

**The Fourth International Conference on Advances in Computing Research (ACR'26)
Amsterdam, The Netherlands, July 13-15, 2026**

Conference Program

Monday, July 13, 2026

- 07.30-08.00** Conference Registration (Conference Registration Desk)
- 08.00-08.15** WELCOME
Professor Hiroaki Kikuchi, Meiji University, Japan
Conference Chair
- Session-ACR-1** **Computational Intelligence**
08.20-10.20, July 13, 2026 (In-person)
- Session Chair:** **Helia Farhood**
University of Sydney, Australia
- 08.20-08.40** Amplifying Farmer Voices with AI: Thematic Analysis for Inclusive
Agricultural Smart Mechanisation
Helia Farhood and Salah Sukkarieh
University of Sydney, Sydney, Australia
- 08.40-09.00** An AI-Powered Molecular Prediction System for Chemical Synthesis in
Digital Laboratory Workflows
Babatunde Opešemowo, Carl Van der Westhuizen, Reinout Meijboom,
and Wai Sze Leung
University of Johannesburg, Johannesburg, South Africa
- 09.00-09.20** GameFit: An AI-Powered Gamification for Enhancing User Retention in
Mobile Fitness Applications
Murad Al-Rajab¹, Samia Loucif², Muhammet Yalkapov¹, Ayyub Akbar
Ugli Ish-nazarov¹, and Suhail Odeh³
¹College of Engineering, Abu Dhabi University, Abu Dhabi, United Arab
Emirates
²College of Technological Innovation, Zayed University, Abu Dhabi,
UAE
³Software Engineering Department, Bethlehem University, Bethlehem,
Palestine
- 09.20-09.40** Deep Learning Models and Their Hybrids with Linguistic Features in
Detecting AI Text
Li-jing Arthur Chang
Jackson State University, Jackson MS 39204, USA

- 09.40-10.00** Perspectives on the Use of AI-Enabled Smart Therapeutics in Pharmacy: A Study of Pharmacists and Students
Dina Tbaishat^{1,2}, Omar AlFandi³, Maha ElFade^{1,4}, Mays Abu Ajamieh⁵, and Nancy Hakooz⁵
¹Faculty of Educational Sciences, University of Jordan, Amman, Jordan
²College of Technological Innovation, Zayed University, Dubai, UAE
³College of Technological Innovation, Zayed University, Abu Dhabi, UAE
⁴University of Jordan, Amman, Jordan
⁵School of Pharmacy, University of Jordan, Amman, Jordan
- 10.00-10.20** Coronary Artery Disease Prediction Using Machine Learning and Ensemble Techniques
Hanan Aljuaid and **Deema Almuqbil**
Department of Computer Science, Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia
- 10.20-10.40** **BREAK**
- Session-ACR-2. Computational Intelligence**
10.40-12.00, July 13, 2026 (Remote)
- Session Chair: Dina Tbaishat**
University of Jordan, Amman, Jordan
- 10.40-11.00** Algorithmic Support for Creative Learning: Assessing a Music Composition Intelligent Tutoring System from a Computer Science Perspective
Michele Della Ventura
Music Academy “Studio Musica”, Department of Music Technology, Treviso (Italy)
- 11.00-11.20** Atrial Fibrillation Detection using Photoplethysmography Signals via Spectrogram-based 2D Convolutional Networks
Sana Sajesh, Heba El-Shimy, and Fadi Alhaddadin
School of Mathematical and Computer Sciences, Heriot-Watt University, Dubai, U.A.E
- 11.20-11.40** Fuzzy Logic Framework for Modeling Self-Efficacy in Self-Regulated Learning from Likert Scale Data
Ontiretse Ishmael¹, Etain Kiely¹, John Healy¹, and Cormac Quigley²
¹Department of Computer Science & Applied Physics, Atlantic Technological University, Galway, Ireland
²Department of Analytical and Biopharmaceutical Science, Atlantic Technological University, Galway, Ireland

- 11.40-12.00 Knowledge-Grounded Conversational AI for Scholarship Discovery
Ali M Roumani¹ and David Liang²
Computer Science and Information Systems Department, College of
Engineering and Applied Sciences, American University of Kuwait,
Kuwait
- 12.00-01.00 **LUNCH BREAK (ON YOUR OWN)**
- 01.00-02.00 **Keynote Speech: AI and Cybersecurity: Foundations for an AI-Native Resilient Society**

Dr. Takeshi Takahashi
National Institute of Information and Communications Technology,
Japan
- 02.00-03.00 **Panel: Current and Future Challenges of Data Science**

Moderator: **Agon Memeti**, University of Tetova, North Macedonia

Panelists: **Bjarne Berg**, University of North Carolina-Charlotte, USA
Samia Loucif, Zayed University, UAE
Vanessa Zorrilla-Muñoz, Miguel Hernandez University,
Spain
- 03.00-03.20 **BREAK**
- Session ACR-3 **Computational Intelligence**
03.20-04.20, July 13, 2026 (Remote)
- Session Chair: **Babatunde Opesemowo**
University of Johannesburg, South Africa
- 03.20-03.40 Evaluating Arabic Diacritization Models: From Self-Hosted Neural
Networks to Cost-Effective Commercial Solutions
Khaldoun Senjab, Mohammed Lataifeh, and Ashraf Elnagar
Department of Computer Science, University of Sharjah, Sharjah, UAE

03.40-04.00

RGB-Fotomics: A Spatially Consistent RGB Image Transformation for Enhanced Single-Cell Omics Classification

Zhengzhong Lu¹, Ahmed Freidoon Fadhil^{2,3,4,5}, Yang Wang¹, Wentong Wang¹, Songlin Zhang¹, Pengfei Liu¹, Ziyao Wang¹, and **Ali Anaissi**^{1,6}

¹University of Sydney, Australia

²James Cook University, College of Science and Engineering, Brisbane, Australia

³Victoria University, Brisbane, Australia

⁴Asia Pacific International College (APIC), Brisbane, Australia

⁵Kaplan Business School (KBS), Brisbane, Australia

⁶University of Technology Sydney, Australia

04.00-04.20

A Hybrid Computational Intelligence Framework for scRNA-seq Imputation: Integrating scRecover and Random Forests

Ali Anaissi^{1,2}, Deshao Liu^{3,4,5}, Yuanzhe Jia², Weidong Huang¹, Widad Alyassine², and Junaid Akram²

¹University of Technology Sydney, Australia

²University of Sydney, Australia

³Asia Pacific International College (APIC), Parramatta, NSW, Australia

⁴Lincoln Institute of Higher Education (LIHE), Sydney, Australia

⁵The Institute of International Studies (TIIS), Sydney, Australia

07.30-9.30

CONFERENCE DINNER

Tuesday, July 14, 2026

Session-ACR-4

Cybersecurity Engineering

08.00-10.00, July 14, 2026 (In-person)

Session Chair:

Li-jing Arthur Chang

Jackson State University, USA

08.00-08.20

Consensus-Based Feature Selection Approach for Machine Learning Intrusion detection systems

Ahmad Taha Hamarsheh¹, Mohammad M N Hamarsheh², and Ahmad Hassasneh³

¹Department of cybersecurity, Faculty of graduate studies, Arab American University, Ramallah, Palestine.

²Department of Computer Science and networks security, Faculty of information technology, Arab American university, Jenin, Palestine.

³Department of Engineering and Technology Sciences, Arab American University, Ramallah, Palestine

- 08.20-08.40 Federated Edge Intelligence with Blockchain Anchoring for Privacy-Preserving Smart Mobility over 5G
Manuel J. C. S. Reis¹, Carlos Serôdio², Luís Correia³, and Frederico Branco⁴
¹University of Trás-os-Montes e Alto Douro, Quinta de Prados, Portugal
²University of Trás-os-Montes e Alto Douro, Quinta de Prados, Portugal
³Up Motion, Edifício Incubadora de Empresas Capital Douro, Avenida Barão de Forrester, Portugal
⁴University of Trás-os-Montes e Alto Douro, Quinta de Prados, Portugal
- 08.40-09.00 A Privacy-Preserving and Explainable Method for (Obfuscated) Malware Detection in Android Environment
Francesco Mercaldo^{4,1}, Sebastian Schrittwieser², Patrick Kochberger³, Marta Petyx⁶, Patrizia Agnello⁶, Antonella Santone⁴, Fabio Martinelli⁵, and Paul Tavalato¹
¹Faculty of Computer Science, University of Vienna, Vienna, Austria
²Christian Doppler Laboratory for Assurance and Transparency in Software Protection, University of Vienna, Vienna, Austria
³Department of Computer Science and Security, St. Pölten University of Applied Sciences, Sankt Pölten, Austria
⁴Department of Medicine and Health Sciences “Vincenzo Tiberio”, University of Molise, Campobasso, Italy
⁵Institute of High Performance Computing and Networking, National Research Council of Italy (CNR), Rende, Italy
⁶Istituto Nazionale per l’Assicurazione contro gli Infortuni sul Lavoro, Roma, Italy
- 09.00-09.20 A Method for Packed Malware Detection and possible Payload Identification through Convolutional Neural Networks
Paul Tavalato¹, Sebastian Schrittwieser², Patrick Kochberger³, Antonella Santone⁴, Fabio Martinelli⁵, and **Francesco Mercaldo**^{4,1}
¹Faculty of Computer Science, University of Vienna, Vienna, Austria
²Christian Doppler Laboratory for Assurance and Transparency in Software Protection, University of Vienna, Vienna, Austria
³Department of Computer Science and Security, St. Pölten University of Applied Sciences, Sankt Pölten, Austria
⁴Department of Medicine and Health Sciences “Vincenzo Tiberio”, University of Molise, Campobasso, Italy
⁵Institute of High Performance Computing and Networking, National Research Council of Italy (CNR), Rende, Italy
- 09.20-09.40 On a Single-Variable Construction of Pythagorean Quadruples and a Symmetric Encryption Application
Nadav Voloch
Shamir Research Institute, Israel

09.40-10.00 Network Intrusion Detection System Using Raspberry Pi and Snort.
Narsimulu Sakali, Ritesh Reddy Vanga, Shiva Krishna Kota, and **Alberto Arteta**
Department of Computer Science, Troy University, Troy, AL 36082, USA

10.00-10.20 **FREE SLOT**

10.20-10.40 **BREAK**

10.40-11.40 **Keynote Speech: The Evolution of Software Engineering in the Era of Generative AI**

Professor Lerina Aversano
University of Foggia, Italy

11.40-12.00 **FREE SLOT**

12.00-01.20 **LUNCH BREAK (ON YOUR OWN)**

01.20-02.40 **Panel: Emerging trends in Computational Intelligence**

Moderator: **Robert Polding**, IE University, Spain

Panelists: **Murad Al-Rajab**, Abu Dhabi University, UAE
Li-jing Arthur Chang, Jackson State University, USA
Dina Tbaishat, University of Jordan, Amman, Jordan

02.40-03.00 **FREE SLOT**

03.00-03.20 **BREAK**

Session-ACR-5 **Data Analytics Engineering**
03.20-04.40, July 14, 2026 (In-Person)

Session Chair: **Bjarne Berg**
University of North Carolina-Charlotte, USA

03.20-03.40 AI Adoption in Technology Firms to Produce Goods and Services
Bjarne Berg-Saether and Antonis Stylianou
Belk College of Business, Business Information Systems and Operations
Management Department (BISOM), University of North Carolina at
Charlotte, North Carolina, USA

- 03.40-04.00** Federated Drift-Aware Learning: Current Challenges and Future Directions
Osama Mahdi¹, Savitri Bevinakoppa¹, and Nawfal Ali²
¹School of IT and Engineering, Melbourne Institute of Technology, Melbourne, Australia
²Faculty of Information Technology, Monash University, Melbourne, VIC Australia
- 04.00-04.20** Analyzing the Influences of Browsing Data Behavior on Bid Prices in Targeted Advertising
Yuto Taguchi and **Hiroaki Kikuchi**
School of Interdisciplinary Mathematical Sciences, Meiji University, 4-21-1 Nakano, Tokyo 164-8525, Japan
- 04.20-04.40** K-Means Adaptive Channels for Mean Reversion Trading in Cryptocurrency Markets
Justin Hui San Zhao^{1, 2, 3} and Deshao Liu^{2,3,4}
¹Western Sydney University, Sydney City Campus, Australia
²Asia Pacific International College (APIC), Parramatta, NSW, Australia
³Lincoln Institute of Higher Education (LIHE), Sydney, Australia
⁴The Institute of International Studies (TIIS), Sydney, Australia

Wednesday, July 15, 2026

Session Chair: **Vanessa Zorrilla-Muñoz**
Miguel Hernandez University, Spain

Session-ACR-6. **Data Analytics Engineering**
08.00-09.20, July 15, 2026 (Remote)

- 08.00-08.20** A Two-Stage AI Framework for Quality Control: Synthetic Data Generation and Predictive Modeling
Mohammad Shahin¹, **Mazdak Maghanaki**², F. Frank Chen², and Ali Hosseinzadeh²
¹University of Tennessee at Knoxville, Knoxville, TN 37996, USA
²The University of Texas at San Antonio, San Antonio TX 78249, USA
- 08.20-08.40** Data Driven SoC Estimation for EV Li-ion Batteries: Recent Trends and Open Challenges
Ranya Azzam, Bassel Soudan, and Talal Bonny
Dept. of Computer Engineering, University of Sharjah, Sharjah, UAE

08.40-09.00

Impact of Vision-Related Diseases and Comorbidities on Functional Abilities and Technology Use in Older Adults with Arthritis

Vanessa Zorrilla-Muñoz^{1,2}, Gema Martínez-Navarrete^{1,3}, Nicanor Morales-Delgado³, Segundo Jimenez-García^{4,5}, Esther Fernández-Guill⁶, María del Carmen Lillo-Navarro⁷, Ramon Peral-Orts⁸, Eduardo Sáenz-de-Cabezón⁹, Eduardo Fernández^{1,10}, Nicolas García-Aracil¹¹, and Jose Maria Sabater-Navarro¹

¹ Bioengineering Institute, Miguel Hernandez University, 03202, Elche, Spain

² University Institute on Gender Studies, University Carlos III of Madrid, Getafe, 28903 Madrid, Spain

³ Alicante Institute for Health and Biomedical Research (ISABIAL), 03010 Alicante, Spain

⁴ Elda Health Department, Elda University General Hospital, 03550, Elda, Spain

⁵ Faculty of Health Sciences, University of Alicante, 03609, Alicante, Spain

⁶ Department of Rheumatology, Hospital Morales Meseguer, 30008, Murcia, Spain

⁷ Department of Pathology and Surgery, Miguel Hernandez University, 03550, Sant Joan, Spain

⁸ Department of Applied Mechanical Engineering, Miguel Hernandez University, 03202, Elche, Spain

⁹ Department of Mathematics and Computation Department, University of La Rioja, 26006, Logroño, Spain

¹⁰ Networking Research Centre of Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN), Spain

09.00-09.20

Using VAEs for Anomaly Detection Utilizing Synthetic Dataset

Mazdak Maghanaki¹, Mohammad Shahin², F. Frank Chen¹, and Ali Hosseinzadeh¹

¹The University of Texas at San Antonio, San Antonio TX 78249, USA

²University of Tennessee at Knoxville, Knoxville, TN 37996, USA

09.20-10.20

Keynote Speech: Towards A necessary and Secure Transition to Post-Quantum Cryptography

Dr. Luis Hernández Encinas

Institute of Physical and Information Technologies, Spain

10.20-10.40

BREAK

Session-ACR-7

**Data Analytics Engineering + Cybersecurity Engineering
10.40-12.00, July 15, 2026 (In-Person/Remote)**

- Session Chair:** **Manal Gasm**
Mohammed V University in Rabat, Morocco
- 10.40-11.00** Vulnerabilities and Exploits in Home IoT Devices
Patrik Jokela and Tapio Frantti
Information Technology, University of Jyväskylä, Finland
- 11.00-11.20** Vulnerability Categorization and Prioritization with Machine Learning in the Transport Sector
Michela Sbetta and Lejla Islami
DTU Compute, Technical University of Denmark, Denmark
- 11.20-11.40** EthiMask: A Context-Aware Data Masking Framework for Privacy-Preserving Analytics Using Dynamic Trust Scoring and Differential Privacy
Manal Gasm and Karim Baïna
Alqualsadi Research Team, Rabat IT Center, ENSIAS, Mohammed V University in Rabat, Rabat 10112, Morocco
- 11.40-12.00** Comparative Analysis of Preventive Analytics Techniques for Predicting Cardiovascular and Diabetic Diseases
Syed Farhan Ahmed¹ and Mansoor S. Raza²
¹School of Computing and Mathematics, Charles Sturt University (Study Centre), Melbourne, Australia
²STEM College, RMIT University, Melbourne, VIC, Australia
- 12.00-01.20** **LUNCH BREAK (ON YOUR OWN)**
- Session-ACR-8** **Software Engineering + Poster**
01.20-03.00, July 15, 2026 (In-Person)
- Session Chair:** **Neelam Soundarajan**
Ohio State University, USA
- 01.20-01.40** Enhancing Privacy and Accountability in Federated Learning for Smart IoT
Zhuotao Lian¹, Qingkui Zeng², and Chunhua Su³
¹Hiroshima University, Higashi-Hiroshima, 739-8527, Japan
²Tongling University, Tongling, 244061, China
³University of Aizu, Aizuwakamatsu, 965-0006, Japan
- 01.40-02.00** Uncovering Routes to Psychological Ownership in Container Security
Tomi Suomi¹, Maha Sroor¹, Petri Ihantola¹, Rahul Mohanani², Tommi Mikkonen¹, and Niko Mäkitalo¹

¹University of Jyväskylä, Jyväskylä, Finland

²University of Oulu, Oulu, Finland

²School of Business Administration, Oakland University, Rochester Hills, Michigan, USA

02.00-02.20

Abduction and Social Cognition, the Keys to Effective Training of Software Professionals

Neelam Soundarajan

Department of Computer Science and Engineering, Ohio State University, United States

02.20-02.40

Software Quality in Machine Learning Systems: A Scoping Review of Smells and Antipatterns

Marcela Mosquera¹, Rodolfo Bojorque², and Remigio Hurtadosian²

¹Escuela Politécnica Nacional, Ecuador

²Universidad Politécnica, Ecuador

02.40-03.00

An adaptive $O(n \log n)$ algorithm for discretizing 3D parametric spherical curves

Hans Dulimarta¹ and William Dickinson²

¹College of Computing, Grand Valley State University, Grand Rapids, Michigan, USA

²Department of Mathematics, Grand Valley State University, Grand Rapids, Michigan, USA

03.00-03.20

BREAK

03.20-04.20

Panel: Techniques, Implications, and Challenges of Future Digital Identity

Moderator: **Irene Kopaliani**, Princeton University, USA

Panelists: **Alberto Arteta**, Troy University, USA

Manuel J. C. S. Reis, University of Trás-os-Montes and Alto Douro, Portugal

Nadav Voloch, Shamir Research Institute, Israel