



[Conference](#) » Program

2024 International Conference on Computer and Applications (ICCA) Program



INTERNATIONAL CONFERENCE ON COMPUTER AND APPLICATION (IEEE/ICCA 2024)

IEEE/ICCA 2024 FINAL PROGRAM

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
|-----------------|---------------------------|----------------------|--------|--------|--------|
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Tuesday, December 17

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
|--------------|---|-------------------|--|--|---|
| 09:00-09:20 | CONFERENCE OFFICIAL OPENING (MAIN CONFERENCE ROOM A): <i>CONFERENCE OFFICIAL OPENING (MAIN CONFERENCE ROOM A)</i> CONFERENCE OFFICIAL OPENING (9:00AM - 9:20AM) | | | | |
| 09:20-10:30 | KEYNOTE SPEAKERS (MAIN CONFERENCE ROOM A - PROF. Ahmad MADIAN & PROF Helen KARATZA): <i>TUESDAY, DECEMBER 17th, 2024 - 09:20AM - 10:30AM</i> KEYNOTE SPEAKERS | | | | |
| 10:30-11:00 | COFFEE BREAK AND NETWORKING: <i>COFFEE BREAK AND NETWORKING</i> COFFEE BREAK AND NETWORKING (10:30AM - 11:00AM) | | | | |
| 11:00-13:00 | RESEARCH SESSION 1 - ROOM A (TUESDAY, DECEMBER 17th, 2024- 8 PAPERS - ROOM A): <i>RESEARCH SESSION 1 (TUESDAY, 11:00AM - 13:00PM - 8 PAPERS) - ROOM A - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS</i> RESEARCH SESSION 1 (11:00AM - 13:00PM) - ROOM A | | RESEARCH SESSION 1 (TUESDAY, DECEMBER 17th, 2024- 8 PAPERS - ROOM B): <i>RESEARCH SESSION 1 - ROOM B (TUESDAY, DECEMBER 17, 8 PAPERS, ROOM B) - 11:00AM - 13:00PM) - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS</i> RESEARCH SESSION 1 (ROOM B) | RESEARCH SESSION 1 (TUESDAY - - DECEMBER 17th, 2024- ROOM C, 8 PAPERS): <i>RESEARCH SESSION 1 (TUESDAY - DECEMBER 17th, 2024 - 8 PAPERS - ROOM C) - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS</i> RESEARCH SESSION 1 (ROOM C) | RESEARCH SESSION 1 - ROOM D (TUESDAY, DECEMBER 17th, 2024 - 8 PAPERS): <i>RESEARCH SESSION 1 - ROOM D (TUESDAY, DECEMBER 17th, 2024, 11:00AM - 13:00PM, 8 PAPERS) - ROOM D (15 Minutes per paper including questions)</i> RESEARCH SESSION 1 - ROOM D |
| 13:00-14:00 | LUNCH 13:00PM - 14:00PM (COFFEE ROOM): <i>LUNCH (13:00PM - 14:00PM (COFFEE ROOM))</i> LUNCH 13:00PM - 14:00PM (COFFEE ROOM) | | | | |
| 14:00-15:45 | RESEARCH SESSION 2 - ROOM A (TUESDAY - DECEMBER 17, 2024, 5 PAPERS - ROOM A): <i>RESEARCH SESSION 2 (14:00PM - 15:45PM, 5 PAPERS) - TUESDAY, DECEMBER 17th, 2024</i> | | RESEARCH SESSION 2 - ROOM B (TUESDAY, DECEMBER 17th, 2024, 7 PAPERS): <i>RESEARCH SESSION 2 - ROOM B (TUESDAY, DECEMBER 17th, 2024 -</i> | RESEARCH SESSION 2 - ROOM C (7 PAPERS): <i>RESEARCH SESSION 2 - ROOM C (TUESDAY, DECEMBER 17th, ROOM C, 7 PAPERS, 14:00PM - 15:45PM) - (15 MINUTES PER PAPER)</i> | RESEARCH SESSION 2 - ROOM D (TUESDAY, DECEMBER 17th, 2024, ROOM D - 7 PAPERS): <i>RESEARCH SESSION 2 - ROOM D - (14:00PM - 15:45PM) (TUESDAY, DECEMBER 17th, 2024, 7 PAPERS)</i> |

RESEARCH SESSION 2 - ROOM
A

~~14:00PM - 15:45PM, 7~~
PAPERS)

RESEARCH SESSION 2 -
ROOM C

RESEARCH SESSION 2 - ROOM
D

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
|--------------|---|---|--|--|--|
| | | | RESEARCH SESSION 2 - ROOM B | | |
| 15:45-16:00 | | <p>SHORT COFFEE BREAK: <i>SHORT COFFEE BREAK (15:45PM - 16:00PM)</i></p> <p>SHORT COFFEE BREAK (15:45PM - 16:00PM): <i>SHORT COFFEE BREAK (15:45PM - 16:00PM)</i></p> | | | |
| 16:00-18:00 | <p>RESEARCH SESSION 3 (TUESDAY - 8 PAPERS - ROOM A): <i>RESEARCH SESSION 3 (TUESDAY 16:00PM - 18:00PM, 8 PAPERS) - ROOM-A, DECEMBER 17th 2024</i></p> <p>RESEARCH SESSION 3 - ROOM A</p> | | <p>RESEARCH SESSION 3 - ROOM B (TUESDAY - 16:00PM - 18:00PM, 8 PAPERS): <i>RESEARCH SESSION 3 (TUESDAY, DECEMBER 17th, 16:00PM - 18:00PM, 8 PAPERS) - ROOM B</i></p> <p>RESEARCH SESSION 3 - ROOM B</p> | <p>RESEARCH SESSION 3 - ROOM C (8 PAPERS): <i>RESEARCH SESSION 3 - ROOM C (TUESDAY, DECEMBER 17th 2024, 16:00PM - 18:00PM, 8 PAPERS)</i></p> <p>RESEARCH SESSION 3 - ROOM C</p> | <p>RESEARCH SESSION 3 - ROOM D (TUESDAY, DECEMBER 17th, 2024, ROOM D, 8 PAPERS): <i>RESEARCH SESSION 3 - ROOM D (16:00PM - 18:00PM) TUESDAY, DECEMBER 17th 2024, 8 PAPERS)</i></p> <p>RESEARCH SESSION 3 - ROOM D</p> |

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
|-------------------------------|--|--|---|---|--|
| Wednesday, December 18 | | | | | |
| 09:00-10:10 | KEYNOTES SPEAKERS - ROOM A (Hironori WASHIZAKI and PROF. Ismail A. MAGEED): KEYNOTES, SPEAKERS - MAIN CONFERENCE ROOM A - WEDNESDAY, 18th December, 2024. KEYNOTES SPEAKERS | | | | |
| 10:10-10:30 | | SHORT BREAK FOR 20 MINUTES COFFEE BREAK | | | |
| 10:30-11:45 | RESEARCH SESSION 4 - MAIN CONFERENCE ROOM A (WEDNESDAY - DECEMBER 18th, 2024, 5 PAPERS): RESEARCH SESSION 4 MAIN CONFERENCE ROOM A - WEDNESDAY, DECEMBER 18th 2024. RESEARCH SESSION 4 - ROOM A | | RESEARCH SESSION 4 - ROOM B - (10:30AM - 11:45AM, 5 PAPERS): RESEARCH SESSION 4 - ROOM B WEDNESDAY DECEMBER 18th 2024. (15 Minutes per paper including questions) RESEARCH SESSION 4 - ROOM B | RESEARCH SESSION 4 - ROOM C (5 PAPERS): RESEARCH SESSION 4 - ROOM C (WEDNESDAY, DECEMBER 18th 2024 - 10:30AM - 11:45AM, 5 PAPERS) RESEARCH SESSION 4 - ROOM C | RESEARCH SESSION 4 - ROOM D (WEDNESDAY, DECEMBER 18th, 2024, ROOM D, 5 PAPERS): RESEARCH SESSION 4 - ROOM D (WEDNESDAY, DECEMBER 18th, 2024, 10:30AM - 11:45AM, 5 PAPERS) RESEARCH SESSION 4 - ROOM D |
| 11:45-12:00 | | SHORT COFFEE BREAK: COFFEE BREAK AND NETWORKING. SHORT COFFEE BREAK | | | |
| 12:00-13:15 | RESEARCH SESSION 5 - ROOM A - (WEDNESDAY, DECEMBER 18th, 2024 - 5 PAPERS - ROOM A): RESEARCH SESSION 5 - ROOM A - (WEDNESDAY, DECEMBER 18th, 2024, (12:00PM - 13:15PM, 5 PAPERS)) RESEARCH SESSION 5 - ROOM A | | RESEARCH SESSION 5 - ROOM B (12:00PM - 13:15PM, 5 PAPERS): RESEARCH SESSION 5 (ROOM B) - WEDNESDAY DECEMBER 18th 2024. (12:00PM - 13:15PM, 5 PAPERS) RESEARCH SESSION 5 - (ROOM B) | RESEARCH SESSION 5 - ROOM C - (12:00PM - 13:15PM, 5 PAPERS): RESEARCH SESSION 5 - ROOM C - WEDNESDAY DECEMBER 18th, 2024 (12:00PM - 13:15PM, 5 PAPERS) RESEARCH SESSION 5 - ROOM C | RESEARCH SESSION 5 - ROOM D - (WEDNESDAY, DECEMBER 18th, 2024, 5 PAPERS): RESEARCH SESSION 5 - ROOM D (WEDNESDAY DECEMBER 18th, 12:00 - 13:15, 5 PAPERS) RESEARCH SESSION 5 - ROOM D |
| 13:15-14:00 | | LUNCH 13:15PM - 14:00PM: LUNCH BREAK WEDNESDAY DECEMBER 18th 2024. LUNCH | | | |
| 14:00-15:45 | | | RESEARCH SESSION 6 - ROOM A | 6 - ROOM A | (WEDNESDAY |

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RESEARCH SESSION 6 -
ROOM B - (14:00PM -
15:45PM

RESEARCH SESSION
6 - ROOM C -
(14:00PM -

RESEARCH
SESSION 6 -
ROOM D
(WEDNESDAY,

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
|-----------------|---|--|---|--|--|
| | <p><i>RESEARCH SESSION 6 ROOM A</i> <i>- 14:00PM - 15:45PM</i> <i>WEDNESDAY DECEMBER 18th</i> <i>2024 - 7 PAPERS</i> RESEARCH SESSION 6 ROOM A</p> | | <p>- 7 PAPERS): RESEARCH <i>SESSION 6 - ROOM B</i> <i>(14:00PM - 15:45PM</i> <i>WEDNESDAY DECEMBER</i> <i>18th, 2024, 7 PAPERS)</i> RESEARCH SESSION 6 - ROOM B</p> | <p>15:45PM, 7 PAPERS): <i>RESEARCH SESSION 6 -</i> <i>ROOM C - (14:00PM -</i> <i>15:45PM WEDNESDAY,</i> <i>DECEMBER 18th 2024, 7</i> <i>PAPERS)</i> RESEARCH SESSION 6 - ROOM C</p> | <p>DECEMBER 18th, 2024, 7 PAPERS): RESEARCH <i>SESSION 6 - ROOM D</i> <i>(WEDNESDAY, DECEMBER</i> <i>18th, 14:00 - 15:45, 7</i> <i>PAPERS)</i> RESEARCH SESSION 6 - ROOM D</p> |
| 15:45- 16:00 | | <p>SHORT COFFEE BREAK - WEDNESDAY</p> <p>DECEMBER 18th 15:45 PM - 16:00 PM: SHORT COFFEE BREAK - WEDNESDAY DECEMBER 18th. SHORT COFFEE BREAK</p> | | | |
| 16:00- 18:00 | <p>RESEARCH SESSION 7 - ROOM A - (WEDNESDAY - 8 PAPERS - ROOM A): <i>RESEARCH SESSION 7 - ROOM</i> <i>A - DECEMBER 18th 2024 -</i> <i>16:00PM - 18:00PM - 8 PAPERS</i> RESEARCH SESSION 7 - ROOM A</p> | | <p>RESEARCH SESSION 8 - ROOM B - (8 PAPERS): RESEARCH <i>SESSION 8 - ROOM B</i> <i>(DECEMBER 18th 2024 -</i> <i>16:00PM - 18:00PM - 8</i> <i>PAPERS)</i> RESEARCH SESSION 8 - ROOM B</p> | <p>RESEARCH SESSION 7 - ROOM C (8 PAPERS): <i>RESEARCH SESSION 7 -</i> <i>ROOM C - (WEDNESDAY,</i> <i>DECEMBER 18th, 2024,</i> <i>ROOM C, 16:00PM -</i> <i>18:00PM, 8 PAPERS)</i> RESEARCH SESSION 7 - ROOM C</p> | <p>RESEARCH SESSION 7 (WEDNESDAY, DECEMBER 18th, 2024, ROOM D, 8 PAPERS): <i>RESEARCH SESSION 7</i> <i>(WEDNESDAY, DECEMBER</i> <i>18th, 2024, 16:00PM -</i> <i>18:00PM, 8 PAPERS)</i> RESEARCH SESSION 7, ROOM D</p> |

| Time (Cairo) | MAIN CONFERENCE ROOM A | COFFEE BREAK ROOM | ROOM B | ROOM C | ROOM D |
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Thursday, December 19

| | RESEARCH SESSION 1 - ROOM A (THURSDAY): <i>RESEARCH SESSION 1 - ROOM</i> | RESEARCH SESSION 1 - ROOM B - THURSDAY: <i>RESEARCH</i> | RESEARCH SESSION 1 - ROOM C - THURSDAY: <i>RESEARCH</i> |
|-----------------|--|--|--|
| 09:00- 11:30 | <i>A (THURSDAY, DECEMBER 19TH, 2024, 09:00AM - 11:30AM)</i> RESEARCH SESSION 1 - ROOM A (THURSDAY) | <i>SESSION 1 - ROOM B (THURSDAY 19TH, 2024 - 09:00AM - 11:00AM, 10 PAPERS)</i> RESEARCH SESSION 1 - ROOM B | <i>SESSION 1 - ROOM C (THURSDAY, DECEMBER 19th, 2024, 09:00AM - 11:30AM)</i> RESEARCH SESSION 1 - ROOM C |

Tuesday, December 17

Tuesday, December 17 9:00 - 9:20 (Africa/Cairo)

**CONFERENCE OFFICIAL OPENING (MAIN CONFERENCE ROOM A):
CONFERENCE OFFICIAL OPENING (MAIN CONFERENCE ROOM A)**

CONFERENCE OFFICIAL OPENING (9:00AM - 9:20AM)

Room: MAIN CONFERENCE ROOM A

Tuesday, December 17 9:20 - 10:30 (Africa/Cairo)

**KEYNOTE SPEAKERS (MAIN CONFERENCE ROOM A - PROF. Ahmad MADIAN
& PROF Helen KARATZA): TUESDAY DECEMBER 17th, 2024 - 09:20AM -
10:30AM**

KEYNOTE SPEAKERS

**KEYNOTE SPEAKER-1 (35 MINUTES): PROFESSOR Dr. Ahmad MADIAN - IEEE CHAIR - EGYPT SECTION - NILE
UNIVERSITY - CAIRO - EGYPT (ONSITE)**

TALK TITLE: BIO-IMPEDANCE MODELING OF PLANTS

KEYNOTE SPEAKER-12 (35 MINUTES): EMERITUS PROFESSOR DR. Helen KARATZA - GREECE

**TALK-2: Cooperation of Cloud, Fog and Mist Computing for Efficient Scheduling of Real-Time Applications
(ONSITE)**

Room: MAIN CONFERENCE ROOM A

Chairs: Samir Abou El-Seoud (The British University in Egypt (BUE), Egypt), Omar Karam (The British University in Egypt, Egypt), Andreas Pester (BUE, Egypt)

KEYNOTE-1 (35 MINUTES)

ABSTRACT (PROFESSOR AHMAD MADIAN): Bio-impedance non-invasive measurement techniques usage is rapidly increasing in the agriculture industry. These measured impedance variations reflect tacit biochemical and biophysical changes of living and non-living tissues. Bio-impedance circuit modeling is an effective solution used in biology and medicine to fit the measured impedance. Bio-impedance measurements are used in the

diagnosis of plants behavior to certain conditions such as fruit maturity, fruit ripening, analyzing the effect of heating and freezing conditions on fruits, measuring of root growth, and determining the water content and characteristic analysis of the root zone. Also, it is used to provide information about environmental change effect on fruits. There are other contributions in using bio-impedance measurements for different applications such as blood glucose measurement, monitoring insulin availability for personalized diabetes therapy, characterizing red blood cell micro-circulatory parameters, and tactile sensing bio-hybrid soft E-skin in soft robotics. This talk demonstrates the different bio-impedance plant electrical models, measurement methodology and optimization technique suitable for solutions. Extract the best circuit parameters circuit for the model that fit the experimental results via different optimization techniques from mathematical point of view to choose the best performance versus the complexity of the used algorithms.

KEYNOTE-2: EMERITUS PROFESSOR DR. Helen KARATZA (35 MINUTES)

ABSTRACT: With the immense growth of Internet of Things (IoT) applications, traditional cloud computing is inadequate for handling the massive data volumes generated by IoT sensors and devices. Consequently, Fog and Mist computing paradigms have been adopted to address transmission latency issues. Fog computing extends cloud capabilities to the network edge, closer to the data generation points, thereby meeting low-latency

requirements. Mist computing, a lighter version of fog computing, brings these capabilities even closer to the IoT layer. Since most IoT applications are near real-time and must meet deadlines, adopting efficient scheduling schemes in these environments is crucial. This ensures timely workload execution and maximizes the potential of cloud, fog, and mist computing systems. This keynote will explore emerging trends driving the development and cooperation of these computing paradigms. Additionally, we will present and discuss innovative techniques to address the challenges of resource allocation and scheduling in cloud, fog, and mist computing environments.

Tuesday, December 17 10:30 - 11:00 (Africa/Cairo)

COFFEE BREAK AND NETWORKING: COFFEE BREAK AND NETWORKING

COFFEE BREAK AND NETWORKING (10:30AM - 11:00AM)

Room: COFFEE BREAK ROOM

Tuesday, December 17 11:00 - 13:00 (Africa/Cairo)

RESEARCH SESSION 1 - ROOM A (TUESDAY, DECEMBER 17th, 2024- 8 PAPERS - ROOM A): RESEARCH SESSION 1 (TUESDAY, 11:00AM - 13:00PM - 8 PAPERS) - ROOM A - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS

RESEARCH SESSION 1 (11:00AM - 13:00PM) - ROOM A

Room: MAIN CONFERENCE ROOM A

Chair: Andreas Pester (BUE, Egypt)

11:00 *Leveraging Network Models for Educational Assessment: A Case Study for Analyzing Cognitive Load Patterns in Laparoscopic Surgical Training*

Saiteja Malisetty (University of Nebraska at Omaha, USA); [Hesham H. Ali](#) (University of Nebraska Omaha & College of Information Science and Technology, USA)

11:15 *Utilizing Machine Learning to Understand and Predict Methane Emissions in Cattle Farming with Farm-Scale Environmental and Biological Variables*

Tom Partridge, [Baihua Li](#), Bashar Alhnaity and Qinggang Meng (Loughborough University, United Kingdom (Great Britain))

11:30 *High-Performance Multipliers and Adder Designs in Digital Filters*

[Thanmai Thota](#) (Australian Rail Track Corporation, Australia); Minyue Fu (Southern University of Science and Technology, China)

11:45 *Evaluating ChatGPT's Security A Multi-Method Analysis of Jailbreak Vulnerabilities and Defenses*

Hala Strohmier Berry and Yash Dasri (University of South Carolina Aiken, USA)

12:00 *Scheduling Gang Jobs with Partial Computations in a Collaborative Fog-Cloud System*

[Helen Karatza](#) (Aristotle University of Thessaloniki, Greece)

12:15 *Embracing Emojis in Sarcasm Detection to Enhance Sentiment Analysis*

[Malak Abdullah Alsabban](#) (Majmaah University, Saudi Arabia & University of Southampton, United Kingdom (Great Britain)); Mark Weal and Wendy Hall (University of Southampton, United Kingdom (Great Britain))

12:30 *Detecting Fraud in Food Delivery: Leveraging Amazon Web Services' Random Cut Forest and XGBoost Models for Enhanced Security*

Mohamed R. Shoaib (Nanyang Technological University, Singapore); [Mohamed Taher](#) and Taher Abdelhameed (Shgardi Company Riyadh, Egypt); Tarek Dahab (Shgardi Company, Egypt)

12:45 *Advanced Design Pattern Selection Methodology through Weighted Semantic Ontologies for Microservices*

[Rabab Atef Attia](#) (The British University in Egypt, Egypt); Samy Sayed Abdou Ghoniemy (Galala University, Egypt); Abeer Hamdy (The British University in Egypt, Egypt)

Tuesday, December 17 11:00 - 13:00 (Africa/Cairo)

RESEARCH SESSION 1 - ROOM D (TUESDAY, DECEMBER 17th, 2024 - 8 PAPERS): RESEARCH SESSION 1 - ROOM D (TUESDAY, DECEMBER 17th, 2024, 11:00AM - 13:00PM, 8 PAPERS) - ROOM D (15 Minutes per paper including questions)

RESEARCH SESSION 1 - ROOM D

Room: ROOM D

Chair: Doaa S Elzanfaly (British University in Egypt & Helwan University, Egypt)

11:00 Post-Quantum Single Sign-On Solution 

Muhammed Meeran Hassan, Ravindu Nimsara, Rashmi Dharmawardhane, Vishwa Basnagoda and Deemantha Siriwardana (Sri Lanka Institute of Information Technology, Sri Lanka); Kavinga Abeywardena (Sri Lanka Institute Of Information Technology, Sri Lanka)



11:15 Leveraging Digital 3D Tools to Enhance Spatial Thinking in Anatomy Education: A Design-Based Research Framework 

Joseph C Grannum (University of Leipzig, Germany & University of Tartu, Estonia); Anna-Liisa Tamm (Tartu Healthcare College, Estonia); Leo Siiman (University of Tartu, Estonia)

11:30 Advancements in text classification: a comprehensive survey of machine learning and deep learning models 

George Samy Rady (The Egyptian E-Learning University, Egypt); Khaled F. Hussain and Ahmed Ibrahim Taloba (Assiut University, Egypt)



11:45 Noise Prewhitening using Supervised Nonnegative Matrix Factorization and Wiener Filtering 

Mahmoud Fakhry (Aswan University, Egypt); Ascension Gallardo-Antolin (Universidad Carlos III de Madrid, Spain)

12:00 Performance Evaluation of YOLO Models in Varying Conditions: A Study on Object Detection and Tracking 

Ahmed S. Mekled (German University in Cairo, Egypt); Slim Abdennadher (German International University in Cairo, Egypt); Omar M. Shehata (Multi-Robot Systems (MRS) Research Group, German University in Cairo, Egypt)



12:15 Optimization of Feature Selection Using the Rival Genetic Algorithm for Cardiovascular Disease Prediction 

Farida Brahimi (University of Bouira, Algeria)

12:30 Integration of Geospatial Analysis for Enhancing Rubber Plantation Management in Sri Lanka 

Kalani O Jayawickrama, Kavinda D. Liyanage, Uvindu Chathuranga and Udari Dayarathne (Sri Lanka Institute of Information Technology, Sri Lanka); Dharshana Kasthurirathna (Faculty of Computing, Sri Lanka Institute of Information Technology, Sri Lanka); Jenny Krishara (Sri Lanka Institute of Information Technology, Sri Lanka); Sangeeth Liyanaarachchi (Rubber Research Institute of Sri Lanka, Sri Lanka)

12:45 Thermal Analysis of Prospective Nuclear Power Plant Desalination Technologies Utilizing a Pressurized Water Reactor 

Mohamed Fawzy Saleh Ahmed Ali (Alexandria University & Nuclear Power Plants Authority, Egypt)



Tuesday, December 17 11:00 - 13:00 (Africa/Cairo)

RESEARCH SESSION 1 (TUESDAY - - DECEMBER 17th, 2024- ROOM C, 8 PAPERS): RESEARCH SESSION 1 (TUESDAY - DECEMBER 17th, 2024 - 8 PAPERS - ROOM C) - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS

RESEARCH SESSION 1 (ROOM C)

Room: ROOM C

Chairs: Jihene Rezgui (College Maisonneuve, Canada), Nourhan Zayed (The British University in Egypt, Egypt & Electronics Research Institute, Egypt)

11:00 Earthquake Analysis Using Long-Short Term Memory - LSTM

Gaby H Abou Haidar, Roger Achkar, [Ali Salman](#), Gilbert El Mir, Elias El Haber and Lea Diab (American University of Science and Technology, Lebanon)

11:15 Malware Detection and Identification Methods

[Fahad Mira](#), MIRA FAHAD (University of Bedfordshire & JEDDAH 21431, Saudi Arabia)



11:30 Web Accessibility Framework and Analysis for Persons with Disabilities: Case Studies of Indian Web Portals

[Sanjeev Kumar Katara](#) and Rajesh Kumar Pathak (National Informatics Centre, MeitY, Govt. of India); Ashwini Kumar Sharma (Symbiosis Skills and Professional University, India); Sadhna Sharma (DAV College Trust and Management Society, India)

11:45 SustainSphere: Development of Sustainability Reporting Dashboard Tool

[Mera Alali](#), [Khadijah Almoosawi](#), Amna Alkaabi and Dina Tbaishat (Zayed University, United Arab Emirates)



12:00 Development of Attendance Tracking System for Enhanced Efficiency: Sukaina Bint Alhussein High School Case Study



Shaikha Alfalasi, [Sara Almarzooqi](#), Hamda Ali and Dina Tbaishat (Zayed University, United Arab Emirates)

12:15 Using Simulated Annealing for Application Mapping Onto Network on Chip

[Maamar Bougherara](#) (LIM Laboratory Bouira University & Ecole Normale Supérieure Kouba, Algeria); Rafik Amara (ENS Kouba / LTIR USTHB, Algeria & LTIR USTHB, Algeria); Rebiha Kemcha (Universidad Carlos III de Madrid, Spain)

12:30 Intelligent Decision Support System for Crime Investigation

[Alaa Abdelshafy](#) (Benha University, Egypt); Ahmed Elsayy (Benha University & Delta Technological University, Egypt); shaimaa talaat (Benha University, Egypt)



12:45 Using AI-Text Editing Tools to Enhance Writing Skills: An Attitudinal Case Study of Egyptian Undergraduates

[Wesam Khairy Morsi](#) (BUE, Egypt)



Tuesday, December 17 11:00 - 13:00 (Africa/Cairo)

RESEARCH SESSION 1 (TUESDAY, DECEMBER 17th 2024, 2024- 8 PAPERS - ROOM B): RESEARCH SESSION 1 - ROOM B (TUESDAY, DECEMBER 17, 8 PAPERS, ROOM B) - 11:00AM - 13:00PM) - EVERY PAPER FOR 15 MINUTES INCLUDING QUESTIONS

RESEARCH SESSION 1 (ROOM B)

Room: ROOM B

Chair: Salah A. Aly (Badya University & Umm Al-Qura University, Egypt)

11:00 Optimizing Disease Detection Models in School Greenhouses: An AI and IoT-Based Approach for Smart Agriculture

[Jihene Rezgui](#) and Léane Lafleur-Hébert (College Maisonneuve, Canada); Enric Soldevila (Collège de Maisonneuve, Canada); Yusra Azmour (collège Maisonneuve, Canada); Matéo Tardy (College Maisonneuve, Canada)

11:15 Enhancing Medical Image Classification with Streamlined-EvidNet: A Robust Neural Network Architecture

[Saeed Al Gharib](#) (University of the Basque Country - UPV/EHU, Lebanon); Jinan Charafeddine (Engineering School Léonard de Vinci - ESILV, France); Samir Haddad (University of Balamand, Lebanon); Fadi Dornaika (University of the Basque Country, Spain)



11:30 Assessing the Correlation Between News Sentiment and Stock Price Movements A Case Study of 'WeWork' Using Advanced NLP Techniques

[Hamda Saeed Al Nahyan](#) and Ahmed Shuhaiber (Zayed University, United Arab Emirates)

11:45 Polymorphic Security Enhancements for Users in Corporate Environments by Utilizing Behavior Analytics

[Yasiru Pathmila Perera Abeysinghe](#) (Sri Lanka Institute of Information Technology, Sri Lanka); [Arana Jayavihan](#) (Sri Lanka Institute of Information Technology, Sri Lanka & MillenniumIT ESP, Sri Lanka); [Kavinga Abeywardena](#) (Sri Lanka Institute Of Information Technology, Sri Lanka); Deemantha Siriwardana (Sri Lanka Institute of Information Technology, Sri Lanka); [Fathima Rukshana Alikhan](#) (Technology, Sri Lanka); [Pasindu Supun](#) (Sri Lanka Institute of Information Technology, Sri Lanka)



12:00 A Hybrid Methodology for Gamification Element Ranking Based on Big Five Traits Using Neutrosophic MCDM: Personalized Approach for Educational Games

[Baraah Mohamad Walid Majzoub](#) and Mohamed Shaheen (Arab Academy for Science, Technology and Maritime Transport, Egypt); Nada Sherief (Arab Academy for Science, Technology & Maritime Transport, Egypt)



12:15 The EGY-DRiVeS Dataset: Illuminating the Dynamics of Egyptian Road Traffic Behaviors

[Zeyad Saadawy](#), Mohamed Sameh, Mennatallah Aly, Momen Mohammed, Mohamed Elgamal and Catherine Elias (German University in Cairo, Egypt)

12:30 Enhancing Highway Safety with LSTM-based Vehicle Intention Prediction (HVIP)

[Lujjina Amer](#) and Catherine Elias (German University in Cairo, Egypt)

12:45 AI-Driven Personalized Fitness Coaching with Body Type-Based Workout and Nutrition Plans and Real-Time Exercise Feedback

Rusiru Herath, Ashwini Rajakaruna, [Ranjula Ilukpitiya](#), Jenny Krishara, Sandali Herath and Koliya Pulasinghe (Sri Lanka Institute of Information Technology, Sri Lanka)



Tuesday, December 17 13:00 - 14:00 (Africa/Cairo)

LUNCH 13:00PM - 14:00PM (COFFEE ROOM) LUNCH 13:00PM - 14:00PM (COFFEE ROOM)

LUNCH 13:00PM - 14:00PM (COFFEE ROOM)

Room: COFFEE BREAK ROOM

Tuesday, December 17 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 2 - ROOM A (TUESDAY - DECEMBER 17, 2024, 5 PAPERS - ROOM A): RESEARCH SESSION 2 (14:00PM - 15:45PM, 7 PAPERS) - TUESDAY, DECEMBER 17th, 2024

RESEARCH SESSION 2 - ROOM A

Room: MAIN CONFERENCE ROOM A

14:00 Missing Data in Smart Cities: An Imputation Algorithm Based on Sine/Cosine Optimization Algorithm

[Mahmoud M Eid](#) (El-Shorouk Academy, Egypt); Kamal ElDahshan (Al-Azhar University, Egypt); Abdelatif H. Aboualy (Murray State University, USA)



14:15 Enhancing Crack Detection in Pavements: Optimizing U-Net Convolutional Neural Network via Optuna

[Nada Salah Desouky](#) (BUE, Egypt); [Ahmed A. Torky](#) (Cairo, Egypt); [Mohamed Ibrahim](#) (The British University in Egypt, Egypt); Mohamed Refaat and [Mohamed Eid](#) (AASTMT, Egypt)



14:30 Air Traffic Optimization in Training Environment: a comparison between Genetic Algorithms and Simulated Annealing

Rafik Amara (ENS Kouba / LTIR USTHB, Algeria & LTIR USTHB, Algeria); Maamar Bougherara (LIM Laboratory Bouira University & Ecole Normale Supérieure Kouba, Algeria)

14:45 Fine-Tuning an Arabic OCR Model using Tesseract 5.0

Omar Samir Desoky and Yousef W Elhabashy (Egypt University of Informatics, Egypt)



15:00 Comprehensive Evaluation of Vision Transformer in MRI-based Brain Tumor Detection

Alaa E. Ahmed, Muhammad A. Elwany, Muhammad A. Mahmoud, Mohamed A. Fouad and Muhammad A. Al-Ghareeb (PHI for Engineering and Technology, Egypt); Tarek Dahab (Shgardi Company, Egypt); Mohamed R. Shoab (Nanyang Technological University, Singapore); Ahmed F Abdallah (PHI for Engineering and Technology, Egypt); Gamal El-Sheikh (Pyramids High Institute (PHI) for Engineering and Technology, 6th of October, Egypt); Heba M. Emara (Menoufia University, Egypt)

15:15 Enhancing Adherence and Completion Rates Through Gamification and Micro AI Interventions in Cognitive Behavioral Therapy

Santhusha Mallawatanri (Informatics Institute of Technology & University of Westminster, Sri Lanka)

15:30 Integration of Data Acquisition and Modeling for Ecological Simulation of CO2 Emissions in Urban Traffic: The Case of the City of Paris

Youssef Mekouar (Paris8 University, France); Mohammed Karim (Sidi Mohamed Ben Abdellah University (USMBA), Morocco); Imad Saleh (University Paris 8, France)

Tuesday, December 17 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 2 - ROOM B (TUESDAY, DECEMBER 17th 2024, 7 PAPERS): RESEARCH SESSION 2 - ROOM B (TUESDAY, DECEMBER 17th 2024 - 14:00PM - 15-45PM, 7 PAPERS)

RESEARCH SESSION 2 - ROOM B

Room: ROOM B

Chairs: Manjunatha Sughaturu Krishnappa (Oracle, USA), Dina Tbaishat (Zayed University, United Arab Emirates)

14:00 Virtual Restaurant Platform based on AI

Dina Darwish, Ahmed Mohsen, Nora Nasr, Youssef Abd El-Ghafour, Karim Ahmed, George Amir, Ahmed Al-Husseini and Abanoub Ayman (Ahran Canadian University, Egypt); Daa Ibrahim (Ain Shams University, Egypt)



14:15 A Transformation Matrix Explains the Sequential Forecasting Data-Driven Deep Learning Model

Reza Hassanian, Asdis Helgadottir and Morris Riedel (University of Iceland, Iceland)

14:30 A Systematic Review of AI-Driven and Quantum-Resistant Security Solutions for Cyber-Physical Systems: Blockchain, Federated Learning, and Emerging Technologies

Chandra Shikhi Kodete (Eastern Illinois University, USA); Bharadwaj Thuraka (Northwest Missouri State University, USA); Vikram Pasupuleti (Eastern Illinois University, USA)

14:45 AdaptVR: An Adaptive Learning VR System for Dental Students Training

Meriam Sherif Kameel (The British University in Egypt & BUE, Egypt); Nahla Barakat (The British University in Egypt (BUE), Egypt); Abeer Hamdy (The British University in Egypt, Egypt)

15:00 Automated Classification of Arabic Script Styles Using Enhanced CNN Frameworks

Loay Alzubaidi (Higher Colleges of Technology, United Arab Emirates); Mousa Sweidan (Higher Colleges of Technology (HCT), United Arab Emirates)



15:15 Hybrid of Deep Learning and Transformer Models with Explainable IA for Enhanced Parkinson's Disease Detection
Staphord E Bengesi, Hoda El-Sayed and Md Kamruzzaman Sarker (Bowie State University, USA)

15:30 Developing Facial Recognition-Based Reconnaissance to Enhance Stadium Security and Detect Banned Fans at Soccer Stadiums

Timothy Agboada, Isaac O Osunmakinde, Claude Turner and Kingsley C Nwosu (Norfolk State University, USA)



Tuesday, December 17 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 2 - ROOM C (7 PAPERS): RESEARCH SESSION 2 - ROOM C (TUESDAY, DECEMBER 17th, ROOMC, 7 PAPERS, 14:00PM - 15:45PM) - (15 MINUTES PER PAPER)

RESEARCH SESSION 2 - ROOM C

Room: ROOM C

Chair: Wesam Khairy Morsi (BUE, Egypt)

14:00 Enhancing Cybersecurity Strategies for ISO15118 V2G Protocols within AUTOSAR-Based Systems

Mona Helmy (Siemens, Egypt); Mazen Tarek Samy and Kareem Ahmed Azab (Ain Shams University, Egypt)



14:15 Advanced Security Solutions for CAN Bus Communications in AUTOSAR

Mona Helmy (Siemens, Egypt); Mazen Tarek Samy and Kareem Ahmed Azab (Ain Shams University, Egypt)



14:30 Comprehensive Skin Disease Identification Using Augmented Data and Transfer Learning: Achieving Optimal Accuracy with Sequential Models

Snigdha Zaman and Abdullah Hafez Nur (International Islamic University Chittagong, Bangladesh); Usman Butt (The British University in Dubai, United Arab Emirates); Rejwan Bin Sulaiman (University of Bedfordshire, United Kingdom (Great Britain)); Maruf Farhan (Northumbria University, United Kingdom (Great Britain))

14:45 Evaluation of Security and Privacy Challenges of IoT Devices in the Hospitality Industry: A Comprehensive Approach: Case Study of Hotels

Essa Alsididiq (ORYX Universal College, Qatar); Ahmad Hamad Al-Rumaihi and Asma Nasser M N Al-Nassr (Oryx Universal College in Partnership with Liverpool John Moores University); Jihad M. Al Jaam (Oryx Universal College, Qatar)



15:00 Comprehensive Forecasting of Smart Grid Stability Using Advanced Deep Learning and Machine Learning Models

Snigdha Zaman and Abdullah Hafez Nur (International Islamic University Chittagong, Bangladesh); Usman Butt (The British University in Dubai, United Arab Emirates); Rejwan Bin Sulaiman (Northumbria University, United Kingdom); Maruf Farhan (Northumbria University, United Kingdom (Great Britain))

15:15 A Study on Viability of Cryptocurrency Adoption in Qatar: A Thematic Coding Approach of Fifty Reviews

Asma Nasser M N Al-Nassr (Oryx Universal College, Qatar); Moutaz Alazab (Al-Balqa Applied University, Jordan); Essa Alsididiq (ORYX Universal College, Qatar)



15:30 SEF: A Method for Computing Prediction Intervals by Shifting the Error Function in Neural Networks

Efstathios V. Aretos and Dimitris G. Sotiropoulos (University of Peloponnese, Greece)



Tuesday, December 17 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 2 - ROOM D (TUESDAY, DECEMBER 17th, 2024, ROOM D - 7 PAPERS): RESEARCH SESSION 2 - ROOM D - (14:00PM - 15:45PM) (TUESDAY, DECEMBER 17th 2024, 7 PAPERS)

RESEARCH SESSION 2 - ROOM D

Room: ROOM D

Chair: Amanada G Perera (Sri Lanka Institute of Information Technology, Sri Lanka)

14:00 **Smart Tutoring: Subject Assessor with Targeted Tutor Matching and Real-Time Emotion Engagement Analysis**

James O. Tiatcho, [Miloudanne G. Legaste](#), Neil A. Flores, Vivien A. Agustin, Criselle J Centeno, Mary Grace N. Gonzales and Richard C. Regala (University of the City of Manila, Philippines)



14:15 **"AFMERS" - Advance Fire Monitoring and Emergency Response System**

[Ridma Mendis](#), Jayavi Pathinayake, Kaveesha Sandeepa and Chethana Nalanda (Sri Lanka Institute of Information Technology (SLIIT), Sri Lanka); Dinithi Pandithage and Narmada Gamage (Sri Lanka Institute of Information Technology, Sri Lanka)



14:30 **AR-Base Educational Mobile Application for Pet Care Management**

[Vidusha Herath](#), Amaa Jayawardhana and Nilmi Pietersz (Sri Lanka Institute of Information Technology (SLIIT), Sri Lanka); Samantha Siriwardana and Kalpani Manathunga (Sri Lanka Institute of Information Technology, Sri Lanka)



14:45 **A Methodology to Convert Tacit Knowledge into Explicit Knowledge - Smart Building Use Case**

[Mohammad Bilal](#) and Gernot Steindl (TU Wien, Austria); Max Thoma (Tu Wien, Austria); Wolfgang Kastner (TU Vienna (Wien), Austria)



15:00 **Automatic Diagnosis of Knee Osteoarthritis Using Deep Learning Approaches**

[Mohamed Esmaeil Esmaeil](#) (Helwan university, Egypt & Higher Technological Institute, Egypt)



15:15 **ExpolLine: Innovating Local History Museums with Web-Based Virtual Tour and VR Integration**

[Angel Ann L. Enriquez](#), Krizel Mae S. Gayamo and James Victor R. Lopez (Pamantasan ng Lungsod ng Maynila, Philippines); Vivien A. Agustin, Mark Anthony S. Mercado and Richard C. Regala (University of the City of Manila, Philippines)



15:30 **Beyond RGB: Channel Fusion for Improved Cross-Domain Car Detection**

[Nour Idris](#) and Maggie Mashaly (German University in Cairo, Egypt)

Tuesday, December 17 15:45 - 16:00 (Africa/Cairo)

SHORT COFFEE BREAK: SHORT COFFEE BREAK (15:45PM - 16:00PM)

SHORT COFFEE BREAK (15:45PM - 16:00PM)

Room: COFFEE BREAK ROOM

Tuesday, December 17 15:45 - 16:00 (Africa/Cairo)

SHORT COFFEE BREAK (15:45PM - 16:00PM) SHORT COFFEE BREAK (15:45PM - 16:00PM)

SHORT COFFEE BREAK (15:45PM - 16:00PM)

Room: COFFEE BREAK ROOM

Tuesday, December 17 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 3 - ROOM B (TUESDAY - 16:00PM - 18:00PM, 8 PAPERS)
RESEARCH SESSION 3 (TUESDAY, DECEMBER 17th, 16:00PM - 18:00PM, 8 PAPERS) - ROOM B

RESEARCH SESSION 3 - ROOM B

Room: ROOM B

Chair: Deepak Jayabalan (Meta, USA)

16:00 Epistemological Advancements in Cardiological Forecasting: Machine Learning as a Paradigm for Prognostic Precision

[Bushra Uddin](#) (New Mexico Tech, USA); [Mohammad Shihab Uddin](#) (New Mexico Institute of Mining and Technology, USA); [Sharmin Sultana](#) (New Mexico Institute of Mining & Technology, USA); MD Sanowar Hossain Sabuj (Texas A&M University, USA); Fariha Ferdous Neha (University of Dhaka, Bangladesh); MD Salah Uddin (Daffodil International University, Bangladesh)



16:15 Deciphering Oncological Recurrence through Hybridized Machine Learning Paradigms in Thyroid Disorders

[Sharmin Sultana](#) (New Mexico Institute of Mining & Technology, USA); MD Salah Uddin (Daffodil International University, Bangladesh); [Bushra Uddin](#) (New Mexico Tech, USA); [Mohammad Shihab Uddin](#) (New Mexico Institute of Mining and Technology, USA); Fariha Ferdous Neha (University of Dhaka, Bangladesh)



16:30 Protein-Protein Interaction Sites Prediction Using Graph Convolutional Networks

[Noor Jamal Alkhateeb](#) (United Arab Emirates University, United Arab Emirates); Mamoun Awad (UAEU, United Arab Emirates)

16:45 Machine Learning and Big Data Analytics in Smart Cities and Healthcare: Applications, Challenges, and Future Directions

Vikram Pasupuleti (Eastern Illinois University, USA); [Bharadwaj Thuraka](#) (Northwest Missouri State University, USA); [Chandra Shikhi Kodete](#) (Eastern Illinois University, USA)

17:00 Bridging the Accessibility Gap in Online Shopping with AI-Driven Solutions

[Claudia Wroblewski](#), [Arbaaz B. Mirza](#) and Wenjun Lin (Algoma University, Canada)

17:15 Neural Network Based Ray Tracing on a Digital Twin for Performance Approximation Using Parameter Analysis

[Istiak Mahmud](#) and Ahmed Abdelhadi (University of North Dakota, USA)



17:30 Credit Card Fraud Detection in Imbalanced Datasets: A Comparative Analysis of Machine Learning Techniques

[Majd Mohamed Lahbiss](#) and Yousra Chtouki (Al Akhawayn University, Morocco)



17:45 A Deep Learning Approach for Detecting Diabetic Retinopathy

[Mohamed Hossam Hassan Nabil, Bsc](#), Laila H Hammam and Hany A. Bastawrous (The British University in Egypt, Egypt); Gamal A. Ebrahim (Ain Shams University, Egypt)




Tuesday, December 17 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 3 - ROOM C (8 PAPERS): RESEARCH SESSION 3- ROOM C (TUESDAY, DECEMBER 17th 2024, 16:00PM - 18:00PM, 8 PAPERS)

RESEARCH SESSION 3- ROOM C

Room: ROOM C

Chairs: Kingsley C Nwosu (Norfolk State University, USA), Vikram Pasupuleti (Eastern Illinois University, USA)

16:00 *Harnessing machine learning in AIoT Environment to Support Evidence-Based Medicine Using Transformers* 

[Sabah M.A. Mohammed](#) and Jinan Fiadhi (Lakehead University, Canada)

16:15 *Enhancing Patient-Provider Interaction by Leveraging AI for Facial Emotion Recognition in Healthcare* 

[Kingsley C Nwosu](#), Musbah Abdulgader, Yen-Hung Hu and Kashaun Gaines (Norfolk State University, USA)



16:30 *Data Partitioning and Storage Strategies for Artificial Intelligence and Machine Learning Applications: A Review of Techniques* 

[Kingsley C Nwosu](#), Ibrahim Kamara, Musbah Abdulgader and Yen-Hung Hu (Norfolk State University, USA)



16:45 *Emotion Recognition System Using Deep Learning Algorithm* 

[Anthony Doe](#), Musbah Abdulgader, Kingsley C Nwosu and Isaac O Osunmakinde (Norfolk State University, USA)



17:00 *NABATEQ™: The Real Time Smart Plant Health Monitoring System* 

[Amro Sayed Mahmoud Moursi](#), Mohamed Tahar and Malek Hamad (Qatar University, Qatar); Hamad Alansi (Qatar); Uvais Qidwai (Qatar University, Qatar)



17:15 *SmartCaption AI - Enhancing Web Accessibility with Context-Aware Image Descriptions Using Large Language Models* 

[Gia Ky Huynh](#) and Wenjun Lin (Algoma University, Canada)



17:30 *Sentimental Awareness Influence on Paraphrase Detection in Transformer Models* 

[Bryan A Belcher](#), Musbah Abdulgader, Isaac O Osunmakinde and Rasha Morsi (Norfolk State University, USA)



17:45 *Safeguarding Virtual Healthcare: A Novel Attacker-Centric Model for Data Security and Privacy* 

[Suvineetha Herath](#), Haywood M Gelman and John D. Hastings (Dakota State University, USA); Yong Wang (DSU, USA)



Tuesday, December 17 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 3 - ROOM D (TUESDAY, DECEMBER 17th, 2024, ROOM D, 8 PAPERS): RESEARCH SESSION 3 - ROOM D (16:00PM - 18:00PM) TUESDAY, DECEMBER 17th 2024, 8 PAPERS)

RESEARCH SESSION 3 - ROOM D

Room: ROOM D

Chair: Sheily Verma Panwar ('CUC Ulster University', Qatar)

16:00 *Student Beneficiaries Perceptions to Free Higher Education Programs Using Machine Learning Approach* 

Rosemarie T. Bigueras (Camarines Norte State College, Philippines); Lany Maceda (Bicol University, Philippines); Daniel E. Maligat, Jr. (Camarines Norte State College & CNSC Main Campus, Philippines); [Jocelyn O. Torio](#) and Dolores C. Volante (Camarines Norte State College, Philippines)



16:15 *Hybrid zk-STARK and zk-SNARK Framework for Privacy-Preserving Smart Contract Data Feeds* 

[Seif Tarek Nassar](#) (The British University in Egypt (BUE), Egypt); Abeer Hamdy (The British University in Egypt, Egypt); Khaled Ahmed Nagaty (The British University in Egypt & Ain Shams University, Egypt)

16:30 *A survey of Clustering Algorithms for Self-reconfiguration on programmable matter* 

[Serigne Mbacke Diene](#) (Université Assane SECK de Ziguinchor, Senegal & Doctorant, Senegal); Youssou Faye (Université Assane Seck de Ziguinchor, Senegal); Abdallah Makhoul (University of Franche-Comté, France & FEMTO-ST, France)



16:45 Chatbot Adoption in Public Service Delivery

[Marlon Arends](#) and Tendani Mawela (University of Pretoria, South Africa)

17:00 Optimizing Brain Tumor Segmentation: Comparing Smoothing Techniques for Network Performance

[Abdelrahman Telib](#) (German University in Cairo (GUC), Egypt); Mohamed Kamel Gabr (German University in Cairo, Egypt)



17:15 Breast Cancer Detection Based on Histopathological Images Using Vision Transformers

[Rozah Alkhater](#), Somaya Ali Al-maadeed, Moutaz Saleh and Younes Akbari (Qatar University, Qatar)



17:30 Optimizing SEO Using OpenAI API for Content Automation on WordPress

[Try Akbar Sjarief](#) (Hasanuddin University, Indonesia); Amil Ahmad Ilham (Universitas Hasanuddin, Indonesia); Mukarramah Yusuf (Hasanuddin University, Indonesia)



17:45 Cotton jassid infestation monitoring using Sentinel-2 MSI, Landsat 9 TIRS, and PlanetScope imagery with machine learning and data fusion

[Souleymane Bah](#) (Université d'Abomey-Calavi, Benin); M. D. Tanguy Mesreil Houegbe (LEB, Benin); Emmanuel Wilfried G. Megnigbeto (Institut de Recherche sur le Coton, Benin); Vinasetan Ratheil Houndji (Université d'Abomey-Calavi, Benin); Bignon Nicanor Kouton and N. Gérard Gouwakinnou (LEB, Benin); Eugène C. Ezin (Université d'Abomey-Calavi, Benin)



Tuesday, December 17 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 3 (TUESDAY - 8 PAPERS - ROOM A): RESEARCH SESSION A3 (TUESDAY 16:00PM - 18:00PM, 8 PAPERS) - ROOM-A, DECEMBER 17th 2024

RESEARCH SESSION 3 - ROOM A

Room: MAIN CONFERENCE ROOM A

Chair: Srijani Mukherjee (Bayer & Researcher, India)

16:00 Artificial Intelligence and Seeing The Invisible in Arts - From the wane of axiality and Symmetry To the Wax of Invisibility and Emptiness

Samir Abou El-Seoud and [Rasha Said Abdel Latif](#) (The British University in Egypt (BUE), Egypt); [Khaled Dewidar](#) (Vice Dean, the British University in Egypt, Egypt)

16:15 Multi-Staged Matrix Transformations Playfair Cipher (MSMT-PF)

Marwa Sharawi and [Maryam Almulla](#) (American University of Kuwait, Kuwait)



16:30 Utilizing Hyperchaos in Memristive Dynamical Systems to Design Self-Randomizing UAV Surveillance Routes

[Ali Omran](#) (German International University, Egypt); Wassim Alexan and Dina El-Damak (German University in Cairo, Egypt); Omar M. Shehata (Multi-Robot Systems (MRS) Research Group, German University in Cairo, Egypt); Mohamed Kamel Gabr (German University in Cairo, Egypt)



16:45 Advanced Cross-Language Clone Detection Using Modified AST and Graph Neural Network

[Zeina Badwey Swilam, ZS](#) (The British University in Egypt & BUE, Egypt)



17:00 An Innovative Markovian Environment for Intrusion Detection in IoT networks

[Eslam Hesham Ahmed](#) (British University of Egypt, Egypt); [Abeer Hamdy](#) (The British University in Egypt, Egypt); [Khaled Ahmed Nagaty](#) (The British University in Egypt & Ain Shams University, Egypt)



17:15 Predict of the hidden drug interactions based on similarity utilizing the knowledge graph

[Mariam Gamal Elfiky](#) (University of Hertfordshire Hosted by GAF, Egypt & The British University in Egypt, Egypt); [Samy Sayed Abdou Ghoniemy](#) (Galala University, Egypt); [Ahmed Sharaf Eldin](#) (Sinai University, Egypt)

17:30 Public Perception of Artificial Intelligence: A Quantitative Study

[Nikita Kirane](#) (University of the Cumberlands, USA); [Rudra Roy Choudhury](#) (Tubi, USA)



17:45 Artificial Intelligence in Cyber Security: Generalized Model Approach to Accurate Fraud Detection in Credit Card

[Md Ezazul Haque](#), [Md Tarake Siddique](#), [Safayet Hossain](#) and [Md Mehedi Hassan](#) (Washington University of Science and Technology, USA); [Md. Sumon Reza](#) (Washington University of Science and Technology (WUST), USA)

Wednesday, December 18

Wednesday, December 18 9:00 - 10:10 (Africa/Cairo)

KEYNOTES SPEAKERS - ROOM A (Hironori WASHIZAKI and PROF. Ismail A. MAGEED): KEYNOTES SPEAKERS - MAIN CONFERENCE ROOM A - WEDNESDAY 18th December 2024

KEYNOTES SPEAKERS



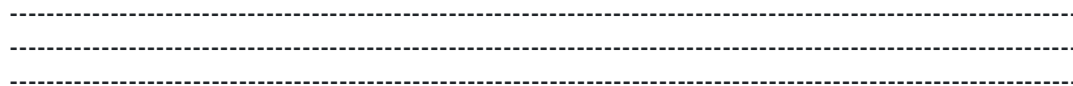
KEYNOTE SPEAKER-1 ((35 MINUTES): PROFESSOR Dr. Hironori WASHIZAKI - JAPAN - IEEE COMPUTER SOCIETY PRESIDENT 2025 - WASEDA UNIVERSITY - JAPAN (ONLINE)
https://w-rdb.waseda.jp/html/100000625_en.html

TALK TITLE: MACHINE LEARNING SOFTWARE ENGINEERING AND SECURITY CONTINUUM BASED ON MULTI-VIEW MODELING WITH PATTE



KEYNOTE SPEAKER-2 (35 MINUTES): PROFESSOR DR. Ismail A. MAGEED- UNITED KINGDOM

TALK-2: WELCOME TO VIRTUAL REALITY (ONLINE)



Room: MAIN CONFERENCE ROOM A

TALK-1: ABSTRACT (PROFESSOR HIRONORI WASHIZAKI - JAPAN): Hironori has led the evolution project of the

Guide to the Software Engineering Body of Knowledge (SWEBOK Guide). This talk first provides an overview of the SWEBOK Guide and its latest updates, including a new topic, AI and Software Engineering (SE). Then, as a part of AI SE, the talk presents the machine learning (ML) software engineering and the security continuum concept, consisting of dimensions to deal with challenges of the breadth of the ML/AI security risk sustainably and systematically under the emerging context of the computing continuum as well as continuous engineering. The talk also presents promising solutions, including software engineering patterns for ML/AI and a multi-view modeling framework for ML systems with the ML pipeline integration to address the probabilistic nature of ML and its experimentative development approach. The framework provides an integrated platform between the modeling environment with ML patterns and ML training, performance monitoring, repair pipelines, and security risk management.

TALK-2: ABSTRACT: WELCOME TO VIRTUAL REALITY - PROFESSOR DR. Ismail A. MAGEED- UNITED KINGDOM

ABSTRACT: Virtual reality refers to a computer-generated environment that closely resembles reality, allowing users to explore and interact with it. By presenting our senses with simulated information, our perception of reality can be altered, creating an immersive experience that feels real. In technical terms, virtual reality involves a three-dimensional digital environment that can be explored and manipulated by individuals, enabling them to become part of the virtual world and engage in various actions. Our understanding of reality is based on the information received through our senses, which is

processed by our brains. Virtual reality refers to the presentation of artificially created sensory information that can alter our perception of reality. It involves immersing ourselves in a computer-generated environment where we can explore and interact with objects or perform actions, creating a sense of being part of a virtual world. Virtual reality is achieved using computer technology, such as headsets, treadmills, and gloves, that stimulate our senses to create the illusion of reality. The goal is to create a seamless and realistic virtual environment that responds to the person's movements and actions in real time. However, issues such as latency or delays in system response can disrupt the experience and make us aware of the artificial nature of the environment.

Wednesday, December 18 10:10 - 10:30 (Africa/Cairo)

SHORT BREAK FOR 20 MINUTES

COFFEE BREAK

Room: COFFEE BREAK ROOM

Wednesday, December 18 10:30 - 11:45 (Africa/Cairo)

RESEARCH SESSION 4 - MAIN CONFERENCE ROOM A (WEDNESDAY - DECEMBER 18th, 2024, 5 PAPERS): RESEARCH SESSION 4 MAIN CONFERENCE ROOM A - WEDNESDAY, DECEMBER 18th 2024

RESEARCH SESSION 4 - ROOM A

Room: MAIN CONFERENCE ROOM A

Chair: Salah A. Aly (Badya University & Umm Al-Qura University, Egypt)

10:30 *Diagnosis of Malignant Lymphoma Cancer Using Hybrid Optimized Techniques Based on Dense Neural Networks* 

[Salah A. Aly](#) (Badya University & Umm Al-Qura University, Egypt); Ali M Bakhiet (Culture & Science City, Egypt); Mazen Balat (Egypt-Japan University of Science and Technology, Egypt)



10:45 *Advanced Arabic Alphabet Sign Language Recognition Using Transfer Learning and Transformer Models* 

Mazen Balat (Egypt-Japan University of Science and Technology, Egypt); Rewaa Alaa Awaad (Egypt Japan University of Science and Technology, Egypt); Hend Adel Bakr (Egypt-Japan University of Science and Technology, Egypt); Ahmed Bayoumi Zaky (Benha University, Egypt); [Salah A. Aly](#) (Badya University & Umm Al-Qura University, Egypt)



11:00 Exploring Enhancements to the Stacked LSTM Outlier Detection and Correction Method

Juan Zuluaga (1890 Lincoln Avenue, USA); Navid Shaghghi (Santa Clara University, USA)

11:15 Machine Learning Approach to Predict Student Performance Based On Previous Records

Almahdi Alshareef (University of Sebha Libya, Libya); Amal Albohali and Mohammed Shantal (Sebha University, Libya)



11:30 Design of Modular Soft Gripper for Harvesting

Ahmed Reda Abdel-Zaher (The British University, Egypt); Abdulrhman Atef and Mostafa Abdelaziz Ghaz (The British University in Egypt, Egypt); Mahmoud Magdy (The British University in Egypt & Benha University, Egypt)

Wednesday, December 18 10:30 - 11:45 (Africa/Cairo)

RESEARCH SESSION 4 - ROOM B - (10:30AM - 11:45AM, 5 PAPERS)

RESEARCH SESSION 4 - ROOM B WEDNESDAY DECEMBER 18th 2024 (15 Minutes per paper including questions)

RESEARCH SESSION 4 - ROOM B

Room: ROOM B

10:30 Revolutionizing Portfolio Management: Integrating Machine Learning with Financial Theory

Hyung Jin Ko (Sungkyunkwan University, Korea (South))

10:45 A Deep Learning Based Patient Care Application For Skin Cancer Detection

Hanlin Dong (CoreLogic, Australia); Farnaz Farid (Western Sydney University, Australia)



11:00 Improving IT Service Governance in the ETLE System by Applying the Integration ITIL and COBIT

Amita Rahma Permatasari, Selo Sulistyono and Paulus Insap Santosa (Universitas Gadjah Mada, Indonesia)



11:15 Towards Secure Federated Learning: Enhancing Privacy and Robustness in Decentralized AI Systems

Rony Louis (Arab Open University, Lebanon); Nader Bakir (Beirut Arab University, Lebanon); Khoulood Samrouh (Lebanese University, Lebanon); Vadim Pak (Peter the Great Saint Petersburg Polytechnic University, Russia)

11:30 Design and Implementation of Smart Automation for Sustainable Plastic Recycling with IoT Integration

Mahmoud Akram Khedr, Amr Bakkar, Youssef Ayman Zidan and Abdelrahman Youssef Abdelfattah (The British University in Egypt, Egypt); Mahmoud Magdy (The British University in Egypt & Benha University, Egypt); Mostafa Abdelaziz Ghaz (The British University in Egypt, Egypt)

Wednesday, December 18 10:30 - 11:45 (Africa/Cairo)

RESEARCH SESSION 4 - ROOM C (5 PAPERS): RESEARCH SESSION 4 - ROOM C (WEDNESDAY, DECEMBER 18th 2024 - 10:30AM - 11:45AM, 5 PAPERS)

RESEARCH SESSION 4 - ROOM C

Room: ROOM C

10:30 Fisher-PSO Latent Optimizer: Metaheuristic-based Optimization for Privacy-Utility Tradeoff in WGAN

Alshaymaa Ahmed Abouahmed (Arab Academy for Science, Technology and Maritime Transport (AAST), Egypt); Yasmine N. Saleh (Arab Academy for Science, Technology and Maritime Transport, Egypt); Ayman A. Abdel-Hamid (Arab Academy for Science, Technology, and Maritime Transport, Egypt)

10:45 Drone Forensics Through Open-Source Solutions: A Review of Investigative Tools and Their Effectiveness

[Fatima Alnaqbi](#), [Reem Alnaqbi](#), Fatima Dakalbab, Homaiza Saud Ahmad and Manar Abu Talib (University of Sharjah, United Arab Emirates); Qassim MH Nasir (University Of Sharjah, United Arab Emirates)

11:00 Integrating Artificial Intelligence in Cybersecurity Education: A Pedagogical Framework and Case Studies 

[Ahmad Salman](#) (Royal Holloway University of London, UK)

11:15 Deep Learning Image-Based Plant Disease Classification - A Review 

[Israa Tartoussi](#) (University of the Basque Country UPV/EHU, unknown); Fadi Dornaika (University of the Basque Country, Spain); Pendar Alirezazadeh (Upv, Spain); Jihad Jaam (Liverpool J. Mores University, United Kingdom (Great Britain))

11:30 Neuro-Motor Index for Upper Limb Exoskeleton Control: A Machine Learning Approach 


[Jinan Charafeddine](#) (Engineering School Léonard de Vinci - ESILV, France); Taha Houda (Prince Mohammad Bin Fahd University, Saudi Arabia); Swaminath Venkateswaran (DVR, France); Yasin Dhaher (Medical School Biomedical Engineering, USA)

Wednesday, December 18 10:30 - 11:45 (Africa/Cairo)

RESEARCH SESSION 4 - ROOM D (WEDNESDAY, DECEMBER 18th, 2024, ROOM D, 5 PAPERS): RESEARCH SESSION 4 - ROOM D (WEDNESDAY, DECEMBER 18th, 2024, 10:30AM - 11:45AM, 5 PAPERS)

RESEARCH SESSION 4 - ROOM D

Room: ROOM D

10:30 Analysis of Systolic Murmurs in Heart Sounds using Multiresolution Complex Gabor Dictionary 

[Mahmoud Fakhry](#) (Aswan University, Egypt); Ascension Gallardo-Antolin (Universidad Carlos III de Madrid, Spain)

10:45 Development of a Compliant Soft Gripper with Embedded Force Sensors 

[Abdelrahman Said](#) and Ayman Abbas (The British University in Egypt, Egypt); Tamer Khalil (Benha University, Egypt); Mahmoud Magdy (The British University in Egypt & Benha University, Egypt)



11:00 Image Encryption and Steganography using a Memristive-Coupled Neural Network Hyperchaotic System for the Healthcare Industry 

[Youssef Ismail](#) (German University in Cairo, Egypt); Ayman Alserafi (German University in Cairo (GUC) & German International University (GIU), Egypt); Eyad Mamdouh, Dina El-Damak and Wassim Alexan (German University in Cairo, Egypt)



11:15 Hyperchaotic Encryption and Digital Watermarking for Copyright Protection: Algorithm Design and Business Model Development 

[Ahmed Walid El-Bourgy](#), Gamal Kassem, Dina El-Damak and Wassim Alexan (German University in Cairo, Egypt)



11:30 Self-Adaptive ERP: Embedding NLP into Petri-Net creation and Model Matching 

[Ahmed Maged](#) (The German University in Cairo, Egypt); Gamal Kassem (German University in Cairo, Egypt)

Wednesday, December 18 11:45 - 12:00 (Africa/Cairo)

SHORT COFFEE BREAK: COFFEE BREAK AND NETWORKING

SHORT COFFEE BREAK

Room: COFFEE BREAK ROOM

Wednesday, December 18 12:00 - 13:15 (Africa/Cairo)

RESEARCH SESSION 5 - ROOM A - (WEDNESDAY, DECEMBER 18th, 2024 - 5 PAPERS - ROOM A): RESEARCH SESSION 5 - ROOM A - (WEDNESDAY, DECEMBER 18th, 2024 (12:00PM - 13:15PM, 5 PAPERS)

RESEARCH SESSION 5 - ROOM A

Room: MAIN CONFERENCE ROOM A

12:00 *Machine Learning Techniques for Detecting Abnormal Behaviors in Blockchain Technologies: A Methodological Review*

Mohamed A. Fouly and Tayseer Hassan (Assiut University, Egypt); Ahmed Taloba (Assiut University & Faculty of Computers and Information, Egypt)



12:15 *Focal Adhesions Segmentation Using Deep Learning*

Ismail Elbasiony Mohamed (University of Helwan, Egypt); Nancy Salem (Helwan University & Faculty of Engineering, Egypt); Ibrahim Sadek and Lamees N. Mahmoud (Helwan University, Egypt)



12:30 *Deep Learning-Based Correlation Analysis of Public Transit and Ride-Sharing: A Study of Urban Mobility Patterns in Paris*

Noha GamalEIDin, Mohamed Nassar, Reem Hussin, Mohannad Mahmoud, Ahmed Amin, Mahmoud Elssa and AbdElRahman Sherif (Nile University, Egypt)



12:45 *Formation Control for multi-quadruped robots in cooperative application*

Mohamed A Elsheshtawy, Mai Ahmed Mira and Elsayed I. Morgan (German University in Cairo, Egypt); Omar M. Shehata (Multi-Robot Systems (MRS) Research Group, German University in Cairo, Egypt)



13:00 *Real-Time Vehicle Tracking and Diagnostics Using OBD-II and GPS Technology*

Amr Wahid Fawzy, Esraa Khaled, Rawan Sleem, Mina Gamal Fayez and Mohab Ashraf Alkanawaty (Ain Shams University, Egypt); Bishoy Emad Nassief (Ainshams University, Egypt); Marwan Ayman Awad (Ain Shams University, Egypt); Kerolos Khalil and Mona Helmy (Siemens, Egypt); Amira Omar (Siemens EDA, Egypt); DaaEldin Khalil (Ain Shams University, Egypt)



Wednesday, December 18 12:00 - 13:15 (Africa/Cairo)

RESEARCH SESSION 5 - ROOM B (12:00PM - 13:15PM, 5 PAPERS) RESEARCH SESSION 5 (ROOM B) - WEDNESDAY DECEMBER 18th 2024 (12:00PM - 13:15PM, 5 PAPERS)

RESEARCH SESSION 5 - (ROOM B)

Room: ROOM B

12:00 *Computational model based on grey systems to determine air quality in a maritime industry*

Alexi Delgado (Universidad Nacional de Ingeniería, Peru); Katherine Paredes Guerrero (Universidad de Ciencias y Humanidades, Peru)

12:15 *Exploring the Role of Digital Financial Tools in Personal Finance: Enhancing Financial Planning and Decision Making*



Chamudi Navoda Midellawala, Nisura Achchige, Sarindu Padmasiri, Navod Abeygunasekara, Koliya Pulasinghe and Nelum Amarasena (Sri Lanka Institute of Information Technology, Sri Lanka)




12:30 *Scalable IoT Solutions for Real-time Monitoring and Mitigation of Industrial Air Pollution Emissions*

Amali Shashikala, [Vinal Munasinghe](#), Vinura De Silva and Ravindi Muthukumarana (Sri Lanka Institute of Information Technology, Sri Lanka)

12:45 *The Critical Role of Alternative Datasets in Credit Assessment Using Machine Learning Techniques* 

[Deepa Shukla](#) (Jaipur National University, India & Vividmind Softwares, India); Sunil Gupta (Jaipur National University, India)
 

13:00 *New Novel FPGA based image encryption methods using multiple chaotic Maps* 

[Zaid Hasso](#), Omar Tareq, Omar Hatif Mohammed and Marwa Riyadh Ahmed (Northern Technical University, Iraq)


Wednesday, December 18 12:00 - 13:15 (Africa/Cairo)

RESEARCH SESSION 5 - ROOM C - (12:00PM - 13:15PM, 5 PAPERS)

RESEARCH SESSION 5 - ROOM C - WEDNESDAY DECEMBER 18th, 2024 (12:00PM - 13:15PM, 5 PAPERS)


RESEARCH SESSION 5 - ROOM C

Room: ROOM C



12:00 *Split-Federated Reinforcement Learning for IoMT Data and Task Management in Edge-Fog-Cloud Infrastructure* 

[Sonia Ikken-Benali](#) (Cesi - LINEACT, France)



12:15 *Generic Simulated Evolution & Stochastic Evolution* 

Samir Haddad (University of Balamand, Lebanon); Joseph Merhej (Faculty of Sciences II, Lebanon); Jinane Sayah (University of Balamand, Lebanon); [Chadi Kallab](#) and Nisrine Turkey (Lebanese American University, Lebanon); Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq)


12:30 *Comprehensive Literature Survey on Machine Learning for Credit Scoring of Thin-File Consumers* 

[Deepa Shukla](#) (Jaipur National University, India & Vividmind Softwares, India); Sunil Gupta (Jaipur National University, India)
 

12:45 *DenseNet121 with Harris Hawks Optimization: A Novel Deep Learning Approach for Arabic Sign Language Recognition* 

[Samar Nabil Mohamed fahmy ibrahim Aroog](#) and Hager Hussein (Arab Academy for Science and Technology, Egypt); Mohamed Shaheen (Arab Academy for Science, Technology and Maritime Transport, Egypt)


13:00 *Evolution Boundary Cellular Automata: Modification of Wolfram Single Seed ECA* 

[Shah Jahan Wani](#) (University of Kashmir, Srinagar, India)

Wednesday, December 18 12:00 - 13:15 (Africa/Cairo)

RESEARCH SESSION 5 - ROOM D - (WEDNESDAY, DECEMBER 18th, 2024, 5 PAPERS): RESEARCH SESSION 5 - ROOM D (WEDNESDAY DECEMBER 18th, 12:00 - 13:15, 5 PAPERS)

RESEARCH SESSION 5 - ROOM D

Room: ROOM D

Chair: Hala Strohmer Berry (University of South Carolina Aiken, USA)

12:00 *Power Quality Improvement and Harmonic Suppression in Household Appliances* 

[Ibrahim Mohamed Aboelenien](#) (Benha University, Egypt); [Abdullah Elgammal](#) (The British University in Egypt, Egypt); [Omar Salim](#) (Banha University, Egypt)



12:15 AI-Driven Robotic System for Predictive Maintenance: Urban Road Defect Detection in Smart Cities

Mahmoud Akram Khedr and [Mostafa Abdelaziz Ghooz](#) (The British University in Egypt, Egypt)

12:30 Enhancing Efficiency in the IOTA Tangle: A POMDP-Based Tip Selection Approach

[Mays Mohammed Alshaikhli](#), [Somaya Ali Al-maadeed](#) and [Moutaz Saleh](#) (Qatar University, Qatar)



12:45 PRINIA: Privacy-Preserving Facial Recognition Framework for Extended Reality Environments

[George Raptis](#) (University of Patras & Human Opsis, Greece); [Christina Katsini](#) (Human Opsis, Greece); [Nicholas Hadjisavvas](#) (Algolysis, Greece); [Efstathios Starvakis](#) (Algolysis, Cyprus)

13:00 IoT Devices Security Improvement Based on Collaborative Intrusion Detection System and Blockchain Technology

[Loari Yempabou Yves Stéphane](#) (Université Joseph KI-ZERBO, Burkina Faso); [Didier Bassolé](#) (Université Joseph Ki-Zerbo, Burkina Faso & Laboratoire de Mathématiques et d'Informatique (LAMI), Burkina Faso); [Sawadogo M. Leonard](#) and [Gouayon Koala](#) (Université Joseph KI-ZERBO, Burkina Faso); [Oumarou Sié](#) (University Ouaga 1 Professeur Joseph Ki-Zerbo, Burkina Faso)



Wednesday, December 18 13:15 - 14:00 (Africa/Cairo)

LUNCH 13:15PM - 14:00PM LUNCH BREAK WEDNESDAY DECEMBER 18th 2024

LUNCH

Room: COFFEE BREAK ROOM

Wednesday, December 18 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 6 - ROOM A (WEDNESDAY - 7 PAPERS - ROOM A): RESEARCH SESSION 6 ROOM A - 14:00PM - 15:45PM WEDNESDAY DECEMBER 18th 2024 - 7 PAPERS

RESEARCH SESSION 6 ROOM A

Room: MAIN CONFERENCE ROOM A

Chair: [Prashant G Joshi](#) (Leap & Scale & BITS Pilani K K Birla Goa Campus, India)

14:00 Adapting the simulated annealing algorithm to enhance the performance of the LEACH protocol

[Mohammed Benhadji](#) and [Mohammed Kaddi](#) (Ahmed Draïa University Algeria, Algeria); [Mohammed Omari](#) (American University of Ras Al Khaimah, United Arab Emirates)




14:15 Accelerating Systematic Reviews Via Natural Language Processing

[Fatima Nasser](#) (University of Saint Joseph, Lebanon); [Fouad Trad](#) (American University of Beirut, Lebanon); [Marlene Chakhtoura](#) (American University of Beirut, Lebanon); [Ghada El-Hajj Fuleihan](#) and [Ali Chehab](#) (American University of Beirut, Lebanon)




14:30 Fog-Enabled Metaverse: Common points in an Industry 5.0 context

[Imen Bouzarkouna](#) (Cesi LINEACT, France); [Benatia Mohamed Amin](#) (CESI LINEACT, France); [M'hammed Sahnoun](#) (CESI LINEACT, France & CESI, France)

14:45 A Low Cost Prototype of A Real-Time Face-Mask Detection and Enforcement System Using CNN and Arduino for Developing Countries 

Phoebe Edward (University of Prince Edward Island, Egypt); [Mariam Mamdouh](#), Hana El-Khatib, Monica Bassem, Khaled El-Sayed and Ahmed Khaled (German International University, Egypt); Wassim Alexan and Dina El-Damak (German University in Cairo, Egypt)



15:00 Unraveling Academic Failure: Examining the Influence of Course Correlations on Student Performance through Association Rules Algorithms 

[Almahdi Alshareef](#) (University of Sebha Libya, Libya); Hana Safour and Mansour Essgaer (Sebha University, Libya)



15:15 Majority Voting: Hybrid Classification Model for Diabetes Prediction 

[Mohammed Shantal](#) (Sebha University, Libya); [Almahdi Alshareef](#) (University of Sebha Libya, Libya); Omar Ahmid (Libyan Center for Data Mining and Intelligent Knowledge Discovery Research, Libya)



15:30 Deep Learning-Driven User Legitimacy Prediction Using Keystroke and Mouse Behavioural Dynamics 

[Noha GamalEldin](#) and [Mohamed Nashaat](#) (Nile University, Egypt); [Omar AbouRida](#) (Alexandria University, Egypt)

Wednesday, December 18 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 6 - ROOM B - (14:00PM - 15:45PM - 7 PAPERS) RESEARCH SESSION 6 - ROOM B (14:00PM - 15:45PM WEDNESDAY DECEMBER 18th, 2024, 7 PAPERS)

RESEARCH SESSION 6 - ROOM B

Room: ROOM B

Chair: Shah Jahan Wani (University of Kashmir, Srinagar, India)

14:00 Blockchain-based Secure Real-time Multimedia Surveillance Framework 

[Walid Mostafa Abdelfattah](#) (Arab Academy for Science, Technology Maritime Transport College of Computing and Information, Egypt); Yasmine N. Saleh (Arab Academy for Science, Technology and Maritime Transport, Egypt); Ayman A. Abdel-Hamid (Arab Academy for Science, Technology, and Maritime Transport, Egypt)

14:15 Transformative AI in Health Information Exchange for Predictive Analytics Enhancing Patient Outcomes 

[Aasif Shah](#) (Woolf University, Malta); [Jamshaid Iqbal Janjua](#) (University of Engineering & Technology, Lahore, Pakistan)



14:30 Internet-Based 3D Volumes with Signed Distance Fields: Establishing a WebGL Rendering Infrastructure 

[Ali K. Abdallah](#) (American University of Sciences and Technology AUST Lebanon, Lebanon); Sally Anadani (Faculty Member, Lebanon); Habiba Ismail (Islamic University of Lebanon, Lebanon)



14:45 Estimating Uncertainty in Deep Learning Methods and Applications 

[Jamshaid Iqbal Janjua](#) (University of Engineering & Technology, Lahore, Pakistan); Munir Ahmed (GAFTIM, Pakistan)



15:00 Exploring Signal Dynamics in Brain Sleep and Consciousness 

[Kaouther Selmi](#) (University of Monastir, Tunisia)



15:15 Advances and Evaluation of Intelligent Techniques in Short-Term Load Forecasting 

[Jamshaid Iqbal Janjua](#) (University of Engineering & Technology, Lahore, Pakistan)



15:30 The Impact of Code Structure on Programming Fluency for Kids in Programming Languages 

Rehab Ramadan Soudani (Technical College in Zwara, Libya); Afaf Alayadl Mohamed and Ahmed Abdulgader (Libyan Scientific Research Authority, USA); Musbah Abdulgader (Norfolk State University, USA)

Wednesday, December 18 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 6 - ROOM C - (14:00PM - 15:45PM, 7 PAPERS)

RESEARCH SESSION 6 - ROOM C - (14:00PM - 15:45PM WEDNESDAY, DECEMBER 18th 2024, 7 PAPERS)

RESEARCH SESSION 6 - ROOM C

Room: ROOM C

Chair: Vivekananda Jayaram (Florida International University, USA)

14:00 **Recent Monte Carlo-Based Simulations for Modeling Disease Spread**

Samir Haddad (University of Balamand, Lebanon); Mohamad Chakroun (Universitat Rostock, Germany); Jinane Sayah (University of Balamand, Lebanon); Chadi Kallab (Lebanese American University, Lebanon); Salah El Falou (Lebanese University, Lebanon); Wafaa Mohammed Ridha Shakir (Al-Furat Al-Awsat Technical University, Iraq)



14:15 **Sleep Stages Classification Using ECG Signals and Deep Learning: A Comparative Study**

Heba Ahmed Magdy El-Melegy, Eng. and Lamees N. Mahmoud (Helwan University, Egypt); Nancy Salem (Helwan University & Faculty of Engineering, Egypt); Ibrahim Sadek (Helwan University, Egypt)



14:30 **Enhancing Stock Price Prediction: A Hybrid Approach Leveraging Large Language Models and Deep Learning**

Mohamed Erfan Ahmed and Gamal A. Ebrahim (Ain Shams University, Egypt); Marwa A. Abdelaal (Sadat Academy for Management Sciences, Egypt)



14:45 **An Intelligent Data Analytics Approach for Crisis Management in Healthcare Systems**

Fatma A. Madian and Gamal A. Ebrahim (Ain Shams University, Egypt); Mostafa Mohamed Salah (Future University in Egypt, Egypt); Marwa A. Abdelaal (Sadat Academy for Management Sciences, Egypt)



15:00 **Flexible Granular Deep Learning Voting Architecture**

Samir Haddad (University of Balamand, Lebanon); Chadi Kallab (Lebanese American University, Lebanon); Jinane Sayah (University of Balamand, Lebanon); Jinan Charafeddine (Engineering School Léonard de Vinci - ESILV, France); Joseph Merhej (Faculty of Sciences II, Lebanon); Nisrine Turkey (Lebanese American University, Lebanon)



15:15 **Transformer-Based Hybrid Model for DICER1 Syndrome Classification**

Sahar Almenwer (Bowie State University, USA & Aljouf University, Saudi Arabia); Hoda El-Sayed and Md Kamruzzaman Sarker (Bowie State University, USA)



15:30 **Pedestrian-Collision Avoidance Strategy using Deep Neural Network**

Nidhal Abdulaziz (Heriot University Dubai Campus, United Arab Emirates); Gowresh Rajagobal and Mohamed Al Musleh (Heriot Watt University, United Arab Emirates)

Wednesday, December 18 14:00 - 15:45 (Africa/Cairo)

RESEARCH SESSION 6 - ROOM D (WEDNESDAY, DECEMBER 18th, 2024, 7 PAPERS): RESEARCH SESSION 6 - ROOM D (WEDNESDAY, DECEMBER 18th, 14:00 - 15:45, 7 PAPERS)

Room: ROOM D

Chair: Vidusha Herath (Sri Lanka Institute of Information Technology (SLIIT), Sri Lanka)

14:00 Synergetic Innovation in Gherkin Cultivation Based on Machine Learning Algorithms 

Amanada G Perera (Sri Lanka Institute of Information Technology, Sri Lanka); Sajindu Shamalka Jinasena (SLIIT, Sri Lanka); Dharshana Kasthurirathna (Faculty of Computing, Sri Lanka Institute of Information Technology, Sri Lanka); Poojani Gunathilake (SLIIT, Sri Lanka); [Amalya Dayarathna](#) (Sri Lanka Institute of Information Technology, Sri Lanka); Thilina Ruwan Kumara, Kg (SLIIT, Sri Lanka)



14:15 Scrappy City: A Waste Management Simulation Video Game Promoting Environmental Awareness 

Kenji Castro (University of the City of Manila, Philippines); [Noah G Calida](#) (Pamantasan ng Lungsod ng Manila, Philippines); Janhnielle T Pascua, Criselle J Centeno, Marilou B. Mangrobang and Raymund M Dioses (University of the City of Manila, Philippines)




14:30 An A.I. Based Cost Estimation System for Material Sourcing with Product Recommendations for Architectural Designs



Althea Joie Pascual Aquino, [Chris Czar J Manalo](#) and Daphne Elaine Dollesin Balajediong (University of the City of Manila, Philippines); Criselle J. Centeno (College of Information Systems and Technology Management, Philippines); Ariel Antwaun Rolando Sison (PLM, Philippines); Benito Roger L De Joya (University of the City of Manila, Philippines)



14:45 Social Networking Analysis as a Learning Analytics Tool for Asynchronous Online Forums: Case Study of Students' Participation Using Canvas Forum and WhatsApp Messaging 

[Serbest Duluten](#) (University of Tartu, Estonia); Joseph C Grannum (University of Leipzig, Germany & University of Tartu, Estonia); Nola P Hill-Berry (University of Technology Jamaica, Jamaica)

15:00 Advancing Embedded System Design: FPGA-Based Digital Frequency Meter with Adaptive Range Commutation 

[Youssef Raouf](#) (Ibn Tofail University, Morocco & UIT, Morocco); Zoubida Benmamoun (Liwa College, Abu Dhabi, United Arab Emirates); Hanaa Hachimi (Ibn Tofail University, Morocco); Ikhlef Jebbor (Ibn Tofail University, Morocco & SEWS-E, Morocco)

15:15 Resilient Sensing for Internet of Things (IoT) in Safety-Critical Applications

Yusuf Muhammad Tukur and Gerard Parr (University of East Anglia, United Kingdom (Great Britain))

15:30 Adversarial Attack Defense Techniques: A Study Of Defensive Distillation and Adversarial Re-training on CIFAR-10 and MNIST 

[Tahir Elgamrani](#) (Alakhwayn University in Ifrane, Morocco & AUI, Morocco); Reda Elgaf (Al Akhawayn University in Ifrane, Morocco); Yousra Chtouki (Al Akhawayn University, Morocco)



Wednesday, December 18 15:45 - 16:00 (Africa/Cairo)

SHORT COFFEE BREAK - WEDNESDAY DECEMBER 18th 15:45 PM - 16:00 PM

SHORT COFFEE BREAK - WEDNESDAY DECEMBER 18th

SHORT COFFEE BREAK

Room: COFFEE BREAK ROOM

Wednesday, December 18 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 7 - ROOM A - (WEDNESDAY - 8 PAPERS - ROOM A):

RESEARCH SESSION 7 - ROOM A - DECEMBER 18th 2024 - 16:00PM -

18:00PM - 8 PAPERS

RESEARCH SESSION 7 - ROOM A

Room: **MAIN CONFERENCE ROOM A**

Chairs: Srijani Mukherjee (Bayer & Researcher, India), Kingsley C Nwosu (Norfolk State University, USA)

16:00 Reliability Analysis and Evaluation of PLC's Functional Diagrams 

[Amin Al Ka'bi](#) and Khaled AbuJbara (Australian University - Kuwait, Kuwait)

16:15 Design of Wideband MIMO Antenna for 6G THz Systems 

[Amin Al Ka'bi](#) and Khaled AbuJbara (Australian University - Kuwait, Kuwait)

16:30 Advancements in Machine Learning and Deep Learning Techniques for Sickle Cell Disease Detection using Digital Morphology 

[Abdul Rahiman Shaik Kodavendla](#), Ben George Ephrem, Anand V.K, Eman Said Al Abri and Muna Saif Al Rahbi (University of Technology and Applied Sciences, Oman); Kausar Niazi Nadaf (Saud Bahwan Group, Oman); Al Waleed Ahmed Al-Abdali (University of Technology and Applied Sciences, Oman)



16:45 AUTOSAR-Based V2G Communication Stack for Seamless EV Charging 

Mona Helmy (Siemens, Egypt); [Mahmoud Ahmed Shaarawy](#) (Ain Shams University, Afghanistan & Siemens, Egypt)



17:00 A New Framework Toward Accurate Emotions Recognition for Human Speeches 

[Mona Fouad](#) (NTI, Egypt)



17:15 Enhancing Coal Quality Control with Computer Vision for a Sustainable Green Energy Transition 

[Tinotenda B Chimbwanda](#), Nathalie Rizzo, Angelina Anani and Ricardo Nunes (University of Arizona, USA)



17:30 Data Augmentation Techniques for Medical Image Segmentation - A Review 

[Nancy Kozah](#) (University of the Basque Country - UPV/EHU, Lebanon); Fadi Dornaika (University of the Basque Country, Spain); Jinan Charafeddine (Engineering School Léonard de Vinci - ESILV, France); Jihad Jaam (Liverpool J. Mores University, United Kingdom (Great Britain))



17:45 You Are the First Line of Defence: Integrating Humans into Information Security Frameworks 

[Bashayer Abdulla Al-Mohammed](#) (Liverpool John Moores University, United Kingdom (Great Britain))

Wednesday, December 18 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 7 (WEDNESDAY, DECEMBER 18th, 2024, ROOM D, 8 PAPERS): RESEARCH SESSION 7 (WEDNESDAY, DECEMBER 18th, 2024, 16:00PM - 18:00PM, 8 PAPERS)

RESEARCH SESSION 7, ROOM D

Room: **ROOM D**

Chair: Balaji Shesharao Ingole (IEEE Senior, USA)

16:00 Comparative Analysis of ML Models for Power Prediction in Complex 3D Digital Twins Using Ray Tracing Environment 

[Istiak Mahmud](#) and Ahmed Abdelhadi (University of North Dakota, USA)



16:15 Building the Future of IoT: Cloud Platforms, Integration Challenges, and Emerging Applications 

[Manjunatha Sughaturu Krishnappa](#) (Oracle, USA); Deepak Jayabalan (Meta, USA); Bindu Mohan Harve (Independent Researcher, USA); Vivekananda Jayaram (Florida International University, USA); Darshan Mohan Bidkar (Netflix, USA); Prema K Veerapaneni (JPMorgan Chase, USA); Vedamurthy Gejjegondanahalli Yogeshappa (Medecision, USA)



16:30 Image Transmission with Semantic Communication using Alamouti Scheme

Shadman Rahman Doha and Ahmed Abdelhadi (University of North Dakota, USA)



16:45 Monocular 3D Object Detection using YOLO11 and MiDAS for Autonomous Driving

Hisham Abdou (German International University, Egypt); Maggie Mashaly (German University in Cairo, Egypt)



17:00 AI-based Inductive Wireless Charging for Electric Vehicles Under Different Circumstances

Mariam Adel (The British University in Egypt, Egypt); Peter Makeen (The British University in Egypt (BUE), Egypt); Hani A. Ghali (British University in Egypt (BUE), Egypt)



17:15 Analyzing Neuroimaging Epiphenomena: Machine Learning Approaches in Alzheimer's Prognostication

Sharmin Sultana (New Mexico Institute of Mining & Technology, USA); Bushra Uddin (New Mexico Tech, USA); Mohammad Shihab Uddin (New Mexico Institute of Mining and Technology, USA); MD Salah Uddin and Fazle Karim (Daffodil International University, Bangladesh); Mohiuddin Mehedi (Washington University of Science & Technology, USA)



17:30 Analyzing Use Intention of LMS In Higher Education: ECM with User Interface Visual Design

Wendy Winata, Kevin Marcellino, Budiono Njowito and Sulisty Heripracoyo (Bina Nusantara University, Indonesia)



17:45 Real-time Cloud-based Data Analysis using Machine Learning for Smart Parking

Abdullah Alghoniemy, Jacob Susko, David Kahle, Luke Saunders, Prajakta Belsare and Samy S. El-Tawab (James Madison University, USA)



Wednesday, December 18 16:00 - 18:00 (Africa/Cairo)

RESEARCH SESSION 8 - ROOM B - (8 PAPERS): RESEARCH SESSION 8 - ROOM B (DECEMBER 18th 2024 - 16:00PM - 18:00PM, 8 PAPERS)

RESEARCH SESSION 8 - ROOM B

Room: ROOM B

Chair: Deepak Jayabalan (Meta, USA)

16:00 An Analysis of Human Factors in Malware Attacks

Jawza Mohammed Alotaibi and Jihad M. Al Jaam (Oryx Universal College, Qatar); Mohammed Hoda (Kuwait College of Science and Technology, Kuwait)



16:15 A Contextualized Deep Neural Network Model for Classifying IT Incidents Based On Severity

Andrew Kyalo Mutuku, Lawrence Nderu and Tobias Mwalili (Jomo Kenyatta University of Agriculture and Technology, Kenya)



16:30 EEG Signatures in Alzheimer and FTD's Diseases using GNN Deep Learning Technique

Ibrahim Rida Kassem and Aya Kabbara (Lebanese University, Lebanon)

16:45 Applications of AI in Electronic Health Records, Challenges, and Mitigation Strategies

Seeram Mullanandy (Elumina Health & IEEE, Boston University, USA); Srijani Mukherjee (Bayer & Researcher, India); Balaji Shesharao Ingole (IEEE Senior, USA); S M (University of Westcliff, USA)



17:00 Using Eye-Tracking and Data Visualization to Enhance the Study of Medieval Manuscripts

[Nicholas Caporusso](#) (Northern Kentucky University, USA); [Hami My Doan](#) (IMT - Institute for Advanced Studies, Italy); [Tyler Egloff](#), [Elaina Hall](#), [Brett Thaman](#), [Tamara O'Callaghan](#) and [Bhuwan Bhandari](#) (Northern Kentucky University, USA)

17:15 *Toward an Insider Threat Education Platform: A Theoretical Literature Review* 

[Haywood M. Gelman](#), [John D. Hastings](#) and [David Kenley](#) (Dakota State University, USA); [Eleanor Loiacono](#) (The College of William and Mary, USA)



17:30 *Extended Event Log: Towards a Unified Standard for Process Mining* 

[Ali Midhat Suleiman](#) and [Gamal Kassem](#) (German University in Cairo, Egypt)

17:45 *Pre-Programmable Directional Stiffness in Continuum Robotic Arms: Effects of Truss Configurations* 

[Zahy Youssef Elgendy](#) (The British University in Egypt, Egypt); [Mahmoud Magdy](#) (The British University in Egypt & Benha University, Egypt); [Mostafa Abdelaziz Ghooz](#) (The British University in Egypt, Egypt)



Wednesday, December 18 16:00 - 18:00 (Africa/Cairo)

RRESEARCH SESSION 7 - ROOM C (8 PAPERS): RESEARCH SESSION 7 - ROOM C - (WEDNESDAY, DECEMBER 18th, 2024, ROOM C, 16:00PM - 18:00PM, 8 PAPERS)

RESEARCH SESSION 7 - ROOM C

Room: ROOM C

Chair: [Sheily Verma Panwar](#) ('CUC Ulster University', Qatar)

16:00 *Physics-Informed Neural Networks for Quantum Wavefunctions* 

[Istiak Mahmud](#), [Ayush Asthana](#), [Mark Hoffmann](#) and [Ahmed Abdelhadi](#) (University of North Dakota, USA)

16:15 *TFCB-Fog: Trust Framework for Cluster-based Fog Computing Environments* 

[Marwa Farouk Ahmed](#) (Arab Academy for Science, Technology and Maritime Transport, Egypt & College of Computing and Information Technology, Egypt); [Yasmine N. Saleh](#) (Arab Academy for Science, Technology and Maritime Transport, Egypt); [Ayman A. Abdel-Hamid](#) (Arab Academy for Science, Technology, and Maritime Transport, Egypt)




16:30 *Selection of the Best Student in the Islamic Boarding School using Weight Aggregated Sum Product Assessment (WASPAS) Method* 

[Iklima Ermis](#) (Politeknik Negeri Jakarta, Indonesia); [Anita Hidayati](#) (Jakarta State Polytechnic, Indonesia); [Euis Oktavianti](#) (Politeknik Negeri Jakarta, Indonesia)

16:45 *Deep Learning Based Traffic Detection in Cloud Computing Environment* 

[Sheily Verma Panwar](#) and [Aboubakr Aqle](#) ('CUC Ulster University', Qatar)

17:00 *Enhancing Spatial Thinking in Anatomy Education with Digital 3D Tools: A Systematic Literature Review of Comparative Studies* 

[Joseph C Grannum](#) (University of Leipzig, Germany & University of Tartu, Estonia); [Leo Siiman](#) (University of Tartu, Estonia); [Anna-Liisa Tamm](#) (Tartu Healthcare College, Estonia)

17:15 *Resilience of Aviation Cyber-Physical Systems to Malicious Attacks* 

[Fatemah Ibrahim Abozaid](#) and [Ali Baydoun](#) (Liverpool John Moores University, United Kingdom (Great Britain))



17:30 *Efficient Detection of Knee Osteoporosis Using the Swin Transformer on X-ray Images* 

[Rahat Sultana](#) (The University of Lahore, Pakistan); [Muhammad Zaman](#) (COMSATS University Islamabad, Pakistan); [Nikola Ivkovic](#) (University of Zagreb, Croatia); [Korhan Cengiz](#) (Biruni University, Turkey); [Iqra Razaqat](#) (University of Lahore, Pakistan); [Adnan Akhuzada](#) (University of Doha for Science and Technology, Denmark & Technical University of Denmark, Denmark)



17:45 A Secure IoT Framework for Smart Cities: Integrating ServiceNow GRC with Blockchain and AI-Driven Threat Detection 

[Kamran Ayub](#) (New York University, USA & ServiceNow, USA); [Roushdy Alshawa](#) (New York University - Shanghai Campus, China)



Thursday, December 19

Thursday, December 19 9:00 - 11:30 (Africa/Cairo)

RESEARCH SESSION 1 - ROOM A (THURSDAY): RESEARCH SESSION 1 - ROOM A (THURSDAY, DECEMBER 19TH, 2024, 09:00AM - 11:30AM)


RESEARCH SESSION 1 - ROOM A (THURSDAY)

Room: MAIN CONFERENCE ROOM A

Chair: Nourhan Zayed (The British University in Egypt, Egypt & Electronics Research Institute, Egypt)

9:00 TransformerFusionNet: A Real-Time Multimodal Framework for ICU Heart Failure Mortality Prediction Using Big Data Streaming 

[Hager Saleh](#) (South Valley University, Egypt); [Michael Mccann](#) (Atlantic Technological University, Ireland); [Shaker El-Sappagh](#) (Galala University, Egypt); [John G. Breslin](#) (University of Galway, Ireland)

9:15 Non-Invasive Glucose Monitoring Using PPG, AI, and IoT-Driven Mobile Integration for Real-Time Diabetes Management 

[Amr Khaled Refaie](#) and [Mostafa Abdelaziz Ghooz](#) (The British University in Egypt, Egypt)

9:30 Artistic Style Classification Using Convolutional Sparse Coding 

[Mariam Saaleh Soboh, Ms](#) and [Lama A Affara](#) (Beirut Arab University, Lebanon)

9:45 Neurophysiology Biosignals of Cognitive Training Classification in Virtual Reality Environment Using Deep Learning Model 

[Nourhan Zayed](#) (The British University in Egypt, Egypt & Electronics Research Institute, Egypt); [Mohamed Reda](#) (The British University of Egypt, Egypt)

10:00 EMG-Based Intraoperative Neuromonitoring Using Advanced Machine Learning Approaches 

[Nourhan Zayed](#) (The British University in Egypt, Egypt & Electronics Research Institute, Egypt); [Abdalla Nabil Elsharkawy](#) (The British University in Egypt, Egypt)

10:15 A Standardized Framework for the Discovery of Candidate Tasks for Robotic Process Automation: A Process Mining Approach 

[Habiba Nabil Soliman](#) and [Gamal Kassem](#) (German University in Cairo, Egypt)

10:30 SDRadar under Fading Channel using GNU Radio Tools 

[Qassim MH Nasir](#) (University Of Sharjah, United Arab Emirates); [Sally Idhis](#) and [Manar Abu Talib](#) (University of Sharjah, United Arab Emirates)



10:45 Evaluating Explainability in XAI: A Case Study of Bug Assignment and Developer Allocation 

[Mina Shenouda](#) and [Nada Sherief](#) (Arab Academy for Science, Technology & Maritime Transport, Egypt); [Walid AbdelMoez](#) (Arab Academy for Science, Technology and Maritime Transport, Egypt)



11:00 Enhanced Sentiment Classification in Code-Mixed Texts Using Hybrid Embeddings and Synthetic Data Generation 

[Lany Maceda](#) (Bicol University, Philippines)



Thursday, December 19 9:00 - 11:30 (Africa/Cairo)

RESEARCH SESSION 1 - ROOM B - THURSDAY: RESEARCH SESSION 1 - ROOM B (THURSDAY 19TH, 2024 - 09:00AM - 11:00AM, 10 PAPERS)

RESEARCH SESSION 1 - ROOM B

Room: ROOM B

Chair: Noha GamalEIDin (Nile University, Egypt)

9:00 **A Review of Super resolution Technology for Extended-Range Precipitation Forecasting**

[Jiahn Chen](#) (The Hong Kong Polytechnic University, Hong Kong); [Mingxuan Mao](#) (Wuxi University, China); [Chengsheng Yuan](#) (Nanjing University of Information Science & Technology, China); [Yuanzhi Zhong](#) (Fujian Huawang Information Technology Co Ltd., China); [Zhenfei Tang](#) (Chinese Academy of Meteorological Sciences, China)



9:15 **Modeling of Field Emission Cathode-Modulator Unit and Analysis of Characteristics**

[Konstantin Nikiforov](#), Ivan Sokolov and Nikolay Egorov (Saint Petersburg State University, Russia)



9:30 **Digital Model with Genetic Algorithm for Field Emission UV-Source Development**

[Konstantin Nikiforov](#), Kirill Rudovich, Andrei Jordan, Vyacheslav Vekovtsev and Nikolay Egorov (Saint Petersburg State University, Russia)



9:45 **Enabling Unified and Scalable IoT Ecosystems: A Customisable Data Framework for Interoperability Across Heterogeneous Devices**

[Prashant G Joshi](#) (Leap & Scale & BITS Pilani K K Birla Goa Campus, India); [Bharat Deshpande](#) (Birla Institute of Technology and Science, Pilani - KK Birla Goa Campus, India)

10:00 **Scalable Smart Home Management with ESP32-S3: A Low-Cost Solution for Accessible Home Automation**

[Nabil Litayem](#) (Joaan Bin Jassim Academy for Defence Studies, Qatar)



10:15 **Object Detection and Categorization in Complex Scenarios Using Deep Learning**

[Rayan Chowdhury](#) and Vikas Upadhyaya (NIIT University, India)



10:30 **Estimation of Biomass Growth Using Unscented Kalman Filter**

[Youssef Salama](#) (German University in Cairo, Egypt & German International University, Germany)

10:45 **Securing Adaptive Autosar: Leveraging Virtual Patching for Enhanced Vehicle Network Security**

[Mona Helmy](#) (Siemens, Egypt); [Shahd Ahmed](#) (Ain Shams, Egypt); [Mohamed AbdelAzeem](#) (Ain Shams University, Egypt)



11:00 **Multicore AUTOSAR Solutions for Latency Reduction in ISO 15118 Communication between EVCC and SECC**

[Mona Helmy](#) (Siemens, Egypt); [Mazen Tarek Samy](#) and [Kareem Ahmed Azab](#) (Ain Shams University, Egypt)

11:15 **Fine-Tuning GPT-4o-Mini for Programming Questions Generation**

[Alaa Hesham](#) and [Abeer Hamdy](#) (The British University in Egypt, Egypt)



Thursday, December 19 9:00 - 11:30 (Africa/Cairo)

RESEARCH SESSION 1 - ROOM C - THURSDAY: RESEARCH SESSION 1 - ROOM C (THURSDAY, DECEMBER 19th, 2024, 09:00AM - 11:30AM)

RESEARCH SESSION 1 - ROOM C

Room: ROOM C

9:00 Enhancing Lung Cancer Classification with MobileNetV3 and EfficientNetB7: A Transfer Learning Approach

[Sonjoy Ranjon Das](#) (Lecturer in Computing, United Kingdom (Great Britain)); [Abdulrahman Salih](#) (Northumbria University London, United Kingdom (Great Britain)); Rejwan Bin Sulaiman (University of Bedfordshire, United Kingdom (Great Britain)); Maruf Fahan (Lecturer in Cyber Security, United Kingdom (Great Britain))



9:15 A Framework for Food Availability Forecasting Using Temporal Knowledge Graph

[Nada Amr Eltaki](#) (The British University in Egypt & BUE, Egypt); Khaled Ahmed Nagaty (The British University in Egypt & Ain Shams University, Egypt); Doaa S Elzanfaly (British University in Egypt & Helwan University, Egypt); Noura Maghawry (The British University in Egypt, Egypt)



9:30 A Deep Learning Approach for Brain Tumor Classification

[Aya Abdelmoniem](#) (The British University in Egypt, Egypt); Gamal A. Ebrahim (Ain Shams University, Egypt); Mohammad M Abdellatif (The British University in Egypt, Egypt)



9:45 ReWisely: Generative AI-based revision platform for developing user-personalized study materials

Moutaz Saleh, [Khadija Khedr](#), Asma Bahabarah, Amani Mamiche and Taqwa Ellabad (Qatar University, Qatar)



10:00 Artificial Intelligence StartUp Preference Ranking by Circular Intuitionistic Fuzzy PROMETHEE

[Esra Çakır](#) (Galatasaray University, Turkey)



10:15 The Application of Virtual Fencing in Home Security Systems

[Arnav Neil Ignatius](#), Anuj Jain, Parth Sandeep Chauhan and Vikas Upadhyaya (NIIT University, India)



10:30 Improving Automated Dental Diagnostics Utilizing YOLO9-Based Framework

[Samar M. Nour](#) (Badr University, Egypt)



10:45 Electricity Power Consumption Prediction: a Review Paper

Majda El Barkani (Al Akhawayn University in Ifrane, Morocco); Yusra Chtouki (Al Akhawayn University, Morocco); Asmae Nadifi (University of Science, Morocco & Al Akhawayn University in Ifrane, Morocco)

11:00 Predicting Machine Failure in Data Centers using Time-Series Analysis and LSTM Networks

Fahd Azouz and Yassine Benlahmr (Al Akhawayn University in Ifrane, Morocco); Yusra Chtouki (Al Akhawayn University, Morocco)

11:15 Roadmap of AIoT Implementation on Sustainable SCM in the Food Industry: A Requirements Framework

[Farida Haitham Rifai](#) and Mohamed M Nafea (German University in Cairo, Egypt); Lamia Shihata (German University in Cairo (GUC), Egypt); Maggie Mashaly (German University in Cairo, Egypt)

