The 2023 International Conference on Innovations in Computing Research (ICR'23)
Madrid, Spain, September 4-6, 2023

Conference Program

Monday, September 4, 2023

08.00-08.45   Conference Registration (Conference Registration Desk)

08.45-09.00   WELCOME
                   Dr. Luis Hernandez Encinas, Spanish National Research Council (CSIC)
                   Spain
                   Conference Chair

ICR23-Session-1-R Computer and Network Security
                   09.00-10.20, September 4, 2023 (Remote)

Session Chair: **Ioanna Dionysiou**
                   Department of Computer Science, School of Sciences and Engineering,
                   University of Nicosia, Cyprus

09.00-09.20   A Decentralized Solution for Secure Management of IoT Access Rights
                   Yi-Chun Yang and Ren-Song Tsay
                   Logos Lab, Department of Computer Science, National Tsing Hua
                   University, Taiwan

09.20-09.40   Multi Factor Authentication as a Service (MFAaaS) for Federated Cloud
                   Environments
                   Sara Ahmed AlAnsary, Rabia Latif, and Tanzila Saba
                   Artificial Intelligence and Data Analytics Laboratory, College of
                   Computer and Information Sciences (CCIS), Prince Sultan University,
                   Riyadh, Saudi Arabia

09.40-10.00   Exploring User Attitude Towards Personal Data Privacy and Data Privacy
                   Economy
                   Maria Zambas, Alisa Illarionova, Nikoletta Christou, and **Ioanna
                   Dionysiou**
                   Department of Computer Science, School of Sciences and Engineering,
                   University of Nicosia, Cyprus

10.00-10.20	Host IP Obfuscation and Performance Analysis

10.00-10.20 Host IP Obfuscation and Performance Analysis

Charan Gudla[1] and Andrew H. Sung[2]
[1]School of Computer Science and Engineering Mississippi State University Starkville, USA
[2]The University of Southern Mississippi, Hattiesburg MS 39406, USA

10.20-10.40 **BREAK**

ICR23-Session-2-I. Data Science
10.40-12.20, September 4, 2023 (In-Person)

Session Chair: **Martin Q. Zhao**
Department of Computer Science, Mercer University, USA

10.40-11.00 A Classification Algorithm Utilizing the Lempel-Ziv Complexity Score forMissing Data
Valerie Sessions[1], Justin Grieves[1], and Stanley Perrine[2]
[1]Charleston Southern University, N. Charleston, USA
[2]Georgia Gwinnett College, Lawrenceville, USA

11.00-11.20 Overview of the Benefits Deep Learning Can Provide Against Fake News, Cyberbullying and Hate Speech
Thair Al-Dala'in and **Justin Hui San Zhao**
Western Sydney University, Australia

11.20-11.40 Surface Area Estimation using 3D Point Clouds and Delaunay Triangulation
Helia Farhood[1,3], Samuel Muller[1,2], and Amin Beheshti[3]
[1] School of Mathematical and Physical Sciences, Macquarie University, Sydney, Australia
[2] School of Mathematics and Statistics, University of Sydney, Sydney, Australia
[3] School of Computing, Macquarie University, Sydney, Australia

11.40-12.00 The Effect of Sleep Disturbances on the Quality of Sleep: An Adaptive Computational Network Model
Quentin Lee Hee, Lorenzo Hogendorp, **Daan Warnaars**, and Jan Treur
Vrije Universiteit Amsterdam, Athena Institute and Social AI Group, Netherland

12.00-12.20	A Taxonomy for Car Accidents Predication Model Using Neural Networks

Ghazi Al-Naymat[1], Qurat ul Ain Nizamani[2], Shaymaa Ismail Ali[3], Anchal Shrestha[4], Hanspreet Kaur[2]

[1]Artificial Intelligence Research Center (AIRC), College of Engineering and Information Technology, Ajman University, UAE
[2]Kent Institute Australia, Australia
[3]Cihan University, KRG, Iraq
[4]Catholic University, Australia

12.20-01.20	**LUNCH BREAK (ON YOUR OWN)**

ICR23-Session-3-R	Data Science
	01.20-03.00, September 4, 2023, (Remote)

Session Chair:	**Valerie Sessions**
	Charleston Southern University, N. Charleston, USA

01.20-01.40	Deep Learning based Path-Planning Using CRNN and A* for Mobile Robots

Muhammad Aatif, Umar Adeel, Amin Basiri, Valerio Mariani, Luigi Iannelli, and Luigi Glielmo
University of Sannio, Italy

01.40-02.00	DCPV: A Taxonomy for Deep Learning Model in Computer Aided System for Human Age Detection

Nischal Maskey[1], Salma Hameedi[2], **Ahmed Dawoud**[3], Karwan Jacksi[4], Omar Hisham Rasheed Al-Sadoon[5] , and A B Emran Salahuddin[6]

[1]Study Group Australia, Australia
[2]University of Technology, Baghdad, Iraq
[3]University of South Australia
[4]Department of Computer Science, University of Zakho, KRG, Iraq
[5]Al Iraqia University, Baghdad, Iraq
[6]Crown Institute of Higher Education (CIHE), Australia

02.00-02.20	An Implementation of Vehicle Data Collection and Analysis

Aaron Liske and Xiangdong Che
Eastern Michigan University, Ypsilanti, MI, USA

02.20-02.40	Data, Recommendation Techniques, and View (DRV) Model for Online Transaction

Abdussalam Ali[1,2], Waleed Ibrahim[3,4], and Sabreena Zoha[5]
[1] Australian Catholic University
[2] Asia Pacific International College (APIC), Australia
[3] The University of Sydney, Australia
[4] Central Queensland University, Australia
[5] Western Sydney University, Australia

02.40-03.00	CNN-Based Handwriting Analysis for the Prediction of Autism Spectrum Disorder

Nafisa Nawer[1], Mohammad Zavid Parvez[2,3,4,5], Muhammad Iqbal Hossain[1], Prabal Datta Barua[6,8,9], Mia Rahim[7], and Subrata Chakraborty[8]
[1] Department of Computer Science and Engineering, BRAC University, Bangladesh,
[2] Information Technology, APIC, Melbourne, Australia
[3] Information Technology, Torrens University, Melbourne, Australia
[4] Peter Faber Business School, Australian Catholic University, Melbourne, Australia
[5] School of Computing, Mathematics, and Engineering, Charles Sturt University, NSW, Australia
[6] School of Business (Information System), University of Southern Queensland, Darling Heights, QLD 4350, Australia
[7] School of Law, University of New England, Armidale, Australia
[8] School of Science and Technology, Faculty of Science, Agriculture, Business and Law, University of New England, Armidale, NSW 2351, Australia
[9] Cogninet Australia Pty Ltd, Level 5, 29-35 Bellevue St, Surry Hills NSW 2010

03.00-03.20	**BREAK**

ICR23-Session-4-IR	Posters
	03.20-04.20, September 4, 2023 (Remote/In-Person)

Session Chair:	**Lara Visuña**
	Computer Science and Engineering Department, University Carlos III of Madrid, Spain

03.20-03.40	User Friendly Indoor Navigation Application for Visually Impaired Users in Museums Using 3D Sound **Nusaiba Al Sulaimani**, Ali Al-Humairi, and Sharifa Al Khanjari Department of Computer Science, GUtech Muscat, Sultanate of Oman
03.40-04.00	Training Problem-Solvers by Using Real World Problems as Case Studies Martin Q. Zhao and **Robert Allen** Department of Computer Science, Mercer University, Macon, GA, USA
04.00-04.20	Using AI to Capture Class Attendance **Fatmah Alantali**[1], Adhari Almemari[1], Maryam Alyammahi[1], Benson Raj[1], Mohsin Iftikhar[1], Muhammad Aaqib[2], and Hanif Ullah[2] [1] Higher College of Technology, Fujairah, UAE [2] Ulster University, Northern Ireland BT15 1ED, UK
04.20-05.20	Keynote Speech: **Cybersecurity- Privacy: How Can I Protect Myself in Cyber Space? Can I Get Some Privacy Please?** **Professor Levent Ertaul** California State University Easy Bay, USA
07.30-10.00	CONFERENCE DINNER

Tuesday, September 5, 2023

ICR23-Session-5-R	Data Science 09.00-10.20, September 5, 2023 (Remote)
Session Chair:	**Razwan Mohmed Salah** The University of Duhok, Duhok, KRG, Iraq
09.00-09.20	Comparative Analysis: Accurate Prediction to the Future Stock Prices Nada AlSallami[1], **Razwan Mohmed Salah**[2], Munir Hossain[3], Syed Altaf[4], Emran Salahuddin[4], and Jaspreet Kaur[5] [1]CS Department, Worcester State University, USA [2]The University of Duhok, Duhok, KRG, Iraq [3]Western Sydney University, Australia [4]Kent Institute Australia, Australia [5]Study Group Australia, Australia

09.20-09.40	A Brief Summary of Selected Link Prediction Surveys

09.20-09.40   A Brief Summary of Selected Link Prediction Surveys
Ahmed Rawashdeh
Applied Science Private University (ASU), Amman, Jordan

09.40-10.00   Machine Learning-based Trading Robot for Foreign Ex-change (FOREX)
Fatima Mohamad Dakalbab[1], Manar Abu Talib[*1], Qassim Nasir[2]
[1] Department of Computer Science, University of Sharjah, UAE
[2] Department of Computer Engineering, University of Sharjah, UAE

10.00-10.20   A Taxonomy for Efficient Electronic Medical Record Systems using Ubiquitous Computing
Yasmi Y.[1], Nawzat Sadiq Ahmed[2], Razwan Mohmed Salah[3], **Qurat Ul Ain Nizamani**[4], and Shaymaa Ismail Ali[5]
[1]Study Group Australia, Australia
[2]Duhok Polytechnic University, Duhok, KRG, Iraq
[3]The University of Duhok, Duhok, KRG, Iraq
[4]Kent Institute Australia, Australia
[5]Cihan University- Duhok, KRG, Iraq

10.20-10.40   **BREAK**

10.40-12.00   Panel: **Current and Future Trends in Data Science**

Moderator: **Kevin Daimi,** University of Detroit Mercy, USA

Panelists: **Helia Farhood**, Macquarie University, Australia
Valerie Sessions, Charleston Southern University, USA
Kazem Taghva, University of Nevada, USA

12.00-12.20   **FREE SLOT**

12.20-01.20   **LUNCH BREAK (ON YOUR OWN)**

01.20-02.40   Keynote Speech: **Data-driven Decision Support and Sector-based Optimization within Complex Reach Back Process**

Professor Stefan Wolfgang Pickl
DKKV, COMTESSA, Munich, Germany

02.40-03.00   **FREE SLOT**

03.00-03.20   **BREAK**

ICR23-Session-6-I   Computer and Network Security + Internet of Tings + Data Science
03.20-05.00, September 5, 2023 (In-Person)

Session Chair: **Helia Farhood**
School of Mathematical and Physical Sciences, Macquarie
University, Sydney, Australia

03.20-03.40   Descriptive Analysis of Gambling Data for Data Mining of Behavioral
Patterns
Piyush Puranik, **Kazem Taghva**, and Kasra Ghaharian
University of Nevada, Las Vegas

03.40-04.00   Industrial Air Quality Sensor Visual Analytics
Eleftheria Katsiri
Department of Electrical and Computer Engineering, Democritus
University of Thrace, Greece

04.00-04.20   Augmenting Character Designers' Creativity Using Generative
Adversarial Networks.
Mohammad Lataifeh, Xavier Carrasco, Ashraf Elnagar, and
Naveed Ahmed
Department of Computer Science, University of Sharjah, UAE

04.20-04.40   DCOP: Deep Learning for Road Safety System
Binod Hyoju[1], A B Emran Salahuddin[2], **Haneen Heyasa**t[3], Omar Hisham
Rasheed Al-Sadoon[4], and Ahmed Dawoud[3]
[1]Study Group Australia, Australia.
[2]Crown Institute of Higher Education
[3]University of South Australia
[4]AlIraqia University, Bagdad, Iraq

04.40-05.00   An Overview of Vehicle OBD-II Port Countermeasures
Abdulmalik Humayed
Jazan University, Jazan, Saudi Arabia

Wednesday, September 6, 2023

09.00-10.20   Keynote Speech: Secure Key Exchange Withstanding Quantum Attacks

Professor María Isabel González Vasco
Universidad Carlos III de Madrid, Spain

10.20-10.40	BREAK

ICR23-Session-7-R   Internet of Things + Smart Cities
10.40-12.00, September 6, 2023 (Remote)

Session Chair: **Eleftheria Katsiri**
Department of Electrical and Computer Engineering, Democritus University of Thrace, Greece

10.40-11.00   Energy Routing in Energy Internet using the Firefly Algorithm
Lina Benchikh[1], Lemia Louail[2] and Djamila Mechta[1]

[1]LRSD Laboratory, Faculty of Sciences, University Ferhat Abbas Setif 1, Setif, Algeria

[2]Université de Lorraine, CNRS, CRAN, F-54000 Nancy, France

11.00-11.20   Social Spider Optimization Meta-heuristic for Node Localization Optimization in WSNs
Zahia Lalama[1], Fouzi Semechedine[2], Nabil Giweli[3], and Samra Boulfekhar[4]
[1] Science Faculty of Setif-1 university, Algeria
[2] Mechatronics Laboratory-E1764200, Optics and Precision Mechanics Institute, University of Setif-1, Algeria
[3]Western Sydney University, Sydney, Australia
[4] Research unit LAMOS, Faculty of Exact Sciences, University of Bejaia, Algeria

11.20-11.40   Heterogeneous Transfer Learning in Structural Health Monitoring for High Rise Structures
Ali Anaissi[1], Kenneth D'souza[1], Basem Suleiman[1], Mahmoud Bekhit[2], and **Widad Alyassine**[1]

[1] School of Computer Science, The University of Sydney

[2] School of Computer Science, Kent Institute Australia

11.40-12.00   Privacy-Aware IoT based Fall Detection with Infrared Sensors and Deep Learning
Farhad Ahamed[12], Seyed Shahrestani[1], and Hon Cheung[1]

[1] Western Sydney University, Kingswood NSW 2747, Australia

[2] Kent Institute Australia, Sydney NSW 2000, Australia

12.00-12.20   FREE SLOT

12.20-01.20	LUNCH BREAK (ON YOUR OWN)

Health Informatics and Medical Imaging + Computer Science and Engineering Education
01.20-03.00, September 6, 2023, (In-person)

Session Chair: **Haneen Heyasat**
STEM, University of South Australia, Australia

01.20-01.40 Novel deep learning-based technique for tuberculosis bacilli detection in sputum microscopy
Lara Visuña, Javier Garcia-Blas, and Jesus Carretero
Computer Science and Engineering Department, University Carlos III of Madrid, Spain

01.40-02.00 Real Time Remote Cardiac Health Monitoring using IoT Wearable Sensors- A Review
Pawan Sharma[1], Javad Rezazadeh[2], Abubakar Bello[3], Ahmed Dawoud[4], and **Ali Abas Albabawat**[5]
[1] Study Group Australia, Australia
[2] Crown Institute of Higher Education (CIHE), Australia
[3] Western Sydney University, Australia
[4] University of South Australia
[5] Computer Science Department, University of Duhok, Duhok, KRG, Iraq

02.00-02.20 Data Management in Industry–Academia Joint Research: A Perspective of Conflicts and Coordination in Japan
Yuko Toda and Hodaka Nakanishi
Advanced Comprehensive Research Organization, Teikyo University, Japan

02.20-02.40 Security Culture and Security Education, Training and Awareness (SETA) Influencing Information Security Management
Haneen Heyasat, Sameera Mubarak and Nina Evans
STEM, University of South Australia, Australia

02.40-03.00 Building a Knowledge Model of Cayo Santiago Rhesus Macaques: Engaging Undergraduate Students in Developing Graphical User Interfaces for NSF Funded Research Project
Martin Q. Zhao[1], Ethan R. Widener[1], George Francis[2], and Qian Wang[2]
[1] Department of Computer Science, Mercer University
[2] Department of Biomedical Sciences, Texas A&M University School of Dentistry

03.00-03.20   **BREAK**

Health Informatics and Medical Imaging + Computer Science and Engineering Education
03.20-04.20, September 6, 2023 (Remote)

Session Chair: **Ghazi Al-Naymat**
Artificial Intelligence Research Center (AIRC), College of Engineering and Information Technology, Ajman University, UAE

03.20-03.40   Emotional Intelligence of Teachers in Higher Education: Stress Coping Strategies, Social Self-Efficacy, and Decision-Making Styles
Mahshid Lonbani[1], Shintaro Morimoto[2], Joane Jonathan[1], Pradeep Khanal[3], and Sanjeev Sharma[4]
[1] Kent Institute Australia, Sydney, Australia.
[2] Study Group Australia, Australia.
[3] Expert Education And Visa Services, Australia.
[4] Queensland International Business Academy (QIBA), Australia.

03.40-04.00   Taxonomy of AR to Visualize Laparoscopy during Abdominal Surgery
Ravi Bikram KC[1], **Thair Al-Dala'in**[2], Rami S. Alkhawaldeh[3], Nada AlSallami[4], Oday Al-Jerew[5], and Shahad Ahmed[6]
[1] Study Group Australia, Australia
[2] Western Sydney University, Australia
[3] Department of Computer Information Systems, The University of Jordan, Aqaba, Jordan
[4] Computer Science Department, Worcester State University, MA, USA
[5] Asia Pacific International College, Australia
[6] Department of Computer Science, The University of Duhok, Duhok, KRG, Iraq

04.00-04.20   An XAI Integrated Identification System of White Blood Cell Type using Variants of Vision Transformer
Shakib Mahmud Dipto[1], Md Tanzim Reza[1], Md. Nowroz Junaed Rahman[1], Mohammad Zavid Parvez[2,3,4,5], Prabal Datta Barua[6,7,8], and Subrata Chakraborty[7]
[1] Department of Computer Science and Engineering, BRAC University, Bangladesh
[2] Information Technology, APIC, Australia
[3] Information Technology, Torrens University, Australia
[4] Peter Faber Business School, Australian Catholic University, Australia
[5] School of Computing, Mathematics, and Engineering, Charles Sturt University, Australia
[6] School of Business (Information System), University of Southern Queensland, Australia

10

[7] School of Science and Technology, Faculty of Science, Agriculture, Business and Law, University of New England, Armidale, Australia
[8] Cogninet Australia Pty Ltd, Australia