



32nd International Conference on Computer Theory and Applications

ICCTA 2022

17-19 December 2022
Alexandria, Egypt

Under the Auspices of

Prof. Dr. Mohamed Ayman Ashour
Minister of Higher Education and Scientific Research
Egypt

Conference Program



DAY 1 - Saturday, December 17th, 2022

Venue: AASTMT Presidency Building, AbuQir and Online

10:00 Registration

11:00 Opening Session and Keynote Speech

Welcoming Speeches

Prof. Dr. Ayman Abdel-Hamid

Dean – College of Computing and Information Technology (Alexandria)
Arab Academy for Science, Technology, and Maritime Transport
Conference Coordinator

Prof. Dr. Ahmed Hassan

Chair, IEEE Egypt Section
Dean – Information Technology and Computer Science School, Nile University,
Egypt

H.E. Prof. Dr. Yousry El Gamal

Former Minister of Education, Egypt
President, Computer Scientific Society

H.E. Prof. Dr. Ismail Abdel Ghafar Ismail Farag

President – Arab Academy for Science, Technology, and Maritime Transport

H.E. Prof. Dr. Mohamed Ayman Ashour

Minister of Higher Education and Scientific Research, Egypt

Keynote Speech

“A New Dimension to University Education: The Metaversity”

H.E. Prof. Dr. Yousry El Gamal

12:30 Coffee Break

DAY 1 - Saturday, December 17th, 2022 (Cont'd)

13:00 Keynote Speech

“Technology Trends for Intelligent Automated Electric Transportation Systems in Smart Cities”

Prof. Dr. Hussein Mouftah

Tier 1 Canada Research Chair and
Distinguished University Professor
School of Electrical Engineering and Computer Science
University of Ottawa, Ottawa, Ontario, Canada

13:30 Keynote Speech

“In Pursuit of Japanese-style Research and Education of Computer Software: Experiences with Software-Centered Research Projects”

Prof. Dr. Kazunori Ueda

Professor of Computer Science and Engineering, Waseda University
Visiting Professor, Egypt-Japan University of Science and Technology

14:00 Keynote Speech

“Multi-scale Robotic System”

Prof. Dr. Toshio Fukuda

Vice President for Research
Egypt Japan University of Science and Technology, Egypt

14:30 Keynote Speech

“Computer Simulations for Development of Electric Vehicles Thermal Management Systems”

Dr. Alaa El-Sharkawy

Global Manager & Technical Fellow
FIAT-Chrysler Automobiles (FCA) US LLC, USA

15:00 Lunch

End of Day 1 Activities - ICCTA 2022

DAY 2 - Sunday, December 18th, 2022

Venue: Farsi Hall – College of Engineering and Technology- AbuQir and *Online*

9:30 - 12:00

Session I Intelligent Computing I
<i>Chairs: Prof. Dr. Khaled Mahar and Prof. Dr. Mohamed Shaheen</i>
Cardiovascular Disease Prediction Using Modified Version of ResNet-50 Model Shaimaa Mahmoud, Mohamed Gaber, Gamal Farouk, and Arabi Keshk (Menoufia University, Egypt)
A Comparative Study of Different Transfer Learning Models for Classification of Urban Manhole States Md. Tanvir Ahmed, Md Risfat Amin, Fahim Ur Rahman, Mahedi Hasan Abeer, Nusrat Nabi, and Md. Sazzadur Ahamed (Daffodil International University, Bangladesh)
An Intelligent Framework based on CNN and Neutrosophic Technique for Detecting Code Smells and Ranking Code Ali Kanan, Nada Sherief, and Walid Abdelmoez (Arab Academy for Science, Technology and Maritime Transport, Egypt)
A Deep Learning-based Emotion Recognition System for Interactive E-Learning Anis Tawfik, Hoda Osama Elkhodary, Sherine Nagy Saleh (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Reinforcement-Learning Based Method for Accelerating Functional Coverage Closure of Traffic Light Controller Dynamic Digital Design Youstina M. Halim (Ain Shams University, Egypt), Khaled A. Ismail (GSI Helmholtz Center for Heavy-Ion Research GmbH, Germany), Mohamed A. Abd El Ghany (German University in Cairo, Egypt), Sameh A. Ibrahim, and Youssef M. Halim (Ain Shams University, Egypt)
An Ensemble Approach for Improving Short-term Electrical Load Forecasting Wesam Yehia Bakr, Mahmoud Hussein, and Ashraf Elsisy (Menoufia University, Egypt)
Novel framework for Detecting Multiple Sclerosis using Hybrid models Mostafa Elbaz, Sherouk Yassin, Sherief Magdy, Eman Elbadawy, Asmaa Mohamed, and Hitham elwahash (Kafrelsheikh University, Egypt)

Session I
Intelligent Computing I

Blur Detection and Deblurring in Covid-19 Chest X-rays Images using Generative Adversarial Networks

Shaheera Rashwan and Dina Abdelhafiz (City of Scientific Research and Technological Applications, Egypt)

Ear Recognition Using Ensemble of Deep Features and Machine Learning Classifiers

Bilal Attallah, Youcef Brik, and Cheyma Nadir (University Mohamed Boudiaf of M'Sila, Algeria)

Topic Modeling Methods for Document Retrieval

Ibrahim Reyad, Metwally Rashad, and Mohamed Abdelfatah (Benha University, Egypt)

12:00 Coffee Break

12:30- 13:00 Keynote Speech

“Government Improvement through Scientific Research and Innovation”

Prof. Dr. Ahmed Tantawy

Strategy Advisor and Former Scientist, Inventor, and Business Executive, USA

13:00 - 15:30

Session II
Intelligent Computing II

Chairs: Prof. Dr. Mohamed Kholief and Prof. Dr. Saleh Mesbah

Machine Learning Technique for Credit Card Fraud Detection

Mahmoud Ghanem (Alexandria University, Egypt), Saleh Mesbah Elkaffas (Arab Academy for Science, Technology and Maritime Transport, Egypt), and Magda Madbouly (Alexandria University, Egypt)

Session II Intelligent Computing II

Seven-week prediction for tuberculosis incidence in Valle del Cauca region

Ivan Camilo Sanchez-Vega (Universidad Antonio Nariño, Colombia), Alvaro David Orjuela-Cañon (Universidad del Rosario, Colombia), Carlos Enrique Awad Garcia (Subred Integrada de Servicios de Salud Centro Oriente E.S.E, Colombia), Erika Vergara (Universidad Antonio Nariño, Colombia), Maria Angelica Palencia (Subred Integrada de Servicios de Salud Centro Oriente E.S.E, Colombia) , and Andres L. Jutinico (Universidad Antonio Nariño, Colombia)

Local Vegetable Freshness Classification Using Transfer Learning Approaches

Tasmima Akter, Shafayet Mahamud, Mayesha Iqbal, Tamanna Akter Swarna, Nusrat Nabi, and Md. Sazzadur Ahamed (Daffodil International University, Bangladesh)

Framework for Suicide Detection from Arabic tweets using Deep Learning

Rowan Bassel souidi, Mohamed Saad Zaghloul, and Osama Mohamed Badawy (Arab Academy for Science, Technology and Maritime Transport, Egypt)

An Approach using Machine Learning to Determine Bangladeshi Jute Yield relying on Weather Patterns

Silvia Kh Shuversa, Abdullah Al Ryan, Shahriar Mamun, Nusrat Nabi, and Md. Sazzadur Ahamed (Daffodil International University, Bangladesh)

OnionBangla: A Supervised Machine Learning Approach for Predicting Onion Yield using Bangladeshi Climate Data

Lamia Binte Iqbal, Md. Mahfujur Rahman, Shahriar Mamun, Nusrat Nabi, and Md. Sazzadur Ahamed (Daffodil International University, Bangladesh)

Investigation of Local Interpretable Model-Agnostic Explanations (LIME) Framework with Multi-Dialect Arabic Text Sentiment Classification

Mohamed Salah Awadallah (Arab Academy for Science, Technology and Maritime Transport, Egypt), Francisco de Arriba-Perez, Enrique Costa-Montenegro (University of Vigo, Spain), Mohamed Kholief, and Nashwa El-Bendary (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Scheduling and Communication Schemes for Decentralized Federated Learning

Bahaa-Elden A. Abdelghany (Arab Academy for Science, Technology and Maritime Transport, Egypt), M. Fernández-Veiga, A. Fernández-Vilas (University of Vigo, Spain), Ammar M. Hassan, Waleed Abdel Moez, and Nashwa El-Bendary (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Session II
Intelligent Computing II

Deep Learning-based Framework for Automatic Diabetic Retinopathy Detection

Youcef Brik, Bilal Attallah, Ishaq Aiche, Hanine Lahmar, and Ziani Zohra (University Mohamed Boudiaf of M'Sila, Algeria)

Electroencephalography-based Brain-Computer Interfaces for Robots Control Using Deep Learning

Zeinab Said Wahba, Marwan Torki, Ayman Samy Abdel-Khalik, (Alexandria University, Egypt)

15:30 Lunch

End of Day 2 Activities - ICCTA 2022

DAY 3-Monday December 19th, 2022

Venue: Farsi Hall – College of Engineering and Technology- AbuQir and Online

9:30 - 12:00

Session III Mechatronics, Data Communications, and IoT
<i>Chairs: Prof. Dr. Moustafa Hussein and Prof. Dr. Ehab Badran</i>
<p>Kinematic Analysis of Constrained General Planner Mechanisms Using MATLAB GUI</p> <p>Marian William, Moutaz M. Hegaze (Arab Academy for Science, Technology and Maritime Transport, Egypt), Mohamed I. Abu El-Sebah (Electronics Research Institute, Egypt, and Yasser Elshaer (Arab Academy for Science, Technology and Maritime Transport, Egypt)</p>
<p>Downlink of Hybrid NOMA with OFDM System Using SIC Receiver</p> <p>Reham A. Ramadan, Ehab F. Badran, and Darwish AE. Mohamed (Arab Academy for Science, Technology and Maritime Transport, Egypt)</p>
<p>Sustainable Internet of Things (S-IoT) with 5G Smart Antennas for Smart Media Data Services</p> <p>Hegazi Ibrahim and Nesma Abd El-Mawla (Nile Higher Institute of Engineering and Technology, Egypt)</p>
<p>Near Field Communication for Mobile Application: Employees Tracking System</p> <p>Heba Gamal Badie (Pharos University, Egypt), Moustafa H. Aly (Arab Academy for Science, Technology and Maritime Transport, Egypt), Khadr Ayman Gamal, Mohamed Ashraf Hamisa, Abdallah Abdellsattar Bahnasy, and Amr Zakaria Khalil (Pharos University, Egypt)</p>
<p>3D Object Encryption Through a Disruptive Rotational Symmetry Transformation</p> <p>Wassim Alexan, Hana Younis, Marwa Ibrahim, Sara Alajmy, Mohamed Gabr, and Amr Aboshousha (German University in Cairo, Egypt)</p>
<p>Hybrid Genetic Algorithm-based Optimal Computed Torque Control of an Upper-Limb Exoskeleton (SAMA)</p> <p>Mohamed Sayed Abdelbar, Ibrahim Mohamed, I. Mohamed, and Moutaz M. Hegaze (Arab Academy for Science, Technology and Maritime Transport, Egypt)</p>

Session III
Mechatronics, Data Communications, and IoT

Design A Microstrip Bandpass Filter Antenna from 2 GHz to 4.7 GHz for Biomedical Applications

Sara Yehia Abdel Fatah (Chinese University, Egypt), F. Taher (Zayed University, UAE), Khaled Hassan Mohamadien (Arab Academy for Science, Technology and Maritime Transport, Egypt), Mohamed T. Haweel (Shaqra University, KSA), and Mohamed Fathy Abo Sree (Arab Academy for Science, Technology and Maritime Transport, Egypt)

A Smart Android Parking System

Mohamed Hassan, Mohamed Mourad, and Moataz Amer (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Sensitivity Voltage Analysis for Piezoelectric MEMS Gyroscope using Aluminum Nitride (AlN), Zinc Oxide (ZnO) and Barium titanate (BaTiO₃)

Sherif A. Ghamry (Arab Academy for Science, Technology and Maritime Transport, Egypt), Ahmed K. Mahmoud (Air Defense College, Egypt), Roshdy A. Abdelrassoul, and Iman Morsi (Arab Academy for Science, Technology and Maritime Transport, Egypt)

12:00 Coffee Break

12:30- 13:00 Keynote Speech

“Smart and Intelligent Farming: The Future of Agriculture”

Prof. Dr. Abdel Hamid Soliman

Professor of Signal Processing and Telecommunication
School of Digital, Technologies and Arts
Staffordshire University, UK.

Session IV Image Processing, HPC, and Information Systems
<i>Chairs: Prof. Dr. Ayman Abdel-Hamid and Prof. Dr. Waleed Abdel Moez</i>
Registerless Multiplierless YCoCg-R and YCoCg Color Space Converters Hardware Implementation Marwan A. Fetteha (Nile University, Egypt), Wafaa S. Sayed (Cairo University, Egypt), Lobna A. Said (Nile University, Egypt) , Salwa K. Abd-El-Hafiz (Cairo University, Egypt), Ahmed G. Radwan (Nile University, Egypt)
A Mixed Decision-Level Approach for Solving the Operating Room Scheduling Problem: A Case Study Amira Moustafa (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Employees' Perception of Electronic Human Resource Management (EHRM) Practices with Mediating Role of knowledge sharing Behaviour: Empirical Study of Egyptian private Universities Passant A. Ibrahim, Mohamed A. Ragheb (Arab Academy for Science, Technology and Maritime Transport, Egypt), Adel Zayed (Cairo University, Egypt), and Shimaa Farid (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Implementation on a Parallel Environment of Generalized/Modified Dodgson's Method for Rectangular Determinants Calculation Armend Salihu, Halil Snopçe, Jaumin Ajdari, and Artan Luma (South East European University, North Macedonia)
University-wide Implementation of Blended Learning through Systematic MOOC Integration Laila Shoukry and Mustafa Elnainay (Alamein International University, Egypt)
Interactive Bottleneck Detection in Data Driven Business Process Simulation in Healthcare: Egyptian Case Study Wessam Ahmed AlBakary, Ahmed Ahmed Hesham Sedky, and Walid Abdelmoez (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Digital Solutions for Resilient Pharmaceutical Supply Chains: Systematic Literature Review Ayten Elbeltagy, Noha M. Galal, and Khaled S. El-Kilany (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Session IV
Image Processing, HPC, and Information Systems

Towards an Embedding-based Semantic Similarity Measure designed for Mediation Caching

Ouafa Ajarroud and Ahmed Zellou (Mohamed V University, Morocco)

A Flexible Digital Twin Framework for Poultry Feed Industrial Factory

**Nehal Tarek (Menoufia University, Egypt), Nancy A. El-Hefnawy (Tanta University, Egypt),
Hatem Abdel-Kader, and Amira Abdelatey (Menoufia University, Egypt)**

End of ICCTA 2022 Activities

ICCTA 2022 Committees

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H. E. Prof. Dr. Ismail Abdel Ghafar Ismail Farag

President, Arab Academy for Science, Technology, and Maritime Transport (AASTMT), Egypt

Conference Chair

H. E. Prof. Dr. Yousry S. El-Gamal

Former Minister of Education

President, Computer Scientific Society

AASTMT Liaison

Prof. Dr. Alaa Abdel Bary

Vice President for Postgraduate Studies and Scientific Research, AASTMT

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Dr. Essam Kosba, AASTMT, Alex., Egypt.

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Prof. Dr. Mohamed Abougabal, Alexandria University, Egypt

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Prof. Dr. Ahmed Darwish, Cairo University, Former Minister of State for Administrative Development, Egypt

Prof. Dr. Abdel Badeeh Salem, Ain Shams University, Egypt

Prof. Dr. Ahmed Tantawy, International Strategy and Management Consultant, USA

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Head of Marketing Unit, Postgraduate Studies and Scientific Research, AASTMT

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