carter Grove, Brent T. Langhals, Ryan D. L. Engle, Michael R. Grimaila, Douglas D. Hodson
US Air Force Institute of Technology (AFIT), USA
- 11:40 - 12:00pm: **FREE SLOT** ←-----
Quantitatively Examining the Relationship between Social Media Messages and the Risk Management at Financial Institutions
Issayas Haile, Yanzhen Qu
School of Computer Science, Colorado Technical University, Colorado Springs, Colorado, USA
- 12:00 - 12:20pm: Optimization of Smoking Classification by Applying Neural Network with Variable Importance Using Cytokine Biomarkers
Seema Singh Saharan, Pankaj Nagar, Kate Townsend Creasy, Eveline O. Stock, James Feng, Mary J. Malloy, John P. Kane
Department of Statistics, University of Rajasthan, India; Voluntary Data Scientist UCSF Kane Lab, San Francisco, California, USA; University of California Berkeley Extension, California, USA; Cardiovascular Research Institute, Department of Medicine, University of California, San Francisco, CA, USA; Cardiovascular Research Institute, Departments of Medicine and Pediatrics, University of California, San Francisco, CA, USA; Cardiovascular Research Institute, Department of Medicine, Department of Biochemistry and Biophysics, University of California, San Francisco, CA, USA
- 12:20 - 01:20pm: **LUNCH (On Your Own)**

SESSION 12-FECS: FRONTIERS IN EDUCATION + EMERGING TOOLS AND METHODOLOGIES**Chairs: TBA****July 28, 2021 (Wednesday); 01:20pm - 03:00pm****(LOCATION: Galleria B)**

- 01:20 - 01:40pm: Lessons from an Online Multidisciplinary Undergraduate Summer Research Program
Matthias K. Gobbert, Jianwu Wang
Department of Mathematics and Statistics, University of Maryland, Baltimore County, Baltimore, Maryland, USA;
Department of Information Systems, University of Maryland, Baltimore County, Baltimore, Maryland, USA
- 01:40 - 02:00pm: Teaching During a Pandemic: Observations and Reflections
Donald R. Schwartz
School of Computer Science and Mathematics, Marist College, Poughkeepsie, New York, USA
- 02:00 - 02:20pm: Educating Students on Techno-Capitalism's Impact to STEM
Jon Duncan Hagar
Grand Software Testing, LLC, USA
- 02:20 - 02:40pm: Unnecessary Hurdles: A Systematic Literature Review Examining the Hiring Process in Computing
Stephanie Lunn, Monique Ross
Knight Foundation School of Computing & Information Sciences, Florida International University, Miami, Florida, USA
- 02:40 - 03:00pm: Gamifying Data Structures Algorithms
Hadeel Mohammed Jawad, Samir Tout
Oakland University, Michigan, USA;
Eastern Michigan University, Michigan, USA
- 03:00 - 03:20pm: **BREAK & POSTERS**
July 28, 2021 (Wednesday)
(LOCATION: Lotus Ballrooms 1)

SESSION 13-FECS-GCC: CS EDUCATION + CLOUD COMPUTING AND SERVICES**Chairs: TBA****July 28, 2021 (Wednesday); 03:20pm - 04:20pm****(LOCATION: Galleria B)**

- 03:20 - 03:40pm: Utilizing Test Driven Development in a Data Structures Course
Steven Bitner, John Coffey
Department of Computer Science, University of West Florida, Pensacola, Florida, USA
- 03:40 - 04:00pm: Cloud Computing and Blockchain Adoption: A Systematic Review
Jacques Bou Abdo, Rayane El Sibai, Ahmed Bounfour
University of Nebraska at Kearney, Kearney, Nebraska, USA;
Al Maaref University, Beirut, Lebanon;
RITM, Universite Paris-Saclay, Sceaux, France
- 04:00 - 04:20pm: Analysis of Machine Learning as a Service
Gokay Saldamli, Nishit A. Doshi, Vishal Gadapa,
Jainish J. Parikh, Mihir M. Patel, Levent Ertaul
Computer Engineering Department, San Jose State University, San Jose, California, USA; Department of Computer Science, California State University - East Bay, California, USA

SESSION 14-ICAI-ACC: ARTIFICIAL INTELLIGENCE + APPLIED COGNITIVE COMPUTING

Chairs: TBA

July 28, 2021 (Wednesday); 04:20pm - 06:20pm

(LOCATION: Galleria B)

- 04:20 - 04:40pm: The Color of Music: Towards Hearing Impaired Enrichment with Cognitive AI/ML and Multi-sensory Emotion Fusion
Ryan A. Carbone, John N. Carbone
OMS-III, UIW School of Osteopathic Medicine, San Antonio, Texas, USA; Senior Director/Chief Solution Architect, Forcepoint Global Governments & Critical Infrastructure, USA; Baylor University, USA; Southern Methodist University, USA
- 04:40 - 05:00pm: A Spatio-Temporal Memory System for Multi-Modal Sensor Fusion
James A. Crowder, Michael J. Hirsch
Colorado Engineering Inc., Colorado, USA;
President & CTO, ISEA TEK LLC, USA
- 05:00 - 05:20pm: A Dynamic Active Noise Control System for Live Music Attenuation
Elliot Krueger, Lichuan Liu
Department of Electrical Engineering, Northern Illinois University, DeKalb, Illinois, USA
- 05:20 - 05:40pm: Random Subspace Mixture Models for Interpretable Anomaly Detection
Cetin Savkli, Catherine Schwartz
Applied Physics Lab, Johns Hopkins University, Laurel, Maryland, USA; Department of Mathematics, University of Maryland, College Park, Maryland, USA
- 05:40 - 06:00pm: Swarm Intelligence and UAV Security
Natalia S. Martinez Ojeda, Jeffrey L. Duffany
ECE, Ana G. Mendez University, Gurabo, Puerto Rico;
Polytechnic University of Puerto Rico, San Juan, Puerto Rico
- 06:00 - 06:20pm: Mind Readers and Mind Users: The Utility of Sharing Architectural Components Across Multiple Robots
Matthias Scheutz
Tufts University, Medford, Massachusetts, USA

- SESSION 13-ZOOM: ---> SAM-ICWN-CSC-IKE:**
SECURITY AND MANAGEMENT + SENSOR NETWORKS & APPLICATIONS +
SCIENTIFIC COMPUTING + INFORMATION & KNOWLEDGE ENGINEERING
Chairs: TBA
July 28, 2021 (Wednesday); 07:00am - 09:00am
(ON-LINE / ZOOM)
- 07:00 - 07:20am: A GDPR-compliant Risk Management Approach based on Threat Modelling and ISO 27005
Denys A. Flores, Ricardo Perugachi
Escuela Politecnica Nacional, Departamento de Informatica y Ciencias de la Computacion (DICC), Ecuador
- 07:20 - 07:40am: The Transferable Belief Model for Network Performance Reliability Analysis in Wireless Sensor Networks
Elie Tagne Fute, Hugues M. Kamdjou, Adnen El Amraoui, and Armand Nzeukou
Department of Mathematics and Computer Science, Faculty of Science, University of Dschang, Dschang, Cameroon;
Department of CE, Faculty of Engineering and Technology, University of Buea, Buea, Cameroon; LGI2A (Laboratoire de Genie Informatique et d'Automatique de l'Artois), University of Artois, UR, Bethune, France; Department of Industrial Systems and Environmental Engineering, Fotso Victor University Institute of Technology, University of Dschang, Cameroon, Faculty of Science, University of Dschang, Bandjoun, Cameroon
- 07:40 - 08:00am: Zero Trust Model: Autonomic Data and Network Security
Haydar Teymourlouei, Lethia Jackson
Department of Technology & Security,
Bowie State University, Bowie, Maryland, USA
- 08:00 - 08:20am: Securing an IoT Network: Intrusion Detection and Malware Identification
Haydar Teymourlouei, Daryl Stone
Department of Technology & Security,
Bowie State University, Bowie, Maryland, USA
- 08:20 - 08:40am: Strategies To Counter Artificial Intelligence In Law Enforcement: Cross-Country Comparison Of Citizens in Greece, Italy And Spain
P. S. Bayerl, B. Akhgar, E. La Mattina, B. Pirillo, I. Cotoi, D. Ariu, M. Mauri, J. Garcia, D. Kavallieros, A. Kardara, K. Karagiorgou
CENTRIC, Sheffield Hallam University, Sheffield, United Kingdom, UK; Engineering Ingegneria Informatica, Palermo, Italy; PLURIBUS ONE S.r.l., Cagliari, Italy; Vicomtech, Donostia-San Sebastian, Spain; Center for Security Studies (KEMEA), Athens, Greece; University of the Peloponnese, Athens, Greece
- 08:40 - 09:00am: ILE, a Linked Database for Improving the Reliability, Efficiency, and Security of the Electric Power Grid
Vitit Kantabutra, Natalia Castaneda
Department of Electrical and Computer Engineering,
Idaho State University, Pocatello, Idaho, USA

- SESSION 14-ZOOM: ---> EEE-FCS-FECS-GCC:
E-BUSINESS, E-GOVERNMENT, CLOUD COMPUTING, DATA SCIENCE, AND
TEACHING STRATEGIES
Chairs: TBA
July 28, 2021 (Wednesday); 09:00am - 10:40am
(ON-LINE / ZOOM)**
- 09:00 - 09:20am: Red Flags Detection in Public Procurements using a Business Rules Management System
Elias Alberto Mora Gonzalez, Matias Ariel Rivas Tellez, and Julio Paciello, Juan Pane
Universidad Nacional de Asuncion, Paraguay
- 09:20 - 09:40am: Securing RESTful Endpoints in Containerized e-Government Microservices using OAuth 2.0
Dimitrios Posnakides, Harald Gjermundrod, Ioanna Dionysiou
Department of Computer Science, School of Sciences and Engineering, University of Nicosia, Nicosia, Cyprus
- 09:40 - 10:00am: Impact of Data Representation Techniques on Document Compliance Checking
Iqra, Seemab Latif, Rabia Latif
National University of Science and Technology (NUST), Islamabad, Pakistan; Prince Sultan University, Riyadh, Saudi Arabia
- 10:00 - 10:20am: Virtual Reality for Physics Teaching: an Immersive Experience in Kinematics Learning
Jhasmani Tito Cruz, Tania Basso, Regina Moraes
Univeristy of Campinas - UNICAMP - Campinas, Brazil; University of Coimbra - UC - Coimbra, Portugal
- 10:20 - 10:40am: Multi-Factor Authentication Framework for Cloud Computing
Latifa Khalid Alnwiheh, Abdul Raouf Khan
Department of Computer Science, King Faisal University, Alahsa, Saudi Arabia

- SESSION 15-ZOOM: ---> EEE:**
**E-LEARNING, E-BUSINESS, ENTERPRISE INFORMATION SYSTEMS,
AND E-GOVERNMENT**
Chairs: TBA
July 28, 2021 (Wednesday); 10:40am - 12:20pm
(ON-LINE / ZOOM)
- 10:40 - 11:00am: The Evaluation of Mobile Technology Adoption as an Employee Training Tool between Pre-COVID and COVID
Anastasia Biggs
School of Computer Science and Information Technology,
Colorado Technical University, Colorado Springs, CO, USA
- 11:00 - 11:20am: An Online Database System for Money Management
Matthew Wiberg, Zizhong John Wang
Department of Computer Science and Information Systems,
Virginia Wesleyan University, Virginia Beach, Virginia, USA
- 11:20 - 11:40am: Role of the IT Department Culture on Agile Methods Adoption - an Exploratory Ethnographic Study
Olayele Adelakun, Tiko Iyamu, Manuel Mora, Fen Wang
Informatics, DePaul University, Chicago, Illinois, USA;
Information Technology, Cape Peninsula University of Technology, Cape Town, South Africa; Information Systems, Autonomous University of Aguascalientes, Ags, Mexico; Information Technology and Administration Management, Central Washington University, Ellensburg, Washington, USA
- 11:40 - 12:00pm: Agile Software Architecture Practices in the SOA and MSA Styles - a Selective Comparative Review
M. Mora, H. Duran-Limon, O. Karam, Y. Reyes
Information Systems, Autonomous University of Aguascalientes, AGS, Mexico; Informatics, University of Guadalajara, Guadalajara, JAL, Mexico; AWS, Atlanta, Georgia, USA
- 12:00 - 12:20pm: Scrum Process Model to support Inclusive e-Learning in Regular Education during COVID-19 Contingency
Jaime Munoz-Arteaga
Universidad Autonoma de Aguascalientes, Mexico

- SESSION 16-ZOOM: ---> ICAI:
ARTIFICIAL INTELLIGENCE + MACHINE LEARNING & EMERGING
TECHNOLOGIES
Chairs: TBA
July 28, 2021 (Wednesday); 12:20pm - 02:00pm
(ON-LINE / ZOOM)**
- 12:20 - 12:40pm: Intentions Prediction at Road Intersections using Ensemble Hidden Markov Models
Jian Yang, Christian Poellabauer, Pramita Mitra, Arpita Chand, Abhishek Sharma, Cynthia Neubecker
Department of CSE, University of Notre Dame, Notre Dame, Indiana, USA; Research and Advanced Engineering, Ford Motor Company, Dearborn, Michigan, USA
- 12:40 - 01:00pm: Machine Learning in Geochemistry: A Bibliometric Analysis
Jodi D. Garcia, Adriana L. Garcia Garza, German H. Alferez, Benjamin L. Clausen, Ana Maria Martinez Ardila
School of Engineering and Technology, Universidad de Montemorelos, Mexico; Geoscience Research Institute, USA; Department of Earth and Biological Sciences, Loma Linda University, California, USA
- 01:00 - 01:20pm: Visual Response to Emotional State of User Interaction
Nina Marhamati, Sena Clara Creston
CS Department, Sonoma State University, Rohnert Park, California, USA; Department of Art, Sonoma State University, Rohnert Park, California, USA
- 01:20 - 01:40pm: A Data-Driven Approach to Efficient Library Management: Predicting Library Checkouts using Machine Learning
Nikesh Kumar Pahuja, Maria H. Rivero
Harrisburg University School of Science and Technology, Harrisburg, PA, USA
- 01:40 - 02:00pm: Examining the Gap Between Pseudo-Real and Real Images with CycleGAN
David Schweitzer, Jing-Ru C. Cheng, Justin T. Carrillo, and Luis De Jesus-Diaz
Information Technology Lab. (ITL), Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers, Vicksburg, Mississippi, USA; ERDC Geotechnical and Structures Lab., U.S. Army Corps of Engineers, Vicksburg, Mississippi, USA

- SESSION 17-ZOOM: ---> IKE-IPCV-MSV:
INFORMATION & KNOWLEDGE ENGINEERING + IMAGING SCIENCE +
SIMULATION AND MODELING
Chairs: TBA
July 28, 2021 (Wednesday); 02:00pm - 04:20pm
(ON-LINE / ZOOM)**
- 02:00 - 02:20pm: REST Interface Generator (RESTInG)
Kenneth Higa, Daniela Ushizima
Energy Storage and Distributed Resources Division, Energy
Technologies Area, Lawrence Berkeley National Laboratory,
Berkeley, California, USA; Computational Research Division,
Lawrence Berkeley National Laboratory, Berkeley, CA, USA;
Berkeley Institute for Data Science, University of
California, Berkeley, California, USA
- 02:20 - 02:40pm: A Text Mining Approach to Identify IT Research Analyzing
the NSF Grants
Said Varlioglu, Hazem Said, Murat Ozer, Nelly Elsayed
School of IT, University of Cincinnati, Ohio, USA
- 02:40 - 03:00pm: MetaScribe: Data Provenance in Scholarly Publications
Maria Joseph Israel, Ahmed Amer
Santa Clara University, Santa Clara, California, USA
- 03:00 - 03:20pm: A Novel Deep Belief Network and Enhanced Root Mean Square
Error for Stock Exchange Price Prediction
Ananda Prasad Jaisy, Abeer Alsadoon, Omar Hisham Alsadoon,
Tarik A. Rashid, P.W.C. Prasad, Rasha S. Ali, Oday D. Jerew,
Dara Sherwani, Mokhtar Mohammadi, Shima Rashidi
School of Computing and Mathematics, Charles Sturt University
(CSU), Wagga, Australia; School of Computer Data and
Mathematical Sciences, University of Western Sydney (UWS),
Sydney, Australia; School of Information Technology,
Southern Cross University (SCU), Sydney, Australia;
Crown Institute of Higher Education, IT Department, Sydney,
Australia; Department of Islamic Sciences, Al Iraqia
University, Baghdad, Iraq; CSE, University of Kurdistan
Hewler, Erbil, KRG, Iraq; Department of Computer Techniques
Engineering, AL Nisour University College, Baghdad, Iraq
- 03:20 - 03:40pm: Automated Sorting of X-ray Scattering Patterns with
Convolutional Neural Networks
Daniela Ushizima, Flavio Araujo, Romuere Silva,
Harinarayan Krishnan, Eric Roberts, Alexander Hexemer
Lawrence Berkeley National Laboratory, Berkeley, CA, USA;
University of California Berkeley, Berkeley, California, USA;
Federal University of Piau, Picos PI, Brazil
- 03:40 - 04:00pm: Varied Few-Shot Relation Network for Non-Uniformly
Distributed Source
Yufang Bao
Department of Mathematics and Computer Science,
Fayetteville State University, North Carolina, USA
- 04:00 - 04:20pm: The Frequency Effect of Information State Update on
Consensus in Multi-Agent Systems
Azad Azadmanesh, Hassan Farhat, Rui Yang, Satish Modugu
University of Nebraska-Omaha, Nebraska, USA

SESSION 18-ZOOM: ---> SAM-FECS-ICAI:**FRONTIERS IN EDUCATION + PROGRAMMING LANGUAGES + ROBOTICS****Chairs: TBA****July 28, 2021 (Wednesday); 04:20pm - 06:00pm****(ON-LINE / ZOOM)**

- 04:20 - 04:40pm: A Qualitative Study of Security in Application Programming Interfaces (APIs)
Farhan A. Qazi, Sondria Miller
Cybersecurity and Information Assurance, Capitol Technology University, Laurel, Maryland, USA
- 04:40 - 05:00pm: Learning Environment, Scaffolding and Learning Outcomes among Tertiary Mathematics Students
Alan Bowen-James, Mary Ruth Freislich
Le Cordon Bleu Business School, Sydney, Australia;
School of Mathematics and Statistics, University of New South Wales, Sydney, Australia
- 05:00 - 05:20pm: Mind Readers and Mind Users: The Utility of Sharing Architectural Components Across Multiple Robots
Matthias Scheutz
Tufts University, Medford, Massachusetts, USA
- 05:20 - 05:40pm: Toward a Digital University: Unicorn Learning Management System
George Feuerlicht, Marek Beranek, Vladimír Kovar
Unicorn University, Prague, Czech Republic
- 05:40 - 06:00pm: The Study of Peer-Assessment Impact on Group Learning Activities
Zhiyuan Chen, Soon Boon Lee, Shazia Paras Shaikh, and Mirza Rayana Sanzana
University of Nottingham Malaysia, Malaysia
- SESSION 19-ZOOM: ---> IPCV-PDPTA:**
IMAGING SCIENCE + PARALLEL & DISTRIBUTED PROCESSING & APPLICATIONS
Chairs: TBA
July 28, 2021 (Wednesday); 06:00pm - 07:00pm
(ON-LINE / ZOOM)
- 06:00 - 06:20pm: Acquiring Semi-automated Annotations of Bounding Boxes based on Only One Hand Written Bounding Box per Class
Hiroshi Uehara, Kaito Ishizaki, Kasuki Saruta
Department of Data Science, Rissho University, Saitama, Japan;
Department of Management Science and Engineering, Akita Prefectural University, Akita, Japan; Department of Information & Computer Science, Akita Prefectural University, Akita, Japan
- 06:20 - 06:40pm: Set-to-Set Disjoint Paths in a Folded Hypercube
Hiroyuki Ichida, Keiichi Kaneko
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Koganei, Tokyo, Japan; Institute of Engineering, Tokyo University of Agriculture and Technology, Tokyo, Japan
- 06:40 - 07:00pm: Novel Micro Road Pricing Method Based on Spatio-Temporal Grid Reservation for Collecting Gasoline Tax Revenue from Zero-Emission Vehicle
Habibullah Babakarkhail, Kenny Sato
Department of Information Science and Technology, Graduate School of Engineering, Doshisha University, Osaka, Japan; Network Information System Laboratory, Doshisha University, Osaka, Japan

07:00a - 05:00p: REGISTRATION
(LOCATION: Lotus Ballrooms 1; Registration Counter/Desk)

**SESSION 15-HIMS-BIOENG-BIOCOMP: HEALTH INFORMATICS & MEDICAL SYSTEMS +
BIOMEDICAL ENGINEERING + COMPUTATIONAL BIOLOGY**
Chairs: TBA
July 29, 2021 (Thursday); 08:00am - 09:40am
(LOCATION: Galleria B)

08:00 - 08:20am: Personalized Question Answering on the Web using
an Ontology
Amal Aljohani
Department of CS, University of Idaho, Idaho, USA

08:20 - 08:40am: Application of Machine Learning in Early Recommendation
of Cardiac Resynchronization Therapy
Brendan E. Odigwe, Francis G. Spinale, Homayoun Valafar
CSE, University of South Carolina, Columbia,
South Carolina, USA; School of Medicine, University of
South Carolina, Columbia, South Carolina, USA

08:40 - 09:00am: Diagnosing COVID-19 Using Convolutional Neural Networks
and Deep Learning Approaches
Raouf Eskandar, J. Zhong, Y. Hu
Department of CS, California State University East Bay,
Hayward, California, USA;
Evomics Medical LTD., Shanghai, China

09:00 - 09:20am: CT Image Analysis in Sinograms
Hong Zhang
Georgia Southern University, Savannah, Georgia, USA

09:20 - 09:40am: A Machine Learning Approach for Predicting Furin Cleavage
Sites of Viral Envelope Proteins
Christine Gu, Wendy Lee
San Jose State University, San Jose, California, USA

**SESSION 16-FCS-ICAI: FOUNDATIONS OF COMPUTER SCIENCE +
QUANTUM COMPUTING AND RELATED ISSUES**
Chairs: TBA
July 29, 2021 (Thursday); 09:40am - 10:20am
(LOCATION: Galleria B)

09:40 - 10:00am: Mirror Matrices and Symmetric Boolean Functions
Peter M. Maurer
Department of CS, Baylor University, Waco, Texas, USA

10:00 - 10:20am: Quantum Circuits for Quantum Convolutions: A Quantum
Convolutional Autoencoder
Javier Orduz-Ducacara, Pablo Rivas, Erich Baker
School of Engineering and Computer Science, Department
of Computer Science, Baylor University, Texas, USA

10:20 - 10:40am: BREAK

**SESSION 17-ICAI-MSV: ARTIFICIAL INTELLIGENCE + MODELING + MACHINE
LEARNING + OPTIMIZATION****Chairs: TBA****July 29, 2021 (Thursday); 10:40am - 12:40pm
(LOCATION: Galleria B)**

- 10:40 - 11:00am: Forecasting the Extinction Risk for the Isle Royale Wolf Population using Discrete Event Simulation, Statistics and Neural Networks
Charles Eugene Knadler, Jr.
Independent Researcher, Alpine, Utah, USA
- 11:00 - 11:20am: Incorporating Abstract Behavioral Constraints in the Performance of Agent Tasks
Robert E. Wray, John E. Laird
Center for Integrated Cognition/IQMRI, Ann Arbor, Michigan;
University of Michigan, Ann Arbor, Michigan, USA
- 11:20 - 11:40am: Feature Optimization for Machine Learning
Jeffrey L. Duffany, Carla A. Varela-Rosa
ECE, Ana G. Mendez University, Gurabo, Puerto Rico;
Polytechnic University of Puerto Rico, San Juan, Puerto Rico
- 11:40 - 12:00pm: Active Non-Terminals in Grammar-Based Data Generation
Peter M. Maurer
Department of CS, Baylor University, Waco, Texas, USA
- 12:00 - 12:20pm: Toward Contextual AI/ML
Robert Pilgrim, Andrew Bevilacqua
Bevilacqua Research Corporation, Huntsville, Alabama, USA
- 12:20 - 12:40pm: Airbnb Price Prediction with Sentiment Classification
Peilu Liu, Robert Chun
CS Department, San Jose State University, San Jose, CA, USA
- 12:40 - 01:20pm: **LUNCH (On Your Own)**

SESSION 18-IPCV-ICAI-HIMS: IMAGE PROCESSING, HEALTH INFORMATICS & MEDICAL SYSTEM, COMPUTER VISION + DEEP LEARNING**Chairs: TBA****July 29, 2021 (Thursday); 01:20pm - 03:00pm
(LOCATION: Galleria B)**

- 01:20 - 01:40pm: SetGAN: Improving the Stability and Diversity of Generative Models through a Permutation Invariant Architecture
Alessandro Ferrero, Ross Whitaker, Shireen Elhabian
Scientific Computing and Imaging Institute,
University of Utah, Salt Lake City, Utah, USA
- 01:40 - 02:00pm: 3D Face Re-Construction from Front and Profile Image
Sankarshan Dasgupta, Mehdi R. Zargham
Department of CS, University of Dayton, Ohio, USA
- 02:00 - 02:20pm: Vision-based Path Planning for Exploration in an Unmanned Aerial Vehicle using OpenCV
Alan Garduno, Mehrube Mehrubeoglu, Pablo Rangel
Electrical Engineering Program, Department of Engineering,
Texas A&M University - Corpus Christi, Texas, USA
- 02:20 - 02:40pm: Deep Learning-based Real-time Boat Detection and Localization
Ju Wang, Wookjin Choi, Jose Diaz, Curtrell Trott
CS, Virginia State University, Virginia, USA
- 02:40 - 03:00pm: Sleep Quality Analysis Based On Wi-Fi Received Signal Strength
Ho-Wai Wong, Po-Tung Zhang
Faculty of Medicine, The Chinese University of Hong Kong,
Hong Kong SAR
- 03:00 - 03:20pm: **BREAK & POSTERS**
July 29, 2021 (Thursday)
(LOCATION: Lotus Ballrooms 1)

SESSION 20-SAM: SECURITY AND MANAGEMENT + APPLICATIONS**Chairs: TBA****July 29, 2021 (Thursday); 03:20pm - 04:20pm
(LOCATION: Galleria B)**

- 03:20 - 03:40pm: Secure Location-Based Contact Tracing for COVID-19
Gokay Saldamli, Sidharth Jayaprakash, Jojo Joseph,
Sushant Mathur, Mitra Gunakara Nayak, Levent Ertaul
Computer Software Engineering, San Jose State University,
San Jose, California, USA; Department of CS, California
State University - East Bay, Hayward, California, USA
- 03:40 - 04:00pm: Automatic DDoS Attack Detection on SDNs
Sabrina Corsetti, Avi Purkayastha, Adarsh Hasandka, and
Michael Samon
University of Michigan, Ann Arbor, Michigan, USA;
National Renewable Energy Laboratory, Golden, Colorado, USA;
University of Colorado, Boulder, Colorado, USA
- 04:00 - 04:20pm: Impact of Deep Fakes and Social Engineering
Brennan Huber, Luay A. Wahsheh
Department of CSE, University of Tennessee at Chattanooga,
Chattanooga, Tennessee, USA

SESSION 21-ICAI-ICOMP-MSV: DEEP LEARNING + GANS + DATA MODELING AND SIMULATION**Chairs: TBA****July 29, 2021 (Thursday); 04:20pm - 05:20pm
(LOCATION: Galleria B)**

- 04:20 - 04:40pm: The Evaluation of Rating Systems in Team-based Battle Royale Games
Arman Dehpanah, Muheeb Faizan Ghori, Jonathan Gemmell, and Bamshad Mobasher
School of Computing, DePaul University, Chicago, Illinois, USA
- 04:40 - 05:00pm: Macro Benchmarking Edge Devices Using Enhanced Super-Resolution Generative Adversarial Networks (ESRGANs)
Corwin Stanford, Anthony Lam, Warren Williams, and Jing-Ru C. Cheng
Computational and Data-Enabled Science and Engineering, Jackson State University, Jackson, Mississippi, USA;
Engineer and Research Development Center, U.S. Army Corps of Engineers, Vicksburg, Mississippi, USA
- 05:00 - 05:20pm: **FREE SLOT** ←-----
- 05:20 - 05:40pm: **CLOSING REMARKS - STEERING COMMITTEE**

- SESSION 20-ZOOM: ---> ICAI:**
ARTIFICIAL INTELLIGENCE + MACHINE LEARNING AND EMERGING APPLICATIONS
Chairs: TBA
July 29, 2021 (Thursday); 07:00am - 08:20am
(ON-LINE / ZOOM)
- 07:00 - 07:20am: The Learning Machinery in Organisations: The Role of Problem-Solving
 Costas J., Pastor R., Puche J., Fernandez I., Pino R.
 Department of Applied Economics, Faculty of Economics and Business, University of Burgos, Burgos, Spain
- 07:20 - 07:40am: Evaluating Advance Purchases of COVID19 Vaccine Candidates under Fuzzy Conditions
 Puente J., Alonso Bonis S., Gascon F., Ponte B., and De la Fuente D.
 Department of Business Administration, Faculty of Economics and Business, University of Oviedo, Oviedo, Asturias, Spain
- 07:40 - 08:00am: Anomaly Detection Algorithm for Acoustics Phenomena
 Thomas Barguil, Johann Laurent, Nicolas Bohelay, and Dominique Heller
 CNRS UMR6285 - Lab-STICC, Univ. Bretagne Sud, Lorient, France; Wavetel, F-56260, Larmor-Plage, France
- 08:00 - 08:20am: Threat Intelligence Using Machine Learning Packet Dissection
 Viktor Sowinski-Mydlarz, Jun Li, Karim Ouazzane, and Vassil Vassilev
 London Metropolitan University Cyber Security Research Centre, London, United Kingdom, UK; Cranfield University Centre for Computational Engineering Sciences, Cranfield, UK
- SESSION 21-ZOOM: ---> CSC-ICAI-IKE:**
SCIENTIFIC COMPUTING + ARTIFICIAL INTELLIGENCE AND INFORMATION ENGINEERING
Chairs: TBA
July 29, 2021 (Thursday); 08:20am - 10:20am
(ON-LINE / ZOOM)
- 08:20 - 08:40am: Trajectory Degradation of the Tent Map Chaotic Signal and the Implications on Statistical Independence
 Alexandru Vaduva, Adriana Vlad, Bogdan Badea
 Faculty of Electronics, Telecommunications and Information Technology, POLITEHNICA University of Bucharest, Bucharest, Romania; The Research Institute for Artificial Intelligence, Romanian Academy, Bucharest, Romania; Facebook, California, USA
- 08:40 - 09:00am: Cognitive Aspects of Mathematical 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

- 09:00 - 09:20am: Analytical Textology in Establishing the Explicit and Implicit Semantic Features of Discourse
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, Russia; Moscow State University, Research Computer Center, Moscow, Russia
- 09:20 - 09:40am: Computer-Assisted Analysis of the Contemporary American Political Discourse from the Perspective of Cognitive Linguistics
Lidia Grigoryeva, Diana Kasimova
Institute of Informatics Problems of the Federal Research Center "Computer Science and Control" of the Russian Academy of Sciences, Moscow, Russia; Institute of Foreign Languages, Peoples' Friendship University of Russia, Moscow, Russia
- 09:40 - 10:00am: A Novel Method for Calculating Query Hashes for Improved Query Grouping in Relational Database Management Systems
Derek Colley, Md Asaduzzaman
Department of Computing, School of Digital, Technologies and Arts, Staffordshire University, Stoke-on-Trent, UK; Department of Engineering, School of Digital, Technologies and Arts, Staffordshire University, Stoke-on-Trent, UK
- 10:00 - 10:20am: Examining the Applications of Artificial Intelligence and Machine Learning in the Automotive Industry
Behrouz Aslani, Ahemen Lucia Gege, Sandip Rakshit, and Narasimha Rao Vajjhala
La Verne University, La Verne, California, USA; American University of Nigeria, Yola, Nigeria; University of New York Tirana, Tirana, Albania
- SESSION 22-ZOOM: ---> IPCV-PDPTA-ICOMP-IKE-IPCV:
IMAGING SCIENCE + SCIENTIFIC COMPUTING AND HPC, IoT, AND INFORMATION ENGINEERING
Chairs: TBA
July 29, 2021 (Thursday); 10:20am - 12:20pm
(ON-LINE / ZOOM)**
- 10:20 - 10:40am: Preliminary Study On Using Facial Motions for Identify Verification
Zheng Sun, Dah-Jye Lee, Dong Zhang, Weicong Chen, Xiao Li
Brigham Young University, Provo, Utah, USA; Sun Yat-sen University, Guangzhou, Guangdong, China
- 10:40 - 11:00am: Computing Extreme Eigenvalues of General Complex Matrices on the GPU
Basileal Imana, Peter Yoon
Department of CS, Trinity College, Hartford, Connecticut, USA
- 11:00 - 11:20am: An Improved Novel Low Power and Low Cost IoT Wireless Sensor Node for Air Quality Monitoring
Matthew Meli, Edward Gatt, Owen Casha, Ivan Grech, and Joseph Micallef
Department of Microelectronics and Nanoelectronics, University of Malta, Msida, Malta
- 11:20 - 11:40am: Event Detection in Edge Streams of Time-Evolving Graphs
Monika Bansal, Dolly Sharma
Department of CSE, Shiv Nadar University, India

- 11:40 - 12:00pm: 3D Features Recovery from Images of a Multi-Camera System
Marcela A. Guerrero, Juan M. Santos, Juliana Gambini
Departamento de Ingenieria Informatica - ITBA, Argentina
- 12:00 - 12:20pm: Efficient Data Augmentation within Deep Learning Framework
to Improve Cross-Dataset Facial Emotion Recognition
Taif Anjum, Steven Lawrence, Amir Shabani
School of Computing, University of Fraser Valley, B, Canada
- SESSION 23-ZOOM: ---> MSV-PDPTA-ICWN-ICDATA:
MODELING + HIGH-PERFORMANCE COMPUTING + DATA SCIENCE AND
WIRELESS TECHNOLOGIES
Chairs: TBA
July 29, 2021 (Thursday); 12:20pm - 02:00pm
(ON-LINE / ZOOM)**
- 12:20 - 12:40pm: Periodic Steady-state Computation in Time-domain of Microgrids
with PV Systems based on Companion-circuit Analysis
Julio Cesar Godinez-Delgado, Aurelio Medina-Rios
Edificio de la Division del Posgrado de la Facultad de
Ingenieria Electrica, Universidad Michoacana de San Nicolas
de Hidalgo, Ciudad Universitaria, Michoacan, Mexico
- 12:40 - 01:00pm: Partitioning based Incremental Travelling Salesman Algorithm
on Time Evolving Graphs
Shalini Sharma, Jerry Chou
Institute of Information System and Applications, National
Tsing Hua University, Taiwan; Department of Computer Science,
National Tsing Hua University, Taiwan
- 01:00 - 01:20pm: GPU Based ODE System Solving Framework
Ma Lin, Zhang Xuesong, Lei Xinli
CS and Technology, Jilin University, ChangChun, China
- 01:20 - 01:40pm: Analyzing the Weighted Polling on WBAN
Tatiana Annoni Pazeto
Federal University of Mato Grosso - Rondonopolis Campus,
Graduation in Information Systems, Mato Grosso, Brazil
- 01:40 - 02:00pm: Link Prediction in Unipartite and Bipartite Networks
Influenced by Six Degrees of Separation
Purushottam Kumar, Dolly Sharma
Department of CSE, Shiv Nadar University, Delhi NCR, India

- SESSION 24-ZOOM: ---> ICDATA: PLANNED KEYNOTES:**
DATA SCIENCE
Chairs: TBA
July 29, 2021 (Thursday); 02:00 - 03:00pm
(ON-LINE / ZOOM)
- 02:00 - 03:00pm: ICDATA KEYNOTE:**
DATA SCIENCE: THE FRONTIER OF DIGITAL ECONOMY
Dr. Peter Geczy
National Institute of Advanced Industrial Science and Technology (AIST),
Japan
- 03:00 - 04:20pm: FREE SLOT**
- SESSION 25-ZOOM: ---> IPCV-ICAI:**
ARTIFICIAL INTELLIGENCE AND COMPUTER VISION
Chairs: TBA
July 29, 2021 (Thursday); 04:20pm - 07:00pm
(ON-LINE / ZOOM)
- 04:20 - 04:40pm: Palm Vein Recognition using SVM and CNN: A Comparative**
Performance Investigation
Felix Marattukalam, Waleed H. Abdulla, Akshya Swain,
Chathura Wanigasekara, Jesin James
The University of Auckland, New Zealand
- 04:40 - 05:00pm: Deep Learning for White Blood Cells Classification: Enhanced**
Rectified Linear Unit (ReLU)
Ali Haider, Abeer Alsadoon, Omar Hisham Alsadoon, W. M. Salih,
Tarik A. Rashid, Mokhtar Mohammadi, P.W.C. Prasad, Ghossoon
Alsadoon, Shima Rashidi, and Mohammed Kamal Majeed
School of Computing and Mathematics, Charles Sturt University
(CSU), Australia; School of Computer Data and Mathematical
Sciences, University of Western Sydney (UWS), Sydney, Australia;
School of IT, Southern Cross University (SCU), Sydney,
Australia; Crown Institute of Higher Education, IT Department,
Sydney, Australia; City University College of Ajman, General
Education, Ajman, UAE; CSE, University of Kurdistan Hewler,
Erbil, KRG, Iraq; Department of IT, Lebanese French University,
Erbil, Kurdistan Region, Iraq; Computer Department, College of
Science, University of Halabja, Halabja, Iraq; Business Infor.
AMA International University Bahrain (AMAIUB), Bahrain
- 05:00 - 05:20pm: Evaluating Chat-Type Conversation Systems: Knowledge-Based**
vs Machine Learning Hybrid
Kenta Nakamura, Seiji Tsuchiya, Hirokazu Watabe
Intelligent Information Engineering, Graduate School of Science
and Engineering, Doshisha University, Kyo-Tanabe in Kyoto,
Japan; Intelligent Information Engineering, Faculty of Science
and Engineering, Doshisha University, Kyo-Tanabe, Kyoto, Japan
- 05:20 - 05:40pm: Opinion Dynamics on a Dual Network of Neighbor Relations and**
Society as a Whole using the Trust-Distrust Model
Nozomi Okano, Akira Ishii
Tottori University, Koyama, Tottori, Japan; Center for
Computational Social Science, Kobe University, Kobe, Japan
- 05:40 - 06:00pm: FREE SLOT**

- 06:00 - 06:20pm: A Quantitative Interpretable Convolutional Neural Network to Diagnose Diabetic Retinopathy
Wei Xiang Lim, Zhiyuan Chen, Amr Ahmed
Faculty of Science and Engineering, School of Computer Science,
University of Nottingham Malaysia, Malaysia
- 06:20 - 06:40pm: Evaluating the Effectiveness of Chatbots as Experiential Learning Tools in an Introductory "Doing Business With A.I." Course
Thomas Menkhoff, Lydia Teo Ying Qian
Organisational Behavior and Human Resources (Education),
Singapore Management University (SMU), Singapore;
Lee Kong Chian School of Business, Singapore Management
University (SMU), Singapore
- 06:40 - 07:00pm: FREE SLOT

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

OPTION 0: Not presenting;

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 2021 web site at (<https://www.american-cse.org/csce2021/>).

The list of papers that appears below includes all those papers whose authors selected OPTION 0, OPTION 3, or did not report their OPTION selections.

- 0. Design and Implementation of Water Quality Management Middleware based on Big Data and Neural Networks
Sung-Hoon Park, Young-Chul Seo, Su-Chang Yoo
Department of Computer Engineering, Chungbuk National University, Chungju, Chungbuk, Korea
- 0. Solving Logistics Distribution Center Location Problem by New Spider Monkey Algorithm
Guangjun Liu, Xiaoping Xu, Feng Wang, Long Liu
School of Sciences, Xi'an University of Technology, Xi'an, P. R. China; School of Mathematics and Statistics, Xi'an Jiaotong University, Xi'an, P. R. China; School of Automation and Information Engineering, Xi'an University of Technology, Xi'an, P. R. China
- 0. Problem Recognition, Explanation, and Goal Formulation
Sravya Kondrakunta, Venkatsampath Raja Gogineni, Matthew Molineaux, and Michael T. Cox
Wright State University, Dayton, Ohio, USA;
Parallax Advanced Research, USA
- 0. Autonomous Goal Selection Operations for Agent-Based Architectures
Sravya Kondrakunta, Michael T. Cox
Wright State University, Dayton, Ohio, USA
- 0. Artificial Intelligence-Assisted Situational Awareness: An Air Force Perspective
Arslan Munir, Alexander Aved, Erik Blasch
Kansas State University, Manhattan, Kansas, USA; Air Force Research Laboratory (AFRL), Rome, New York, USA; Air Force Office of Scientific Research (AFOSR), Arlington, Virginia, USA
- 0. Transformers: Malware in Disguise
Kenneth Brezinski, Ken Ferens
Department of Electrical and Computer Engineering,
University of Manitoba, Winnipeg, Canada
- 0. Machine Learning Prediction for Mortality of Non-Diabetic Patients with Hyperglycemia Hospitalized in the Intensive Care Unit (ICU) with Covid-19
Lida Y. Ramirez Reatiga, Wilson Rojas Reales, Ernesto Barcelo
Biomedical Informatics, Universidad El Bosque, Bogota D.C., Colombia
- 0. Predicting the Risk of Colon Cancer with Machine Learning
Chao Zhou, Hong Wang
Department of Mathematics and Statistics, the University of Toledo, Toledo, Ohio, USA; Department of Engineering Technology,
The University of Toledo, Toledo, Ohio, USA
- 0. Survival Prediction Based on Deep Learning Extracted Histopathology Imaging Features
Mohamedelfatih Eltigani Osman Abaker, Saloni Agarwal, Ovidiu Daescu

The University of Texas at Dallas, Richardson, Texas, USA

- 0. Bioinformatics Metadata Extraction for Machine Learning Analysis
Zachary Tom, Wendy Lee
San Jose State University, San Jose, California, USA
- 0. The Information and Complexity Analysis of COVID-19 RNA Sequence
Shijun Tang
Department of Math and Science, Alvernia University, Reading,
Pennsylvania, USA
- 0. The Role of Background Colour in Pollen Recognition Task using CNN
Fernando C. Monteiro, Cristina M. Pinto, Jose Rufino
Research Centre in Digitalization and Intelligent Robotics (CeDRI),
Instituto Politecnico de Braganca, Campus de Santa Apolonia,
Braganca, Portugal
- 0. Mechanism and Learning of Motion Direction Detection Using
Dendritic Neuron Model based Direction Selective Ganglion Cells
Yuki Kobayashi, Yuki Todo, Zheng Tang
Graduate School of Natural Science & Technology, Kanazawa
University, Japan; Faculty of Electrical Information and Computer
Engineering, Kanazawa University, Japan; Department of
Intelligence Information Systems, Toyama University, Toyama, Japan
- 0. Representation of Boolean Genetic Regulatory Networks by
Hypothesis Logic
Pierre Siegel, Andrei Doncescu, Vincent Risch, Sylvain Sene
Aix-Marseille Universite, France; Universite des Antilles, France;
Universite Publique, France
- 0. Infer Key Cellular Regulatory Networks in Chronic Myeloid Leukemia
Jialu Ma, Nathan Pettit, Mary Qu Yang
MidSouth Bioinformatics Center and Joint Bioinformatics Graduate
Program of University of Arkansas at Little Rock, Arkansas, USA;
University of Arkansas for Medical Sciences, Little Rock, Arkansas,
USA; Department of Philosophy and Interdisciplinary Studies,
University of Arkansas at Little Rock, Little Rock, Arkansas, USA
- 0. Partial Contrast Enhancement Method for the Classification of
Ultrasound Breast Cancer Images
Mingue Song, Yanggon Kim
Department of Computer & Information Sciences, Towson University,
Towson, Maryland, USA
- 0. Non-invasive Diabetes Detection using Gabor Filter: A Comparative
Analysis of Different Cameras
Christina A. Garcia, Patricia Angela R. Abu, Rosula S. J. Reyes
Department of Electronics, Computer, and Communications Engineering,
Ateneo de Manila University, Quezon City, Philippines;
Department of Information Systems and Computer Science, Ateneo de
Manila University, Quezon City, Philippines
- 0. Indirect Bilateral Filter with Sharpening Capability to Dynamic
PET Images Enhancing
P. Gonzalez, A. Ubilla, C. Tauber
Departamento de Computacion e Industrias, Universidad Catolica
del Maule, Talca, VII Region, Chile; UMR U1253 iBrain,
Universite de Tours, Tours, Region Centre, France
- 0. A Mind-Controlled Drone for Virtual Tour in Mixed Reality
Ziming Liu, Fengpei Yuan, Xiaopeng Zhao, Miao Wang
Department of Mechanical, Aerospace and Biomedical Engineering,
University of Tennessee, Knoxville, Tennessee, USA;
Department of Electrical and Computer Engineering,

Miami University, Oxford, Ohio, USA

- 0. Two Dimensional Scientometric Analysis of Smart Healthcare
Abdulaziz Aldaej
College of Computer Engineering and Sciences,
Prince Sattam Bin Abdulaziz University, Saudi Arabia
- 0. Pharmacy Medications Inventory Component based System using
RFID Technology in Saudi Arabia
Ashwag Maghraby, Munirah Alotaibi, Aisha M. Al-Asmari
Department of Computer Science, Computer Science and Information
Systems College, Umm-AlQura University, Saudi Arabia
- 0. New Generation of Interoperable Artefacts in Medical Informatics
Filipe Nunes, Regina Sousa, Antonio Abelha, Jose Machado
ALGORITMI Research Center, School of Engineering, University
of Minho, Gualtar Campus, Braga, Portugal
- 0. Solving 0-1 Knapsack Problem based on Improved Monkey Algorithm
Xiaoping Xu, Feng Wang, Jingjing Rong, Long Liu
School of Sciences, Xi'an University of Technology, Xi'an,
P. R. China; School of Mathematics and Statistics, Xi'an Jiaotong
University, Xi'an, P. R. China; School of Automation and
Info. Eng., Xi'an University of Technology, Xi'an, P. R. China
- 0. Increased Security for Users with Password Complexity
Navninderjit Singh, Kanwal Gagneja
California State University, Bakersfield, California, USA;
Punjabi University, Patiala, India
- 0. Provoking the Mobile Payment Intention to Actual Use Behaviour
A. R. M. Musallam, P. S. Josephng, H. C. Eaw
Graduate Business School, UCSI University, Malaysia; Institute
of Computer Science & Digital Innovation, UCSI University,
Malaysia; Faculty of Business and Management,
UCSI University, Malaysia
- 0. Innovative Pivot-Based Elimination of Unknown (Nuisance)
Parameters from Underlying Models for Constructing Efficient
Statistical Decisions under Parametric Uncertainty
N. A. Nechval, G. Berzins, K. N. Nechval
BVEF Research Institute, University of Latvia, Riga, Latvia;
Transport and Telecommunication Institute, Riga, Latvia
- 0. Performances Evaluation of LoRaWAN Tracking Devices
Thierry Antoine-Santoni, David Araujo, Alexandre Mameli,
Bastien Poggi, Jean-sebastien Gualtieri, Antoine Aiello
UMR CNRS SPE 6134, University of Corsica, Corte, France;
SITEC, Biguglia, France; UMS CNRS Stella Mare 3514,
University of Corsica, Biguglia, France
- 0. Design Space Exploration of Concurrency Mapping to FPGAs with
OpenCL: A Case Study with a Shallow Water Model Kernel
Moteb Alghamdi, Graham D. Riley, Mike Ashworth
Department of CS, University Of Manchester, Manchester, UK
- 0. An Intrusion Detection System in Mobile Ad Hoc Network using
RSA and Block Based Algorithm
S. Venkatesan, M. Ramakrishnan
Department of Computer Applications, Madurai Kamaraj University,
Madurai, Tamilnadu, India
- 0. An Essence based Framework using a Domain Driven Design Approach to
Address Microservices Lifecycle from Identification to Implementation
Parthasarathi Ray, Pinakpani Pal

Applied Statistics Unit, Indian Statistical Institute, Kolkata, India; Electronics and Communication Sciences Unit, Indian Statistical Institute, Kolkata, India

- 0. Steady Viscous Flow in a Cavity for Large Rayleigh Numbers and Small Prandtl Numbers
Saeed Dubas, Nihal Siriwardana, Saroj Pradhan
Engineering and Computer Science Division, University of Pittsburgh at Johnstown, PA, USA; Department of Mathematics, Prairie View A & M University, Prairie View, Texas, USA
- 0. Quantum Machine Learning Foundations and Applications: A Succinct Literature Review
Javier Orduz-Ducua, Pablo Rivas, Erich Baker
School of Engineering and Computer Science, Department of Computer Science, Baylor University, Texas, USA
- 0. Population Protocol for the Multi-objective Knapsack Problem
Chihiro Kaneko, Akihiro Fujiwara
Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, Iizuka, Fukuoka, Japan
- 0. Role of Cardiac Output during Sleep and Exercise of Human Respiratory Control System Model with Multiple Transport Delays
Saroj P. Pradhan, Nihal J. Siriwardana, Saeed M. Dubas
Department of Mathematics, Prairie View A & M University, Prairie View, Texas, USA; Engineering and Computer Science Division, University of Pittsburgh at Johnstown, PA, USA
- 0. UVMBench: A Comprehensive Benchmark Suite for Researching Unified Virtual Memory in GPUs
Yongbin Gu, Wenxuan Wu, Yunfan Li, Lizhong Chen
School of Electrical Engineering and Computer Science, Oregon State University, Corvallis, Oregon, USA
- 0. Extended General Malfatti's Problem
Ching-Shoei Chiang, Hung-Chieh Li, Min-Hsuan Hsiung, and Fan-Ming Chiu
Computer Science and Information Management, Soochow University, Taipei, Taiwan, ROC
- 0. Machine Learning for Predicting Protein Functions
Benedetta Pelosi
Molecular Biosciences, Stockholm University, Sweden
- 0. Design of a Smart Waste Management System for the City of Johannesburg
Beauty L. Komane, Topside E. Mathonsi
Department of IT, Tshwane University of Technology, Pretoria, South Africa
- 0. Using a Layered Approach for Graphical-based Passwords
Jessy Ayala
Tandon School of Engineering, New York University, Brooklyn, USA
- 0. Determinants Influencing Intention to Use Social Commerce for Shopping in Developing Countries: A Case Study of Oman
Shamma Thabrit Alharizi, Mariam Al Areimi, Abdul Khaliq Shaikh
Department of Info Systems, Sultan Qaboos University, Muscat, Oman
- 0. Software Licenses: Security and Privacy in Terms of Dynamic Link Library
Kanwal Gagneja, Navninderjit Singh
California State University, Bakersfield, California, USA; Punjabi University, Patiala, India

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- 0. A Determination of the Impact of Training on the use of Tablets in Primary Schools from Students' Perspectives
Ioana Chan Mow, Edna Temese, Fiafaitupe Lafaele, Tara Patu, and Misioka Tanielu
National University of Samoa, Apia, Samoa

 - 0. Cut Or Cute: Towards the Gamification of Eye-Tracking and Teaching English Concepts to Children
Reham Ayman, Youssef Othman, Nada Sharaf
Department of CS, Faculty of Media Engineering and Technology, German University in Cairo, Egypt

 - 0. The Digital Transformation of Higher Education Institutions (HEIs) in Saudi Arabia (SA): A Study for Evaluation and Development - a Research Plan
Fahd Almutari, Sung-Chul Hong
Department of Computer and Information Sciences, Towson University, Towson, Maryland, USA

 - 0. Optimising an Ecological Farming Plan using Linear and Goal Programming Methods
Nadja Damij, Talib Damij, Liljana Ferbar Tratar, Janez Grad
University of Northumbria, Newcastle Business School, Newcastle upon Tyne, United Kingdom, UK; University of Ljubljana, School of Economics and Business, Ljubljana, Slovenia

 - 0. Evaluating the Adoption and Use of Moodle at the National University Of Samoa: The Perspectives of Foundation Computer Studies Students
Ioana Sinclair, Ioana Chan Mow
Computing Department, National University of Samoa, Apia, Samoa

 - 0. Frontiers in Cognition for Education: Coherent Intelligence in e-Learning for Beginners Aged 1 to 3 Years
Igor Val Danilov, Sandra Mihailova, Iegor Reznikoff
Academic Center for Coherent Intelligence, ACCI, Rome, Italy; Riga Stradins University, RSU, Riga, Latvia; Department of Philosophy, University of Paris X - Nanterre, Paris, France

 - 0. Integrating Digital Stories in Early Childhood Education using Alternative Authoring Tools
Marianthi Manousi, Jim Prentzas
Department of Education Sciences in Early Childhood, Democritus University of Thrace, Alexandroupolis, Greece

 - 0. The Role of Data Mining in a Post-COVID World from Business Perspective
Amitava Karmaker
University of Wisconsin-Stout, Menomonie, Wisconsin, USA

 - 0. Assessing the Performance and Usability of e-Learning Platforms for Effective e-Learning in Ghana in the Wake of COVID-19
Patricia Ghann, Emmanuel Dorte Tetteh, Kobby Asare Obeng
Computer Science Department, Koforidua Technical University, Ghana

 - 0. Web-based Piano Learning System using Visualized Numbered Notation
Kai-Chin Yang, Keh-Ning Chang, Herng-Yow Chen
Department of Computer Science and Information Engineering, National Chi Nan University, Taiwan

 - 0. Lean UX Cloud-Based Model for the Generation of Virtual Reality Environments Applied in Health
Hector Cardona-Reyes, Jaime Munoz-Arteaga, Jose Eder Guzman-Mendoza
CONACYT Research fellow, CIMAT Zacatecas, Mexico; Autonomous University of Aguascalientes, Aguascalientes, Mexico; Center for Research in Mathematics, Quantum: Knowledge City, Zacatecas, Mexico

- 0. Review the State of the Art on Agile Development of IT Services for Analytics - Data Science Projects
Beatriz Torres, Raul Valverde, Stephane Gagnon
University of Quebec at Outaouais, Quebec, Canada; Supply Chain and Business Technology Department, Concordia University, Montreal, Canada; Departement des sciences administratives, University of Quebec at Outaouais, Quebec, Canada
- 0. Cybersecurity for Modern American Healthcare Institutions
Kyla Konen, Lemuel Cheon, Michael Demetriou, Michael DePalma, Tara Jubran, Lucas Schleben, Fady Nissan, Mohammed Mahmoud
Department of CSE, Oakland University, Rochester, Michigan, USA
- 0. An Efficient B-tree Implementation for Memory-Constrained Embedded Systems
Nadir Ould-Khessal, Scott Fazackerley, Ramon Lawrence
Department of EE Technology, Okanagan College, Kelowna, BC, Canada; Department of CS, University of British Columbia, Kelowna, BC, Canada
- 0. Throughput Enhancement via Exploiting Parallelism for Hyperledger Fabric Blockchain
Ju Won Kim, Jae Geun Song, Hyeon Woo Shin, Ju Wook Jang
Department of EE, Sogang University, Seoul, Korea
- 0. Design of a Health Monitoring System for an e-Bike
Eli Gabriel Avina Bravo, Christophe Escriba, Jean Yves Fourniols, Fabien Pillard, Georges Soto-Romero
LAAS-CNRS, Toulouse, France; INSA-Toulouse, Toulouse, France; Centre Hospitalier Universitaire Toulouse, University Sports Clinic, Toulouse, France; ISIS-Castres, Castres, France
- 0. Accelerated Evaluation of Autonomous Drivers using Neural Network Quantile Generators
Edward Schwalb
MSC Software, USA
- 0. An Asynchronous P System using Bitonic Sort
Kosei Nagao, Akihiro Fujiwara
Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, Fukuoka, Japan
- 0. Storing and Processing Information in Technological and Biological Computing Systems
Janos Vegh, Adam Jozsef Berki
Kalimanos BT, Debrecen, Hungary; University of Medicine, Targu Mures, Romania
- 0. A Model for Storing and Processing Information in Technological and Biological Computing Systems
Janos Vegh
Kalimanos BT, Debrecen, Hungary
- 0. A Systematic Literature Review on Object-Oriented Databases
Zaeem Anwaar, Muhammad Jawad, Wasi Haider Butt
Department of Computer and Software Engineering, College of Electrical and Mechanical Engineering, National University of Sciences and Technology (NUST), Islamabad, Pakistan
- 0. A Systematic Review on NoSQL Databases of Big Data
Mehwish Naz, Muhammad Usman Farooq, Aiman Kalsoom, Saqlain Abbas, and Wasi Haider Butt
Department of Computer and Software Engineering, College of Electrical and Mechanical Engineering, National University of Sciences and Technology (NUST), Islamabad, Pakistan

- O. How the Time Spent Online Correlates with the Homework Scores?
Ana Oprisan, Sorinel A. Oprisan
Department of Physics and Astronomy, College of Charleston,
Charleston, South Carolina, USA
- O. Using the Comprehensive Exam to Directly Assess Outcomes in a
Graduate Program
Daniel S. Spiegel, Tauqeer Hussain, Lisa A. Frye
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- O. Addressing Sources of Stress and Distress among Undergraduate
Computer Science Students
Kennedy Manley, Laila Arain, Christian Murphy
University of Pennsylvania, Philadelphia, Pennsylvania, USA;
Bryn Mawr College, Bryn Mawr, Pennsylvania, USA
- O. The Impact of Social Media in Learning and Teaching: A
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Ramla Al-Maamari, Abdul K. Shaikh, Saqib Ali
Department of Info Systems, Sultan Qaboos University, Muscat, Oman
- O. Perspectives on the Pedagogical Practice of High School Teachers
in the State of Amazonas and its Implications
Aldemir M. de Oliveira, Floriano Augusto Veiga Viseu,
Ana Paula Florencio Aires, Maria Teresa Bixirao Neto
Amazonas State Media Center - SEDUC AM/CEMEAM, Brazil;
Department of Integrated Studies in Literacy, Didactics and
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Mathematics, University of Tras-os-Montes and Alto Douro, CIDTFF,
Portugal; Department of Education and Psychology, University of
Aveiro, CIDTFF, Portugal
- O. Blockchain in Education: Design and Proposal of a Secure
Management Model
Wilson Rojas, Victor Gayoso Martinez, Araceli Queiruga-Dios
University Of Salamanca, Spain; Institute of Physical and
Information Technologies (ITEFI), Spanish National Research
Council (CSIC), Madrid, Spain
- O. M-Learning based Initiative to Enhance Student Motivation
in Computer Science
G. Ortega, L. O. Lopez, F. Orts, C. Diaz-Carrasco, J. J. Moreno,
and E. M. Garzon
Informatics Department, University of Almeria, Sacramento s/n,
Almeria, Spain
- O. Introducing Big Data Modules in a Traditional Database Course
Hong Wang, Robert Langenderfer
Department of Engineering Tech, University of Toledo, Ohio, USA
- O. Low Code/No Code Application Development and CS Education
Weidong Liao, Osman Guzide
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- O. Using Interactive In-Class Activities to Teach Dynamic Programming
Saeed Al-Haj
Department of Electrical & Computer Engineering and Computer
Science, Ohio Northern University, Ada, Ohio, USA
- O. Getting Lazy and Pure in Code Contests by Using Haskell
Chen Huo
Software Engineering, Shippensburg University of Pennsylvania,
Shippensburg, Pennsylvania, USA

- 0. A Case Study Of MOOC in Flipped Class for Non-Major Students
Jaekwang Kim
Sungkyunkwan University, Korea
- 0. An Integrated Approach to Learning Analytics
Uchendu Nwachukwu, Sandy Ingram, Juan Carlos Farah, Denis Gillet
College of Engineering and Architecture of Fribourg, Switzerland;
Ecole Polytechnique Federale de Lausanne, Switzerland
- 0. Shared Intentionality in Advanced Problem Based Learning: Deep Levels of Thinking in Coherent Intelligence
Igor Val Danilov, Sandra Mihailova, Iegor Reznikoff
Academic Center for Coherent Intelligence, ACCI, Rome, Italy;
Riga Stradins University, RSU, Riga, Latvia; Department of Philosophy, University of Paris X - Nanterre, Paris, France
- 0. Teaching Robotics and Artificial Intelligence for Kids by Developing a Virtual Escape Room
Francisco A. Pujol, Sergio Gonzalez, David Tomas, Pilar Arques, and Mireia Sempere
Department of Computer Science and Technology, University of Alicante, Carretera de San Vicente s/n, Alicante, Spain;
Department of Software and Computing systems, University of Alicante, Carretera de San Vicente s/n, Alicante, Spain;
Department of Computer Science & Artificial Intelligence, University of Alicante, Carretera de San Vicente s/n, Spain
- 0. Stackable Cybersecurity Pathway Credentials Through Digital Badging
Guillermo Francia, III, Eman El-Sheikh, Tirthankar Ghosh
Center for Cybersecurity, University of West Florida, Florida, USA
- 0. Undergraduate Coaches for Young Learners with Playful Computer Science
Jinsook Park, Mira Yun, Andrew Jung, Charlie Wiseman
Department of Mathematics, University of Hartford, West Hartford, Connecticut, USA; School of Computing and Data Science, Wentworth Institution of Technology, Boston, Massachusetts, USA; Department of Computing Sciences, University of Hartford, West Hartford, Connecticut, USA; Dept of CS, Boston College, Massachusetts, USA
- 0. Augmenting a Course on Ethics and Professional Responsibility in Computer Science and Software Engineering via Cloud Computing and Interdisciplinary Collaboration
Ranran Feng, Vidroha Debroy
CS Department, The University of Texas at Dallas, Richardson, Texas; Public Cloud and Infrastructure, AT & T, Dallas, Texas, USA
- 0. Challenges and Opportunities of Seeking ABET Accreditation for the First Time
Patricio Zapata, Marlene Roeckel, Ximena Garcia
Chemical Engineering Department, Universidad de Concepcion, Chile
- 0. Evaluating Splitting Approaches in the Context of Student Dropout Prediction
Bruno de M. Barros, Hugo A. D. do Nascimento, Raphael Guedes, and Sandro E. Monsueto
Federal University of Goias, Goiania, Brazil
- 0. Student Perception of Autograding and Automated Feedback
Sonya Cates
Roger Williams University, Bristol, Rhode Island, USA
- 0. Investigating Perceptions Of NUS Lecturers on the Impact of COVID-19 on the use of Online Learning in Education: Its Benefits & Challenges
Tara Patu, Ioana Chan Mow

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- 0. Assessing the Class Performance of Online Programming Courses using Interactive Learning Platform with a Built-in IDE vs. using Adaptive Learning Platform with an External IDE
Yanzhen Qu, Richard Cai, Mazen Haj-Hussein, Howard Evans
Colorado Technical University, Colorado Springs, Colorado, USA

- 0. Utilizing Modern Pedagogy for Teaching an Undergraduate OS Course
Jessy Ayala
Tandon School of Eng., New York University, Brooklyn, New York, USA

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David Yoon
CIS Department, University of Michigan - Dearborn, Michigan, USA

- 0. Consideration of the Need for Quantum Grid Computing
Dominic Rosch-Grace, Jeremy Straub
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- 0. Workflow Analysis for Supporting Breast Cancer Therapy Using Process Mining
Marie Bommersheim, Patrick Philipp, Jurgen Beyerer, Dirk Hempel
Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB, Karlsruhe, Germany; Steinbeis-Transfer-Institut, Klinische Hamatoonkologie, Donauworth, Germany

- 0. Optimizing EUD Model Parameters in Radiotherapy Planning
S. Puertas-Martin, J. J. Moreno, J. L. Redondo, P. M. Ortigosa, and E. M. Garzon
Informatics Department, University of Almeria, Carretera Sacramento s/n, Almeria, Spain

- 0. Validating the Design of a Cloud-based Telehealth Service Cost Effective Solution Management System through a Quantitative Study to Use Cases
Ravi Vuppalapu, Yanzhen Qu
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- 0. Effect of Progressively Available Features in the Clinical Timeline on Predicting 3-Days Readmission in an Emergency Department with Machine Learning Methods
Yi-Kuan Liu, Jia-Da Li, Tsung-Hung Hsieh, Cheng-Chung Fang, and Chu-Song Chen
MOST Joint Research Center for AI Technology and All Vista Healthcare, National Taiwan University, Taipei, Taiwan;
Institute of Information Science, Academia Sinica, Taipei, Taiwan;
Department of Emergency Medicine, National Taiwan University Hospital, Taipei, Taiwan; Department of CS and Information Engineering, National Taiwan University, Taipei, Taiwan

- 0. Blockchain Technology for Electronic Health Record (EHR) Management and Monitoring in Hospitals - an Insightful Perspective
Shaik Asif Hussain, Ahlam Salim Abdullah Al-Balushi
Middle East College, Muscat, Oman

- 0. Sleep Quality Analysis Based On Wi-Fi Received Signal Strength
Ho-Wai Wong, Po-Tung Zhang
Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR

- 0. Making Treatment Knowledge Available via 3D-models
Thomas Driebe
Dept of Business & Economics, Philipps-University of Marburg, Germany

- 0. Construction of Knowledge Graph of High Incidence Time, Area and People of Diseases
He Wang, Li Yao, Shaowei Cai, Honghai Feng
School of Computer and Information Engineering, Henan University, Kaifeng, P. R. China
- 0. Artificial Intelligence Use in Social Determinants of Health: A Comparative Study
Atif Farid Mohammad, Intisar Rizwan I Haque, Peter Bearse
Ontrak Inc., Santa Monica, California, USA
- 0. Single-cell RNAseq Analysis Reveals Diverse Expression Patterns of Cancer Survival Genes in Immune Cells
Wenjuan Zhang, John Talburt, Mary Qu Yang
MidSouth Bioinformatics Center and Joint Bioinformatics Graduate Program of University of Arkansas at Little Rock, Arkansas, USA; University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA; Department of Information Science, University of Arkansas at Little Rock, Little Rock, Arkansas, USA
- 0. A Recent Study on Cybersecurity in Healthcare
Casey Legetret, Bradley Ciuchna, Joel Mozo, Arianna Mills, Angelo Arteché, Mohammed Mahmoud
Department of CSE, Oakland University, Rochester, Michigan, USA
- 0. A Web-based Data Analysis Platform for Collaborative Decision Assistance
Christian Diaz Caez, Charles Kim
Department of EE & CS, Howard University, Washington, DC, USA
- 0. Streamline Characterization by Autoencoders and Unsigned Distance Field
Heyang Huang, Zhibin Huang, Tianhao Fa, Guangtao Fu, Min Yu
Beijing Key Lab of Intelligent Telecommunication Software and Multimedia, Beijing University of Posts and Telecommunications, Beijing, P. R. China; School of Computer Science, Beijing University of Posts and Telecommunications, Beijing, P. R. China; China Academy of Aerospace Aerodynamics, Beijing, P. R. China
- 0. Under the Hood of Neural Networks: Characterizing Learned Representations by Functional Neuron Populations and Network Ablations
Richard Meyes, Constantin Waubert de Puiseau, Andres Posada-Moreno, and Tobias Meisen
Institute of Information Management in Mechanical Engineering, Aachen, Germany; Institute of Technologies and Management of Digital Transformation, Wuppertal, Germany
- 0. How Do You Act? An Empirical Study to Understand Behavior of Deep Reinforcement Learning Agents
Richard Meyes, Moritz Schneider, Tobias Meisen
Technologies and Management of the Digital Transformation, Bergische Universität Wuppertal, Wuppertal, Germany
- 0. Integrated System for Large-scale Knowledge Graph Inferencing using Spark DataFrame
Min-Ho Lee, Min-Sung Kim, Wan-Gon Lee, Young-Tack Park
CS Department, Soongsil University, Seoul, South Korea
- 0. Weighted Graph Nodes Clustering via Gumbel Softmax
Deepak Bhaskar Acharya, Huaming Zhang
CS Department, University of Alabama in Huntsville, Alabama, USA
- 0. Brain Dominance Level Prediction Using Hybrid Convolutional

Neural Network-Long Short Term Memory
 Zheng You Lim, Kok Swee Sim, Shing Chiang Tan
 Faculty of Engineering and Technology, Multimedia University,
 Melaka, Malaysia; Faculty of Information Science and Technology,
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- 0. A Power Control Scheme for Artificial Intelligence and IoT (AIoT)
 ProSe-enabled Sensors
 Weston Mwashita, Marcel O Odhiambo
 Vaal University of Technology, Johannesburg, South Africa;
 Mangosuthu University of Technology, Durban, South Africa

- 0. Tagged Documents Co-Clustering
 Gaelle Candell, David Naccache
 Departement d'informatique de l'ENS, ENS, CNRS, PSL University
 Worldline Labs, Paris, France

- 0. Dialogue Architecture for Personalized Carputer
 Masato Tokuhisa, Shuhei Kimura
 Tottori University, Tottori, Japan

- 0. The Construction Method of Image Concept-Base and Verification of
 the Number of Attributes used in DoA
 Misako Imono, Seiji Tsuchiya, Hirokazu Watabe
 Department of Information Systems, Daido University, Nagoya, Japan;
 Department of Intelligent Information Engineering and Science,
 Doshisha University, Kyotanabe, Kyoto, Japan

- 0. Exploring Behavior via Neural Network Activations in Deep
 Reinforcement Learning Agents
 Melanie Lu, Richard Meyes, Andres-Felipe Posada-Moreno, and
 Tobias Meisen
 Chair of Technologies and Management of Digital Transformation,
 University of Wuppertal, Germany; Chair of Information Management
 in Mechanical Engineering, RWTH Aachen University, Aachen, Germany

- 0. Data Implantation - Creating Minority Samples for Extremely
 Imbalanced Datasets
 Francis Onodueze, Josyula Darsana, Josef Schaff
 CS Department, Bowie State University, Bowie, Maryland, USA;
 Naval Air Systems Command (NAVAIR), USA

- 0. Estimate and Predict Fire Weather Index Using ANFIS and ANN
 Algorithms
 Ying Bai, Dali Wang
 Johnson C. Smith University, Charlotte, North Carolina, USA;
 Christopher Newport University, Newport News, Virginia, USA

- 0. Human-Centered Computing Based on Shared Intentionality in Human
 Cognition Model: A New Approach to Contactless Human-Computer
 System
 Igor Val Danilov
 Academic Center for Coherent Intelligence, ACCI, Rome, Italy

- 0. Effectiveness of Proximal Policy Optimization Methods in Training
 a Neural Virtual Machine
 Runxing Lin, Garrett E. Katz, James A. Reggia
 CS Department, University of Maryland, College Park, Maryland, USA;
 Department of EECS, Syracuse University, Syracuse, New York, USA

- 0. A Deep Neural Network for Network Intrusion Detection System Based
 on VAE and RNN
 Elie Fute Tagne, Audrey Tsotsop Nangue, Emmanuel Tonye
 University of Buea, Buea, Cameroon; University of Dschang,
 Dschang, Cameroon; University of Yaounde, Cameroon

- 0. A Model-Agnostic SAT-based Approach for Symbolic Explanation Enumeration
Ryma Boumazouza, Fahima Cheikh-Alili, Bertrand Mazure, Karim Tabia
CRIL, Univ. Artois and CNRS, Lens, France
- 0. Source-Code Plagiarism Detection in C/C++ Language Programs using Neural Networks
Farhan Ijaz, Muhammad Arslan, Wasi Haider Butt, Ali Saleh Aziz Shah
National University of Sciences and Technology (NUST), Islamabad, Pakistan; National University of Computer and Emerging Sciences (FAST), Islamabad, Pakistan
- 0. Sentiment Analysis and Text Summarization Across Different Domains of Data
Poornima Narendra Sapkal, Hans-Peter Bischof
Department of CS, Rochester Institute of Technology, Rochester, New York, USA
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Miu Lun Lau, Min Long, Jeff Terry
Department of CS, Boise State University, Boise, Idaho, USA;
Department of Physics, Illinois Institute of Technology, Chicago, Illinois, USA
- 0. A Review on Machine Learning Algorithms for Dust Aerosol Detection using Satellite Data
Nurul Rafi, Pablo Rivas
School of Engineering and Computer Science, Department of Computer Science, Baylor University, Texas, USA
- 0. Artificial Intelligence Applied to Dairy Cattle Anomalies Detection: A Systematic Review
Antonio Jorge de P. N. Cassimiro, Guilherme Margato Vital, Diogo Oliveira, Eduardo Noronha de Andrade Freitas
Federal Institute of Goias, (IFG), Goiania-Go, Brazil;
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- 0. Detection of Heart Rate Variability based on Restricted Boltzmann Machines
Shijun Tang
Department of Science and Mathematics, Alvernia University, Reading, Pennsylvania, USA
- 0. Improving Data Center Peak-Shaving with Deep Reinforcement Learning
Aashish Adhikari, Lizhong Chen
School of EECS, Oregon State University, Oregon, USA
- 0. Testing the Performance of Multi-class IDS Public Dataset using Supervised Machine Learning Algorithms
Vusumuzi Malele, Topside E. Mathonsi
Department of Information Technology, Tshwane University of Technology Pretoria, South Africa
- 0. A Distributed Scheme for Accelerating and Scaling PSPNet
Ajay Krishna, Xiang Gu, Andrew Larkin, Perry Hystad, Lizhong Chen
School of EE & CS, Oregon State University, Corvallis, Oregon, USA; College of Public Health and Human Sciences, Oregon State University, Corvallis, Oregon, USA
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Shahrullohon Lutfillohonov, Joonho Kwon
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Joshua Haley, Jonathan Tucker, Benjamin Woodward,
Jonathan Takahashi, Mark Taipan
Elbit Systems of America, Advanced Capabilities Center, Orlando,
Florida, USA; CVision AI, Medford, Massachusetts, USA
- 0. Dark Spot Identification using Clustering Techniques for Analysis
and Classification of Cases of Molestation Against Women
in Pune-India
Anjum A. Patel, Prasad Gokhale
Department of CS, Faculty of Science and Technology,
Vishwakarma University, Maharashtra, India
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to Students based on Their Multiple Learning Attributes
Yanzhen Qu, Mikayla Cohen
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- 0. Determination of Exploration Errors in Bernoulli Bandits Under
the Epsilon-First Strategy
Clement Leung, Longjun Hao, Kristen Li
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Hong Kong, Shenzhen, China; School of Data Science, Chinese
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Abdelfatah A. Tamimi, Hussein Ali Mohammed
Department of Software Engineering, Faculty of Science and
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Amman, Jordan
- 0. Next Frame Video Prediction using Hierarchical Predictive
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Matin Hosseini, Antoni Maida, Majid Hosseini, Raju Gottumukkala
University of Louisiana at Lafayette, Louisiana, USA
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Sung-Hoon Kim, Ga-Ae Ryu, Hyoseok Oh, Aziz Nasridinov, and
Kwan-Hee Yoo
Department of CS, Chungbuk National University, South Korea;
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- 0. An Artificial Neural Network and Cellular Automata Vertical Urban
Growth Model Using Major Socioeconomic and Geographical Factors
Luis Antonio Lopez-Rivera, Marcelo Romero-Huertas, and
Eduardo Jimenez-Lopez
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El Colegio Mexiquense A.C., Mexico
- 0. Know-linking: When Profile Techniques Meet Documents Classification
to Generate a Documents Sharing Strategy based on Knowledge
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Elamin Abderrahim, Nada Matta, Hassan Atifi, Vincent Maugis
University of Technology of Troyes, Troyes, France; National
Radioactive Waste Management Agency, Chatenay-Malabry, France
- 0. Deep Learning Techniques for Constructing Unmanned Store with
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Shi-Jinn Horng, Ken-Hao Wang, Ping-Chen Tsai
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- 0. Predicting Human Movements Using Machine Learning
Abdullah Alajlan, Alaa Edris, Terence Soule
CS Department, University of Idaho, Moscow, Idaho, USA;
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Saudi Arabia; CS Department, University of Jeddah, Saudi Arabia
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Alaa Edris, Abdullah Alajlan, Terence Soule
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Department, University of Jeddah, Saudi Arabia; CS Department,
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- 0. Operations Management through the Prism of Distributed Ledger
Technology
Fernandez-Vazquez S., Rosillo R., Gomez A., Priore P., Parreno J.
Escuela Politecnica de Ingenieria de Gijon, Campus de Viesques s/n,
Gijon (Asturias), Spain
- 0. Using Deepfake Techniques to Emulate Deceased People: The
'Lola Flores' Case and its Legal Implications
Elisa Gutierrez, Cristina Puente, Pilar Cousido, Ana Laguna,
and Jose A. Olivas
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- 0. Multilevel Representation of Key Factors for the Prediction of the
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Antonio Lorenzo, Jose A. Olivas
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HyunJin Kim, Taeshik Shon
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- 0. Cybersecurity Threat Analysis for Smart Manufacturing Systems
SungJin Kim, Taeshik Shon
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Shin Jin Kang, Soo Kyun Kim
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- 0. Research on Security Risk Detection Model for Manufacturing Plant
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Yanghoon Kim, Hangbae Chang
Department of Cyber Drone Bot Military Engineering,
Shinhan University, Gyeonggi-do, Korea
- 0. Virtual Characters based Personalized Intelligent Agent Service
using Face Recognition
Bumsoo Kim, Mikyung Bae, Taemin Lee, Sanghyun Seo
Chung-Ang University, Anseong-si, Gyeonggi-do, Republic of Korea
- 0. Face Mask Detection System using Generative Adversarial Networks
M. Kaliappan, S. Vimal, K. Vijayalakshmi, C. Jegatha, V. Vaishnavi,
and Sanghyun Seo
Chung-Ang University, Anseong-si, Gyeonggi-do, Republic of Korea
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Mingyu Jo, Jaehwan Lee, Sanghyuck Nam, Sangoh Park
Department of CSE, Chung-Ang University, Seoul, Republic of Korea
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Yujung Cho, Namyoon Lee, Ohbyung Kwon

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Chhayly Lim, Yunyoung Nam
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Chhaihuoy Long, Yunyoung Nam
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Yang Sun Lee, Ji-Hee Kim, Ki-Hong Park
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Jaeseok Choi, Yanghoon Kim, Mucheol Kim
Department of CSE, Chung-Ang University, Seoul, Republic of Korea; Department of Cyber Drone Bot Military Engineering, Shinhan University, Uijeongbu, Republic of Korea
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M. Kaliappan, S. Vimal, K. Vijayalakshmi, L Ganesan, P. Rajarajeswari, K. Iyappan, Mucheol Kim
Department of CSE, Ramco Institute of Technology, Tamilnadu, India; Department of Electronics and Communication Engineering, Ramco Institute of Technology, Tamilnadu, India; Oracle Functional Consultant, IBM, Bangalore, India; Heukseok-ro, Dongjak-gu, Seoul, Korea
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Momina Bukhari, Muazzam Maqsood, Sadaf Yasmin, Irfan Mehmood, Seungmin Rho, Mucheol Kim
Heukseok-ro, Dongjak-gu, Seoul, Korea
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Anam Moin, Wajiha Ilyas, Muazzam Maqsood, Irfan Mehmood, and Dongwann Kang
Department of Computer CSE, Seoul National University of Science and Technology, Nowon-gu, Seoul, Republic of Korea
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Maryam Bukhari, Muazzam Maqsood, Sadaf Yasmin, Irfan Mehmood, and Seungmin Rho
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Faisal Saeed, Anand Paul, Seungmin Rho
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Junaid Gul Malik, Urfa Gul Malik, Anand Paul, Seungmin Rho
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- 0. Research on Development of Security Level Evaluation Model for Manufacturing Industry Partner Companies
Yurim Choi, Hangbae Chang
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Dongjak-gu, Seoul, Republic of Korea
- 0. A Novel Hybrid CNN based Smart Detection and Classification for Banana Plant Disease Using Leaf Image
K. Lakshmi Narayanan, R. Santhana Krishnan, Y. Harold Robinson,
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- 0. A Conceptual Model for a Parental Control Tool for Smart Toys
Otavio de P. Albuquerque, Marcelo Fantinato, Sarajane M. Peres,
Farkhund Iqbal, Patrick C. K. Hung
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and IT, Ontario Tech University, Oshawa - ON, Canada
- 0. Only Words? Examining the Effect of a Social Robot's Use of the
Bajan Dialect's Lexicon on User Attitude and Perception
Curtis L. Gittens, Damian Garnes
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- 0. BDI Agents for Adaptive Cyber Defense of IoT Systems
Laura Rafferty, Patrick C. K. Hung, Eleanna Kafeza
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United Arab Emirates, UAE
- 0. Sliding Window Trust based Implicit Authentication for
Service Robots
Pengming Zhang, Xiaomei Zhang, Yajie Wang, Xin Zeng,
Zhicai Shi, Chi-hung Chi
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Science, Shanghai, China; Commonwealth Scientific and Industrial
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Olivia Samples, Todd Gary, Qingguo Wang
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Medical College, Nashville, Tennessee, USA
- 0. Data Coverage Analysis and Improvement of Real-Time Twitter Streaming
Min-Seon Kim, Hyuk-Yoon Kwon
Department of Industrial Engineering, Seoul National University of
Science and Technology, Seoul, Korea; Department of Industrial
Engineering and Research Center for Electrical and IT,
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Maximal Cliques
Yoshiaki Okubo
Faculty of Information Science and Technology, Hokkaido University,
Sapporo, Japan
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Hailin Huang
George Washington University, USA
- 0. Optimization of Programmatic Advertising Supply Chains using

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Tanusha Goswami

MiQ, India

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Ulas Aslan, Baha Sen
Ankara Yildirim Beyazit University, Turkey
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Sangyoon Oh, Seungjun Lee, Daegun Yoon
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Bander Allogmany, Darsana Josyula, Tagrid Alshalali
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Sherrene Bogle, Robert Airth
Humboldt State University, USA
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Frank Liu, Olajide Salawu, Bing Zhou (Qingzhong Liu)
Sam Houston State University, USA
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Frank Liu, Emeka Kanikwu (Qingzhong Liu)
Sam Houston State University, USA
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Marek Beranek, Vladimir Kovar, Vaclav Vacek
Unicorn University, Prague, Czech Republic
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Rui Ming, Haiping Xu, Shannon Gibbs, Donghui Yan, Ming Shao
University of Massachusetts Dartmouth, USA
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Wookey Lee, Jafar Afshar, Arousha Roudsari
Inha University, Korea
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Marzi Rafieenia, Liza Wood, Mohsen Zardadi, Scott Fazackerley, and Ramon Lawrence
Department of CS, University of British Columbia, Kelowna, BC, Canada
0. Towards Containing COVID-19 Pandemic by Mining Knowledge from Scientific Literature and Social Media
Syeda Jannatus Saba, Biddut Sarker Bijoy, Souvika Sarkar, Md Saiful Islam, Sheikh Rabiul Islam, Ruhul Amin
University of Hartford, USA
0. Learning with Noisy Inconsistent Data
Eman Allogmani, Darsana Josyula
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0. A Comprehensive Analysis of Air Pollution and Equity During COVID-19 in Los Angeles County

Kevin Marlis, Justine West, Dawn Comer, Irene Burga, Jeremy Taub,
Chisato Fukuda Calvert, Jeanne Holm, Mohammad Pourhomayoun
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- 0. Detection of Seam-carving Forgery with Transfer Learning
Frank Liu, Alberto C. Delgado (Qingzhong Liu)
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Meghan Bibb, Pablo Rivas
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Computer Science, Baylor University, Texas, USA

- 0. Modern Cybersecurity Measures for Organizations
Fadi Al-Ayed
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- 0. Shap-Based Study for Heart Disease Prediction
Casey Legeret, Corey Dutkiewicz, Camron Grant, Devin Yang,
Darius Banks, Dale Kauffman, Mohammed Mahmoud
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- 0. Applying Different Machine Learning Algorithms to Heart Disease
Data
Jonathan Esho, George Feliciano, Jackie Gates, Jessica LaFraugh,
Fabian Isho, Dylan Idzkowski, Mohammed Mahmoud
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- 0. A Study of Outliers Detection Techniques in Heart Disease Data
Paul Albrecht III, Kiratdeep Kahlon, Kristian Simovski,
Micahele Reed, Patrik Lekocaj, Lucas Schleben, Jordan Zavich,
and Mohammed Mahmoud
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- 0. Using Deep Learning to Optimize Software Define Radio in Smart
City and Health Care
Khalid Amen, Mohamed Zohdy, Mohammed Mahmoud
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- 0. Decision Tree Classifier Based Model for Disease Prediction
Andrew Alhaj, Arianna Fuoco, Adam Komeshak, Camron Farida,
Caleb White, Mohammed Mahmoud
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- 0. Quantifying the Performance of Interval Merging Binary Trees
using a Matrix Representation
Istvan Finta, Lorant Farkas, Sandor Szenasi
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- 0. Epidemic Analysis of Covid-19 in California
Marisabel Chang-Chan, Lan Yang
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- 0. Clustering Automatic Identification System (AIS) Data using
Density-based Spatial Clustering of Large and Complex Datasets
on Pairwise Distance Matrix
Cheronika Manyfield-Donald, Tor A. Kwembe, Jing-Ru Cheng
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Hiroshi Uehara, Takayasu Yamaguchi, Miu Shibata
Rissho University, Japan
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Wenzhi Cai, Amir Assadi
University of Wisconsin, Madison, Wisconsin, USA
- 0. Fog Computing Strategy for Assembly Using Reconfigurable Hardware
Victor Lomas-Barrie, Mario Pena-Cabrera, and
Tamara Alcantara-Concepcion
Instituto de Investigaciones en Matematicas Aplicadas y en Sistemas, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico; Direccion General Computo y de Tecnolguas de Informacion y Comunicacion, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico
- 0. Sentiment Analysis of Long-term Social Data during the COVID-19 Pandemic
Sophanna Ek, Marco Curci, Xiaokun Yang, Beiyu Lin, Hailu Xu
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- 0. Computational Perspective of the Fog Node
Joao Bachiega Jr, Breno Costa, Aleteia P. F. Araujo
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- 0. Network Emulator Approach to Testing Internet of Everything
Keita Yoshida, Akihito Nakamura
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Bassam Zahran, Adamu Hussaini, Aisha Ali-Gombe
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- 0. Leveraging IoT and Optical Tracking to Monitor Bee Hive Health
Paul R. Raupach III, Varick L. Erickson
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Afnan Albahli, Anneliese Andrews
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Sean McGrath, Eoin Garrigan, Liaoyuan Zeng
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- 0. Disruptive Computing Technologies and the Influence of 5G, AI/ML on Edge to Core to Cloud
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Choong-Hee Han, Soon-Tai Park, ChangHee Han
Korea Power Exchange, Korea; Korea Internet Security Agency, Korea; Korea Military Academy, Korea
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Fahd Almutari, Sung-Chul Hong
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Carlos Henrique Rodrigues de Oliveira, Luiz Ricardo Souza Ripardo, Magno Castro Moraes, Rogerio Moreira Lima Silva, Leonardo Henrique Gonsioroski Furtado da Silva, Luis Carlos Costa Fonseca, and Ivanildo Silva Abreu
Computer Engineering - Technological Sciences Center (CCT), State University of Maranhao (UEMA), Sao Luis, Brazil
- 0. A User-Based Authentication and DoS Mitigation Scheme for Wearable Wireless Body Sensor Networks
Nombulelo Zulu, Deon P. du Plessis, Topside E. Mathonsi, and Tshimangadzo Tshilongamulenzhe
Department of IT, Tshwane University of Technology, South Africa
- 0. An Efficient Channel Estimation Technique for MIMO-OFDM Systems, Under the Effects of Partial-Band Jamming and Doppler Spread, Using Two-Sided Complementary Codes (TSCC-CE)
Said El. Khamy, Noha Korany, Hossam Hassan
Faculty of Engineering, Alexandria University, Alexandria, Egypt
- 0. A New Compact Size Dual-Bands 5G Patch Antenna Array
Chemseddine Benkalfate, Achour Ouslimani, Abed-Elhak Kasbari, and Feham Mohammed
Quartz Laboratory, ENSEA, France; STIC Laboratory, University of Tlemcen, Algeria
- 0. Intelligent Throughput-based Sleep Control Algorithm for the 5G Dense Heterogeneous Cellular Networks
Topside E. Mathonsi, Tshimangadzo M. Tshilongamulenzhe
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- 0. Receiver-Initiated RTS/CTS Control for Even Transmission Opportunities of Data Messages among Neighbor Wireless Nodes
Momoka Hara, Hiroaki Higaki
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- 0. Emerging and Deadly Botnet on Mobile Network
H.D.N.S Priyankara, Sureswaran Ramadass
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- 0. Performance of Distributed Join Algorithms on Large Data Sets
Felicia Imbriano, Paul Bergstein
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- 0. Spider Monkey Algorithm based on Differential Adaptive
Xiaoping Xu, Feng Wang, Jingjing Rong, Long Liu
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- 0. Classification with a Decision Tree Algorithm and Neural Networks
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Toppenish, Washington, USA
- 0. A Knowledge Perspective on Co-Opetition - Supporting Development
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Jan Aidemark
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Investor Intervention
Sojin Lee, Jihyeon Lee, Yoojeong Song, Jongwoo Lee
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- 0. A Case Study on Record Matching of Individuals in Historical Archives
of Indigenous Databases
Matthew Currie, Ramon Lawrence
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Rares Nesa, Niculescu Virginia, Adrian Sterca, Darius Bufnea
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- 0. Automated Construction of Skills Knowledge Linked Data Cloud
Edward Schwalb
Schwalb Consulting, USA
- 0. Adaptive Information Architecture: Information Element Identification
and Organisation Patterns for Digital Ecosystem
Asif Qumer Gill
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- 0. Exploring News Articles on Bitcoin in New York City - Case Study
Anastasia Sagalovitch
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- 0. A Revision Spatial CNN Steganalysis Based on Yedroudj-Net
Hsien-Wen Tseng, Hui-Shih Leng
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Technology, Taichung, Taiwan; Department of Mathematics,
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- 0. Confidential Deep Inference with the Aid of Fully Homomorphic
Encryption
Wun-Ting Lin, Ja-Ling Wu
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National Taiwan University, Taipei, Taiwan
- 0. Analysis of Post-Disaster Damage Detection using Aerial Footage
from UWF Campus after Hurricane Sally
Rafael de Sa Lowande, Andrew Clevenger, Arash Mahyari, and
Hakki Erhan Sevil
University of West Florida (UWF), Florida, USA; Institute for
Human and Machine Cognition (IHMC), USA

- 0. A Review of Pulse-Coupled Neural Network Applications in Computer Vision and Image Processing
Nurul Rafi, Pablo Rivas
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- 0. A Proposal for Semi-Supervised Learning with GBDT in Image Recognition
Toshiki Hatano, Toi Tsuneda, Yuta Suzuki, Satoshi Yamane
Electrical Engineering and Computer Science, Kanazawa University, Kakumamachi, Kanazawa Shi, Ishikawa Ken, Japan
- 0. Early Prediction of Sepsis Utilizing CNN, LSTM and Fuzzy Twin SVM
Chien-Feng Kung, Chia-Te Kung, Chih-Min Su, Pei-Yi Hao
Department of Emergency Medicine, Kaohsiung Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Kaohsiung, Taiwan, R.O.C.; Department of Intelligent Commerce, National Kaohsiung University of Science and Technology, Taiwan, R.O.C.
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Youssef Chahir, Messaoud Mostefai, Hamza Saidat
Normandie University, UNICAEN, ENSICAEN, CNRS, GREYC, Caen, France; MSE Laboratory, University of Bordj Bou Arreridj, Algeria
- 0. On The Uphill Battle of Image Frequency Analysis
Nader Bazyari, Hedieh Sajedi
Department of CS, School of Mathematics, Statistics and Computer Science, University of Tehran, Tehran, Iran
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Ranpreet Kaur, Hamid GholamHosseini, Roopak Sinha
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- 0. A Neural Network Model for Multi-class Image Classification Using Divide and Conquer Method and Bootstrap Sampling
Seunghui Jang, Yanggon Kim
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Martin Reber, Thomas Kronfeld, Guido Brunnett
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Raquel Pereira de Alcantara, Adauto Tertulino de Freitas Neto, Diogo Nunes de Oliveira, Eduardo Noronha de Andrade Freitas
Federal Institute of Goias, (IFG), Goiania-Go, Brazil; College of Communication & Information (CCI), Florida State University, Florida, USA
- 0. A Novel Approach for Parking Space Occupancy Detection Using Deep Learning and Fusion Algorithm
Hertog Nugroho, Ginanjar Suwasono Adi, Ferry Satria, M. Y. Fadhlani
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- 0. An Application of Deep Learning for Sweet Cherry Phenotyping using YOLO Object Detection
Ritayu Nagpal, Sam Long, Shahid Jahagirdar, Weiwei Liu, Scott Fazackerley, Ramon Lawrence, Amritpal Singh
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- 0. Texture Image Retrieval using a Classification and Contourlet-based Features
Asal Rouhafzay, Nadia Baaziz, Mohand Said Allili
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- 0. Deep Learning for Infrastructure Defect Monitoring and Forecasting
Erika D. Estrada Medina, Mehran Mazari, Mohammad Pourhomayoun
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- 0. Multi-Class, Multi-Object Tracking on Multiple Domains
David Schweitzer, Jing-Ru C. Cheng, Benjamin S. Parson, and Justin T. Carrillo
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- 0. Mitigating Algorithmic Bias on Facial Expression Recognition
Glauco A. Amigo Galan, Pablo Rivas, Robert J. Marks
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- 0. Deep Morphological Network-based Artifact Suppression for Limited-angle Tomography
Ishak Ayad, Cecilia Tarpau, Mai K. Nguyen, Ngoc Son Vu
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- 0. The Hummingbird Drone: Using Visual Coordination to Intersect Flying Objects
Andrew Sumsion, Dah-Jye Lee
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- 0. Decorrelated Age-invariant Face Feature for Cross-age Face Recognition
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- 0. On Two-Person Mutual Action Recognition by Deep Learning
Ting-Hui Chiang, Liang Chia Jung, Yu-Chee Tseng
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- 0. Semi-Automatic Spatial Markov Chains
Edgar Jardon, Marcelo Romero, Eduardo Jimenez
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- 0. No-reference Screen Content Image Quality Assessment Using Deep Neural Networks
Shih-Hsien Chuang, Jin-Jang Leou
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- 0. Skin Lesion Classification Using Transfer Learning and DenseNet-201
 Juan Pablo Villa-Pulgarin, Anderson Alberto Ruales-Torres, Daniel Arias-Garzon, Mario Alejandro Bravo-Ortiz, Harold Brayan Arteaga-Arteaga, Alejandro Mora-Rubio, Jesus Alejandro Alzate-Grisales, Esteban Mercado-Ruiz, M. Hassaballah, Simon Orozco-Arias, Oscar Cardona-Morales, Pablo Guillen-Rondon, Reinel Tabares-Soto
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- 0. Identification of Complex System using Hybrid Method
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- 0. Revisiting the Out-of-Order Superscalar Processor Core
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- 0. A Comparison of Vivado HLS, SDSoc C++ and OpenCL for Porting a Matrix-vector-based Climate Model Mini-app to FPGAs
 Moteb Alghamdi, Graham D. Riley, Mike Ashworth
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- 0. A Shared-Memory Parallel Implementation of the Minimax Algorithm
 Lewis Sharpe, Hans-Wolfgang Loidl
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- 0. Optimized 4-digits Quantum Carry Lookahead Adders
 F. Orts, G. Ortega, E. Filatovas, E. M. Garzon
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 Chiu-Shun Hsiang, Yung-Ting Chuang
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 Lev B. Levitin, Yelena Rykalova
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- 0. Dimension-Balanced Pancyclicity on $T_{\{m,n\}}$ When Both m and n are Odd
 Justie Su-Tzu Juan, Wen-Fan Peng, Zong-You Lai
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- 0. Parallel Frequency Detection and Modelling of Large Time Series Based on Block Recurrent Pseudoinverse Matrices
Christos K. Filelis - Papadopoulos, Panagiotis E. Kyziropoulos, John P. Morrison, Philip O'Reilly
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- 0. Identity: In, By, and, Of, Blockchains
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- 0. Big Data Analytics and IoT for Personalised Healthcare: Opportunities and Challenges
Sitalakshmi Venkatraman, Sazia Parvin, Wathiq Mansoor, and Amjad Gawanmeh
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- 0. Users and Security Elicited Requirements for System (USERS)
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- 0. Sandy Toolbox: A Framework for Dynamic Malware Analysis and Model Development
Kenneth Brezinski, Ken Ferens
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- 0. Blockchain-based Decentralized Attack Pattern Repository
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- 0. Cryptanalysis of a Lightweight Authentication and Key Agreement Scheme for Internet of Drones
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- 0. Toward High Security and Energy Saving of Internet of Things Devices in Edge Computing Using Heterogeneous Architecture
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- 0. Exploring the Vulnerability of Side Channel Attack Countermeasures via Electromagnetic Analysis Experiments
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- 0. Basic Security Baseline for Mobile Applications
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- 0. Fingerprint Liveness Detection using Minutiae-Independent Dense
Sampling of Local Patches
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- 0. An Investigation of the Cyber-Attack Susceptibility of State and
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Patrick Hill, Yu-Ju Lin
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- 0. To the Edge: A New Model for Moving Sensitive Data from Cloud to
Edge using Machine Learning Approach
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- 0. Comparison of Semantic Web and Distributed Ledger Approaches to
Decentralized Identity
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Texas, USA
- 0. Zero-Trust Model of Cybersecurity: Characteristics and Future
Challenges
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- 0. Towards an Ecological Model for Cybersecurity
Bonnie Jan, Jeremy Straub
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- 0. Security and Privacy Challenges in the Cloud-IoT Paradigm
Angelina Gaber, Dina Mamdouh, Youmna Atef, Maggie Mashaly
German University in Cairo, Egypt
- 0. Towards Provably Secure Proxy Signature Scheme Based on Practical
Lattice-Based Cryptography
Yong Xiao, Ao Liu, Mi Zhou, Jiangnan Li
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- 0. Quantum Technology and Crypto Algorithms
Jeong Yang, Jesus Guerrero, Muammer Sahin, Thomas Hernandez,
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- 0. Performance Evaluation of Virtual Private Network Protocols and
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- 0. Examining Security and Forencisc Across DBMS
Abhishek Phadke, Stanislav Ustyenko

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- 0. Cyber Intelligence: A Minor Program for the Next Generation
Cybersecurity Workforce
Avdesh Mishra, Ayush Goyal, David Hicks, Hisham Al-bataineh,
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- 0. Automotive Vehicle Security Visualization
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- 0. Using a Personal Device for Secure and Convenient Authentication
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- 0. DoS/DDoS Detection Using Random Forest with Wavelet Decomposition
Ying-Feng Hsu, Morito Matsuoka
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- 0. Exploratory Analysis of a Measurement Scale of an Information
Security Management System
Rusbel Dominguez-Dominguez, Omar Flores-Laguna, and
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Montemorelos, Mexico

- 0. Innovative Projects in Software Engineering for Virtual Teaching
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Soma Datta, Alex Miller, Daryl Wayne Sonnier, Fernando Gonzalez
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- 0. An Accessible Search Software for Chinese Input Methods for
Blind Persons
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- 0. Structural Bug Localization using Graph-based Deep Learning on
UML Class Diagrams
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- 0. Annotation Ontology for Semantic Web Development
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- 0. Using a Knowledge Repository and Interactive Notebooks for
Deploying Data Analytics Applications across an Organisation
Fethi Rabhi, Madhushi Bandara, Lawrence Yao, Siu Lung Ng
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Sydney, Australia; Roar Software Pty Ltd, Australia

- O. Community Driven Design in Software Engineering
Mirco Schindler, Sebastian Lawrenz
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- O. Unified Framework for Smart Rigs for Multi-Role UAV Avionics Ground
Evaluation
Iqsaam Mukhtar, Sudha Rani S.V., Y. Dilip, B. Ramadoss Balakrishnan
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- O. An Agile Approach to Automate Real Estate CRM (Pre-Sales) using
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- O. Airbnb Price Prediction with Sentiment Classification
Peilu Liu, Robert Chun
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- O. A Case Study of Facial Expression and Color for Social Robot's Emotion Expression
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