

# **ICENCO 2019**

**2019 15<sup>th</sup> International Computer  
Engineering Conference**

**Computer Engineering Department  
Faculty of Engineering  
Cairo University  
Cairo, EGYPT**

**"Utilizing Machine Intelligence for a Better World"**

**December 29-30, 2019**

**IEEE CATALOG NUMBER: CFP1932N-CDR**

**ISBN: 978-1-7281-5145-8**

# Conference Information

## Conference Organizing Committee

### Conference Chair

Prof. Samir I. Shaheen

### Conference Co-Chair

Prof. Hoda Baraka

### Technical Program Chairs

Prof. Amir F. Atiya (Egypt)

Dr. Mohamed Zahran (USA)

### Publicity Chair

Prof. Amr Wassal

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Prof. Magda B. Fayek

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### Web Site Administrator

Eng. Mohamed Ezz

Eng. Ali Abdellatif Elsideek

### Organizing Committee

Faculty and Graduate and Research Students

Department of Computer Engineering

Faculty of Engineering

Cairo University

### Conference Venue

Four Seasons Hotel First Residence

Faculty of Engineering Cairo University

### Conference Website

<http://www.icenco2019.eng.cu.edu.eg/>

## The Conference Venue

### First Day:

The conference will be held at the Four Seasons Hotel (First Residence Giza). It is located at 35 Charles De Gaulle Street (Previously Mourad Street). If you are taking a taxi, mention "Four Seasons El Giza, across Giza Zoo.

### Second Day:

The conference will be held at the Computer Engineering Department Faculty of Engineering, Cairo University, You may phone +2-01222166568 or 02 35678981

Both Venues are shown in the map below



# Conference in a Glance

Sunday, December 29<sup>th</sup> 2019

At Four Seasons Hotel-(First Residence), Giza, Egypt.

08:30-08:50 am	Registration
8:50-09:00 am	Soft Opening Prof. Samir Shaheen, ICENCO Chair and Past-Dean Faculty of Engineering, Cairo University
09:00-11:00 am	Session 1 Communication
11:00: 11:15 am	Coffee Break
11:15 am-01:00 pm	Session 2 Security / Artificial Intelligence
01:00-02:00 pm	Lunch Break
02:00-4:00 pm	Session 3 P. Recog. / Architecture
4:00:4:15 pm	Coffee Break
04:15-05:45 pm	Session 4 Networks
06:30–09:30 pm	Official Opening, Conf. Banquet and Honoring of Class 2009 <b>Talk entitled:</b> Ancient Egypt GEHAN DARWISH Egyptologist, Trainer, Lecturer, Qualified tour guide. Presently chair & CEO of Westside for touristic investment

Monday, December 30<sup>th</sup> 2019

Sessions: At Faculty of Engineering, Cairo University, Giza  
(Building 3000, Sessions Fifth Floor, Conference Room)

09:00-09:10 am	Registration Seventh Floor
09:15-11:15 am	Session 5 Control
11:15-11:30 am	Coffee break
11:30 am-1:15 pm	Session 6 Artificial Intelligence
1:15- 02:00 pm	Lunch
02:00-3:30 pm	Session 7 + Closing Algorithms / Applications



## Conference Program

<b>Date</b>	<b>Sunday 29, December 2019</b>
<b>Location</b>	<b>Four Seasons Hotel -First Residence, Giza</b>

**Registration (08:30 am – 08:50 am)**

**Soft Opening (08:50 am – 09:00 am)**

*Prof. Samir Shaheen Past-Dean Faculty of Engineering, Cairo University  
Conference Chair*

### Session 1: Communication

*(09:00 am – 11:00 am)*

*Moderators: Prof. Mohamed Abu El Dahab Communication Dept., AAST  
Prof. Tamer El Batt Electronics and Communication Dept. CUFE*

N0	Code	Paper Title/authors
1	77	<i>Optimal Function Split via Joint Optimization of Power Consumption and Bandwidth in V-RAN</i> Haitham H. Mahmoud, Tawfik Ismail, M. Saeed Darweesh
2	42	<i>Implementation of Multi-Channel Energy Detection Spectrum Sensing Technique in Cognitive Radio Networks Using LabVIEW on USRP-2942R</i> Rhana M. Elshishtawy, Adly S. Tag Eldien, Mostafa M. Fouda, Ahmed H. Eldeibk4
3	55	<i>Connected Users Localization in LTE Networks</i> Nasralden Ismail, Yasmine Fahmy, Mohamed Khairy
4	102	<i>Distance Threshold Viterbi Decoding of Reed-Muller codes</i> Ashraf Mahran, Ramy Samy
5	14	<i>Distance Threshold Viterbi Decoding of Convolutional Codes</i> Ashraf Mahran, Ramy Samy
6	38	<i>A Modified-Matched Filter for Square Length Polyphase Codes For One Sample per Pase Code</i> Ahmed Azouz
7	39	<i>A Modified Matched Filter for Square Length Polyphase Codes for k Samples per Phase Code</i> Ahmed Azouz
8	66	<i>Improving Golay Error Detection and Correction Code Using Density-based Clustering Algorithm</i> Sara Salama, Hatem Abdel-Kader, Rashed Salem

**Coffee Break (11:00: 11:15 am)**

### Session 2: Security / Artificial Intelligence

*(11:15 am– 01:00 pm)*

*Moderators: Prof. Samir Shaheen x-Dean Faculty of Engineering, Cairo Uni.  
Prof. Mohamed Zaki x-Chair Computer Engineering Dept., Azhar Uni.*

N0	Code	Paper Title/authors
1	62	<i>ECU Fingerprinting through Parametric Signal Modeling and Artificial Neural Networks for In-vehicle Security against Spoofing Attacks</i> Azeem Hafeez, Kenneth Topolovec, Selim Awad
2	30	<i>Ultra Low-Power Encryption/Decryption Core for Lightweight IoT Applications</i> Ahmed Zaky, Eslam Elmitwalli, Mostafa Hemed, Yehea Ismail, Khaled Salah
3	45	<i>Identification of Threats and Vulnerabilities in Public Cloud-Based Apache Hadoop Distributed File System</i> Omar Hussein
4	75	<i>A Proposed Impregnable 256-Bit Hash Producer</i> Omar Hussein
5	80	<i>A Hybrid System for Securing Data Communication</i> Reem M. Mostafa, Marghny H. Mohamed, Adel A. Sewsey
6	100	<i>Network Intrusion Detection, Literature Review and Some Techniques Comparison</i> Mostafa Nassar, Nirmeen A. El-bahnasawy, Fathi E. Abd El-Samie, Adel Salib, Hossam, ELdien
7	87	<i>Machine Learning Based Approach for Photovoltaic Panels Cleanliness Detection</i> Walid A. Hanafy, Alfredo Pina, Sameh A. Salem

***Lunch Break***  
*(1:00 pm – 2:00 pm)*

<b>Session 3: Pattern Recognition / Architecture</b> (2:00 pm – 4:00 pm)		
<b>Moderators: Prof. Amir Atiya x–Director Scientific Computation Centre, Cairo Uni Prof. Amr Wassal Computer Engineering Department , Cairo Uni</b>		
<b>N0</b>	<b>Code</b>	<b>Paper Title/authors</b>
1	12	<b><i>The Black-White Pixels Ratio Analysed in Medial Temporal Lobe Brain Structure in Digitized B-Images as a Feature of Alzheimer’s Disease Detect on: A Reproducibility Assessment</i></b> Jiri Blahuta,Tomas Soukup,Lukas Pavlik
2	40	<b><i>A Bluetooth Location Method Based on kNN Algorithm</i></b> Songmei Wang,Ruili Ma,Yanshuang Li
3	60	<b><i>Adaptive speech compression and decompression for communications</i></b> Frank Raffaeli,Dr. Selim Awad
4	43	<b><i>FPGA-based Floating Point Fractional Order Image Edge Detection</i></b> Omar H. Moustafa1,Samar M. Ismail
5	56	<b><i>A Novel Sigmoid Function Approximation Suitable For Neural Networks on FPGA</i></b> Peter W. Zaki,Ahmed M. Hashem Emad A. Fahim,Mostafa A. Masnour,Sarah M. ElGenk,Maggie Mashaly,Samar M. Ismail
6	35	<b><i>A Modified Finger Vein Identification Approach based on Niching Genetic Algorithms</i></b> Ahmed H Alhadethy,Saad Darwish
7	25	<b><i>A Multiple Classifiers System For Automatic Multimodal Brain Tumor Segmentation</i></b> Moumen T. El-Melegy,Khaled M. Abo El-Magd
<b>Coffee break</b> (4:00 – 4:15 pm)		

<b>Session 4: Networks</b> (04:15 pm – 5:45 pm)		
<b>Moderators: Prof. Hoda Baraka Chair Computer Engineering Dept. , Cairo Uni. Prof. Omar Karam Dean of Informatics&amp; Computer Science, BUC</b>		
<b>N0</b>	<b>Code</b>	<b>Paper Title/authors</b>
1	63	<b><i>Performance Analysis of Optical Switches and Rack Placement in Mesh and Ring Topology in Data Center Network</i></b> Amerul Bin Rosle,Tan Saw Chin,Won Ding Shen
2	84	<b><i>Future Direction of Traffic Classification in SDN from Current Patents Point-of-view</i></b> Fatimah AudahRizaluddin Kapsin,Nazaruddin OmarAhmad Tajuddin
3	86	<b><i>Smart Power System for IoT-Based Smart Agriculture Applications</i></b> Shahenaz S. Abou Emira,Khaled Y. Youssef,Mohamed Abouelatta



4	88	<i>An IoT-based Energy Efficient System for Industrial Sector</i> Nesma N. Gomaa,Khaled Y. Youssef,Mohamed Abouelatta
5	59	<i>Enhanced ANDSF WiFi Discovery Mechanism Using Machine Learning for Mobile Data Offloading</i> A. M. Alagrami,Mahmoud M. Elmesalawy,Ahmed M. Abd El-Haleem
6	47	<i>An Energy-Aware Clustering/Routing Algorithm for Wireless Sensor Networks</i> Nilly Elsaka,Nada El-Shennawy,Mahmoud M. Fahmy

Official Opening, Conf. Banquet and Honoring of Class 2009

**Talk entitled:**

**Ancient Egypt**

**GEHAN DARWISH**

**Egyptologist, Trainer, Lecturer, Qualified tour guide.**

**Presently: chair & CEO of Westside for touristic investment**

## Conference Program (cont.)

<b>Date</b>	<b>Monday 30, December 2019</b>
<b>Location</b>	<b>Computer Engineering Dept. Cairo University, Giza</b>

<b>Registration (09:00 – 09:15 am) seventh Floor, 7th floor, Sessions 5th floor</b>		
<b><i>Session 5: Control</i></b> <i>(9:15– 11:15 am)</i>		
<i>Moderators:</i>		
N0	Code	Paper Title/authors
1	52	<b><i>Identification and Temperature Control for Thermal Model of a House Based on Model Predictive Control Tuned by Cuckoo Search Algorithm</i></b> Mohamed El-Sayed M. Essa
2	83	<b><i>Robust PID Flight Controller for Ultrastick-25e UAV</i></b> Eslam Nabil Mobarez, Amr Sarhan, Mahmoud Mohamed Ashry
3	37	<b><i>Optimal Control of Lane Keeping System Using Simulated Annealing and Linear Quadratic Regulator</i></b> Marihan M. Sherif, Ahmed M. Ahmed, Ahmed M. Moustafa, Mohammed Moness
6	50	<b><i>Experimental Benchmarking of PID Empirical and Heuristic Tuning for Networked Control of Double- tank System</i></b> Al-Shaimaa A. Younis, Ahmed M. Moustafa, Mohammed Moness
7	82	<b><i>Fractional order PID Based on a Single Artificial Neural Network Algorithm for Fixed wing UAVs</i></b> Eslam Nabil Mobarez, Amr Sarhan, Mahmoud Mohamed Ashry
<b><i>Coffee Break</i></b> <i>(11:15 – 11:30)</i>		

## ***Session 6: Artificial Intelligence***

*(11:30 – 1:15)*

***Moderators: Prof. Nevin Darwish x-Chair Computer Engineering Department***

<b>N0</b>	<b>Code</b>	<b>Paper Title/authors</b>
1	16	<b><i>WEB2ONTO: Automatic Ontology Construction Approach from Web pages</i></b> Naglaa Elmesalmy,Mayada Hadhouda,Magda Fayek
2	44	<b><i>Facial Age Estimation Based on Deep Learning: A Survey</i></b> Marwa Mahmoud Badr,Amany Mahmoud Sarhan,Reda M. Elbasiony
3	95	<b><i>Integrating expert system with a full-text search to solve growers problems</i></b> Abdelrahman Elsayed,Maryam Hazman,Susan F. Ellakwa
4	33	<b><i>Deep Convolutional Arabic Sentiment Analysis With Imbalanced Data</i></b> Eslam Omara,Mervat Mosa,Nabil Ismail
5	34	<b><i>Emotion Analysis in Arabic Language Applying Transfer Learning</i></b> Eslam Omara,Mervat Mosa,Nabil Ismail
6	67	<b><i>Machine Learning Algorithms for Breast Cancer CADx System in the Mammography</i></b> Nesma El-Sokkary,A. A. Arafa,Ahmed H. Asad,Hesham A. Hefny
<b><i>Lunch Break</i></b> <i>(01:15 – 02:00)</i>		

Session 7: **Algorithms / Applications**

(02:00 pm – 3:30 pm)

**Moderator: Dr. Ahmed Kasseb Computer Engineering Department, Cairo Uni**

<b>N0</b>	<b>Code</b>	<b>Paper Title/authors</b>
1	65	<b><i>Hashing For Improving Golay Code Clustering Algorithm</i></b> Sara Salama,Hatem Abdel-Kader,Rashed Salem
2	54	<b><i>A Critical Review of the Usage of Agile Methodologies in Big Data Projects</i></b> Heba ElDesouky,Dr. Mohammad El-Ramly
3	48	<b><i>EDAS: A New Energy with Target Deadline Aware Scheduling for Real Workflows in DVFS Cloud Enviroment</i></b> Hadeer A. Hassan,Sameh A. Salem,E. M. Saad
4	57	<b><i>Enhancing CREeLS the Crowdsourcing based Requirements Elicitation approach for eLearning Systems Using Bi-Gram Evaluation</i></b> Nancy M. Rizk,Eman S. Nasr,Mervat H. Gheith
5	51	<b><i>Remote Fault Diagnosis for Testing Digital Circuits through Internet of Things in Industrial Applications</i></b> Ahmed Mosad Mohamed,Mohamed H. El-Mahlawy
6	46	<b><i>High Gain Low Cost Vivaldi Antenna Design Using Double Slits and Triangle Metallic Strip for WiFi Applications</i></b> Ahmed S. I. Amar,Alla M. Eid,Amgad A. Salama
		<b>Closing Session</b>