



31st International Conference on Computer Theory and Applications

ICCTA 2021

11-13 December 2021
Alexandria, Egypt

Conference Program



Day 1

Saturday December 11th, 2021

DAY 1 - Saturday, December 11th, 2021

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. Alaa Abdel Bary

Vice President for Postgraduate Studies and Scientific Research
Arab Academy for Science, Technology, and Maritime Transport

Prof. Dr. Maha Elsabrouty

IEEE Alexandria Subsection Chair
Egypt-Japan University of Science and Technology, Egypt

Prof. Dr. Eman Tharwat

Chair - Sector Committee of Computer Science and Informatics
Supreme Council of Universities, Egypt

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

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

H.E. Major-general Mohamed Taher Elsherief

Alexandria Governor

H.E. Prof. Dr. Yousry El Gamal

Former Minister of Education, Egypt
President, Computer Scientific Society

Keynote Speech

“Top Technology Trends”

H.E. Prof. Dr. Yousry El Gamal

12:30 Coffee Break

DAY 1 - Saturday, December 11th, 2021 (Cont'd)

13:00 Keynote Speech

“ICT Trend and Future”

Prof. Dr. Satoshi Goto

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

13:45 Keynote Speech

**“Collaboration of Cloud, Fog and Mist Computing for Real-time Applications:
Resource Allocation and Scheduling Challenges”**

Prof. Dr. Helen Karatza

Emeritus Professor, Department of Informatics
Aristotle University of Thessaloniki, Greece

14:30 Keynote Speech

“Artificial Intelligence Technology in Smart Health Informatics”

Prof. Dr. Abdel-Badeeh M. Salem

Emeritus Professor of Computer Science
Founder & Head of Artificial Intelligence and
Knowledge Engineering Research Labs

Faculty of Computer and Information Sciences
Ain Shams University, Cairo, Egypt

15:15 Keynote Speech

“Building an Ecosystem for Innovation that Matters”

Prof. Dr. Ahmed Tantawy

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

16:00 Lunch

End of Day 1 Activities - ICCTA 2021

Day 2

Sunday, December 12th, 2021

DAY 2 - Sunday, December 12th, 2021

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

9:30 - 12:00

Session I Computer Applications, Cybersecurity, and Software Engineering
<i>Chairs: Prof. Dr. Ayman Abdel-Hamid and Prof. Dr. Mohamed Kholief</i>
Accurate Prediction of Landing Loads for a New Design of a Wing-In-Ground Maritime Surveillance Drone – CFD Investigation Bradley Hunter (University of New South Wales, Australia), Ahmed Swidan (University of New South Wales, Australia and Arab Academy for Science, Technology and Maritime Transport, Egypt), Keith Joiner, and Georgina Hazenberg (University of New South Wales, Australia)
Chaotic Maps Based Video Encryption: A New Approach Wessam Salama (Pharos University, Egypt), and Moustafa Aly (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Novel Memristive Pseudorandom Bit Generator Ahmed Mohy El Den (Arab Academy for Science, Technology and Maritime Transport, Egypt), Karim Moussa (Horus University, Egypt), Islam Abd Ellattif Mohamed, and Roshdy Abdelrassoul (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Dropout Prediction System to Enhance Massive Open Online Courses Ahmed Nazif, Ahmed Sedky, and Osama Badawy (Arab Academy for Science, Technology and Maritime Transport, Egypt)
Exploring The Use Of Cognitive Tests To Predict Programming Performance: A Systematic Literature Review Ayman Farghaly and Passent El-Kafrawy (Nile University, Egypt)
Smart Glove for Translating Arabic Sign Language “SGTArSL” Amal Dweik, Hanaa Qasrawi, and Dana Shawar (Palestine Polytechnic University, Palestine)

Session I Computer Applications, Cybersecurity, and Software Engineering
<p>Design and Implementation of Mobile-based Application for Appointments Systems for Vaccinations in Medical Centers</p> <p>Mohammad M. Qabajeh, Shima Mousa, Hamam Abo Saleh, and Jamila Abo Hasan (Palestine Polytechnic University, Palestine)</p>
<p>Internet Banking Accessibility: The Social and Financial Exclusion of People with Visual Disability</p> <p>Ahmed Hassan, Rasha Abd El Aziz, and Meer Hamza (Arab Academy for Science, Technology and Maritime Transport, Egypt)</p>
<p>A Study of Children Engagement and Focus During Handwriting in VR with a Haptic Device</p> <p>Jezia Zakraoui, Somaya Al-Maadeed, Moutaz Salah, and Jihad AlJa'am (Qatar University, Qatar)</p>

12:00 Coffee Break

12:30- 13:30 Keynote Speech

“#Trending Hashtags”

Prof. Dr. Ahmed Darwish

Former Minister of State for Administrative Development, Egypt
Cairo University, Egypt

13:30 - 16:00

Session II Robotics, Mechatronics, and Internet of Things
<p>Chairs: Prof. Dr. Ossama Ismail and Prof. Dr. Hamdy Ashour</p>
<p>Sub-Optimal Configuration for Human and Robot in Co-Manipulation Tasks Based on Inverse Condition Number</p> <p>Abdel-Nasser Sharkawy (South Valley University, Egypt)</p>
<p>Laser Odometry for Agricultural Environment Based on Point Cloud Intensity and Covariance</p> <p>Haotian Qi, Pengfei Duan, Shengwu Xiong, and Yihua Lu (Wuhan University of Technology, China)</p>

Session II
Robotics, Mechatronics, and Internet of Things

Solving Kinematics of a Parallel Manipulator Using Artificial Neural Networks

Yasmin Khattab, Iham Zidane (Arab Academy for Science, Technology and Maritime Transport, Egypt), Mohamed El-Habrouk, and Sohair Rezeka (Alexandria University, Egypt)

Mechatronic Design and Path Planning Optimization for an Omni Wheeled Mobile Robot for Indoor Applications

Mostafa Massoud, Ahmed Ibrahim, and Mostafa Rostom (Arab Academy for Science, Technology and Maritime Transport, Egypt)

GreenAir: An IoT Field Testing System for Bio-Air Filtration

Grishma Doshi and Joseph Stevens (Murdoch University, UAE)

A Comparative Study of Different Electric Vehicle Motor Drive Systems under Regenerative Braking Operations

Mohamed Elsayed (Pharos University, Egypt), Osama Hebala, Mostafa Hamad, and Hamdy Ashour (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Modeling and Analysis of PMSM under Regenerative Braking Operations with Fault-Tolerant for EV/HEV Applications

Mohamed Elsayed (Pharos University, Egypt), Mostafa Hamad, and Hamdy Ashour (Arab Academy for Science, Technology and Maritime Transport, Egypt)

Random Vector Functional Link Networks for Load Forecasting Using Renewable Energy Generation

Sashank Sridhar and Sowmya Sanagavarapu (Anna University, India)

16:00 Lunch

End of Day 2 Activities - ICCTA 2021

Day 3

Monday, December 13th, 2021

DAY 3-Monday December 13th, 2021

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

9:30 - 12:00

Session III Intelligent Computing I
<i>Chairs: Prof. Dr. Osama Badawy and Prof. Dr. Khaled Mahar</i>
Material Fracture Life Prediction Under High Temperature Creep Conditions Using Support Vector Machines And Artificial Neural Networks Techniques Roberto Fernandez Martinez, Pello Jimbert (University of the Basque Country UPV/EHU, Spain), Lorena M. Callejo, and Jose Ignacio Barbero (Fundacion TECNALIA Research & Innovation, Spain)
A Practical Approach for Malware Identification based on Anti-Emulation Techniques and Feature to Image Translation Ingrid Georgiana Stoleru and Dragos Gavrilut (Alexandru Ioan Cuza University of Iasi, Romania)
Lung CT Image Segmentation: A Generalized Framework Based on U-Net Architecture and Preprocessing Models Wessam Salama (Pharos University, Egypt), and Moustafa Aly (Arab Academy for Science, Technology and Maritime Transport, Egypt)
SONDHAN: A Comparative Study of Two Proficiency Language Bangla-English on Question-Answer Using Attention Mechanism Nusrat Nabi, Sumiya Islam, Sakib Ahmad Siddiquee, Syed Rakib Al Hossain, Mumenuunessa Keya, Sharun Akter Khushbu, Md. Sazzadur Ahamed (Daffodil International University, Bangladesh)
Effort To Mitigate Malaria Via Early Detection Using Hybrid Machine Learning Architectures Md. Sabbir Ahmed, Rafeed Rahman, Zarif Raiyan Arefeen, Auninda Alam, and Marjan Tahreen (Brac University, Bangladesh)
Arabic Language Sentiment Analysis Using Feature Engineering and Deep Learning RNN-LSTM Framework Eman Allam, Magda Madbouly, and Shawkat Guirguis (Alexandria University, Egypt)

**Session III
Intelligent Computing I**

Anomaly Detection on Bitcoin, Ethereum Networks Using GPU-accelerated Machine Learning Methods

Youssef Elmougy (Georgia Institute of Technology, USA) and Oliver Manzi (Lulea University of Technology, Sweden)

Tuberculosis Detection from Chest Radiographs with Pre-trained Deep Learning Scheme: A Study

Seifedine Kadry (Noroff University College, Norway), Venkatesan Rajinikanth, A. Chandrasekar, and A. Nandhini (St. Joseph's College of Engineering, India)

Chest X-Ray Pneumonia Detection by Dense-Net

Israa Jassam (Alexandria University, Egypt), Saleh Elkaffas (Arab Academy for Science, Technology and Maritime Transport, Egypt), and Adel El-Zoghabi (Alexandria University, Egypt)

12:00 Coffee Break

12:30- 13:30 Keynote Speech

“Education 4.0 and Digital Transformation”

Prof. Dr. Abdel Hamid Soliman

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

Session IV Intelligent Computing II
<i>Chairs: Prof. Dr. Mohamed Taher Elsonni and Prof. Dr. Mohamed Shaheen</i>
Twitter Sentiment Analysis Using BERT Ayman Samir (Alexandria University, Egypt), Saleh Mesbah Elkaffas (Arab Academy for Science, Technology and Maritime Transport, Egypt), and Magda Madbouly (Alexandria University, Egypt)
Human Handover Classification using a Deep Learning Model Islam Monir, Nashwa El-Bendary, and Mohamed Waleed Fakh (Arab Academy for Science, Technology and Maritime Transport, Egypt)
A Comparative Study of DWT-HOG Based Face Recognition with Other Similar Techniques Ahmed Abdulateef Mohammed (University of Al-Mustansiriyah, Iraq) and Faiz Al-Alawy (Promoting Sustainable Change Inc., USA)
Supervised Models Enhancement using Unsupervised Transition in Mobile Network Mina Awad, Mahmoud Nour, Mina Kamel (Nile university, Egypt), Mostafa Essa (Vodafone, Egypt), and Nashwa Abdelbaki (Nile university, Egypt)
Automatic Detection of Breast Cancer in Thermal Images using Optimal Handcrafted Features Seifedine Kadry (Noroff University College, Norway), Venkatesan Rajinikanth, Susmitha Dasari, and T. Suvathi (St. Joseph's College of Engineering, India)
Detection of Diabetic Macular Edema in Retinal OCT Images with Firefly-Algorithm Selected Features Seifedine Kadry (Noroff University College, Norway), Venkatesan Rajinikanth, Jiny Mariam Jerry, and R. Carolin Gifta (St. Joseph's College of Engineering, India)
Obstacles Avoidance of Self-driving Vehicle using Deep Reinforcement Learning Mahmoud Osama Radwan, Ahmed Sedky, and Khaled Mahar (Arab Academy for Science, Technology and Maritime Transport, Egypt)

**Session IV
Intelligent Computing II**

A Robust Deep Learning based Prediction System of Heart Disease using a Combination of Five Datasets

Ritu Biswas (Daffodil International University, Bangladesh), Abhijith Reddy Beeravolu, Asif Karim, Sami Azam (Charles Darwin University, Australia), Md. Tanvir Hasan, Md. Soriful Alam (Daffodil International University, Bangladesh), and Pronab Ghosh (Lakehead University, Canada)

Supervised and Unsupervised Methods in Depth Estimation

Tarek Barhoum (Arab International University, Syria) and Balsam Eid (Arab Academy for Science, Technology and Maritime Transport, Syria)

End of ICCTA 2021 Activities

ICCTA 2021 Committees

Honorary Chair

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

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Vice President for Postgraduate Studies and Scientific Research, AASTMT

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