

International Arab Conference on Information Technology



December 22-24, 2017

Yasmine Hammamet, TUNISIA

SCIENTIFIC PROGRAM

- **ACIT'2017 Schedule**
- **Plenary Sessions**
- **Oral Sessions**

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PREFACE

The 18th International Arab Conference on Information Technology (ACIT'2017) is a refereed scientific conference that will act as a forum for scientists, engineers, and practitioners to present their latest research, results, ideas, developments, and applications in all areas of information technology. ACIT'2017 will be held at Yasmine Hammamet, Tunisia.

ACIT'2017 will include presentations to contributed papers and state-of-the-art lectures by invited keynote speakers. Panel sessions on current issues related to information technology will be organized. . In this edition, a number of 48 papers will be presented. This conference is considered the official scientific conference for the Colleges of Computer and Information Society (CCIS), stemming from the Association of Arab Universities. The permanent base of the General Secretariat of ACIT is hosted by Zarqa University, Jordan.

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ACIT 2017 Schedule

Friday 22-Dec-2017			Saturday 23-Dec-2017			Sunday 24-Dec-2017				
Time			Time			Time		Time		
08:00			08:00			08:00		08:00		
08:30			08:30			08:30	Social Event	08:30		
09:00	ACIT Registration Desk Open (08:00-17:00)	ACIT Opening Ceremony Room: Sidi Bousaid	09:00	Registration Desk Open (08:00-13:00)	Plenary Session Room: Sidi Bousaid	09:00	Visit to Makthar, Kesra, Djbel Serj (Lunch) and Kairouan	09:00		
09:30			09:30			09:30				
10:00		Cofee Break	10:00		Cofee Break	10:00		Departure From Hotel: 08:00 AM	10:00	
10:30			10:30		Oral session	10:30		Back to Hotel: 18:00 PM	10:30	
11:00		Plenary session Room: Sidi Bousaid	11:00		Room 1	Room 2		Room 3	11:00	11:00
11:30			11:30		Pattern recognition	Arabic Language Processing		Information Technology	11:30	11:30
12:00			12:00						12:00	12:00
12:30		Lunch Break	12:30						12:30	12:30
13:00			13:00		Lunch Break				13:00	13:00
13:30			13:30						13:30	13:30
14:00		14:00	Oral session			14:00	14:00			
14:30	Room 1	Room 2	Room 3	14:30	Room 1	Room 2	Room 3	14:30		
15:00	Pattern recognition	Arabic Language Processing	Internet of Things	15:00	Wireless Networks	Information Technology		15:00		
15:30		15:30	Cofee Break	15:30	Cofee Break		15:30	15:30		
16:00		16:00				16:00	16:00			
16:30	Executive Meeting (2015-2017) Room: Kairouan	16:30				16:30	16:30			
17:00		17:00	Steering Committee Meeting Room: Sousse			17:00	17:00			
17:30	Deans Meeting Room: Kairouan	17:30				17:30	17:30			
18:00		18:00				18:00	18:00			
18:30		18:30				18:30	18:30			
19:00	Dinner	19:00	Dinner			19:00	19:00			
19:30		19:30				19:30	19:30			
20:00		20:00				20:00	20:00			
20:30		20:30	Awards and closing ceremony Room: Sidi Bousaid			20:30	20:30			
21:00		21:00				21:00	21:00			

Room 1 Amilkar

Room 2 Sousse

Room 3 Kairouan

Instructions for presenters

The oral presentations will take place in the room specified for the assigned session. The presenter is responsible for being present with reasonable time in advance. The rooms are equipped with a projector with standard VGA interface (remember to bring an adapter if your laptop doesn't have a VGA port). The duration of talks is of 15 minutes plus 5 minutes of questions and discussions. Given the tight conference schedule, the total time of 20 minutes for each slot shall not be exceeded. The speakers and the session chairs cooperate to make the conference program progress as planned.

Friday, 22 December 2017

Plenary Session (11:00-12:00)

- **Speaker:** Mohamed Adel Alimi
- **Title:** How Hybrid Intelligent Approaches can help for Mining Big Data Streams in Smart Cities
- **Chair:** Mohammed Hassan
- **Co-Chair:** Mohammad Al-Haj Hassan
- **Room:** Sidi Bousaid

Abstract:

Smart City initiatives aim at tackling the ever-increasing problems caused by rapid population growth in urban areas. Big Data are typically produced in different sectors of the above smart cities, often geographically distributed throughout the world, and are characterized by a large size and variety.

Big Data is not just about storage of and access to data. Therefore, there is a strong need for such Big Data streams analytics. Big Data analytics is considered as an imperative aspect to be further improved in order to increase the operating margin of both public and private enterprises, and represents the next frontier for their innovation, competition, and productivity. Analytics play a big role in making sense of that data and exploiting its value. But learning from big data has become a significant challenge and requires development of new types of algorithms.

Most machine learning algorithms can't easily scale up to big data. Plus there are challenges of high-dimensionality, velocity and variety.

The talk highlights newly developed technologies allowing for the design of next generation smart systems. These enabling technologies represent the core of the Smart City concept and have become available thanks to spectacular advances made in the fields of machine intelligence, smart devices, sensor networks, big data analytics and Internet of things.

The talk also outlines recent achievements and promising directions in the field, while highlighting challenges toward achieving short and long-term goals of building more livable and more sustainable cities of the future.

Oral Session (14:00-15:30)

- **Session 1:** Pattern Recognition
- **Chair:** Oussema Mohammed Badaoui
- **Co-Chair:** Hamed Al-Fawareh
- **Room:** Amilkar

ID	Authors & Paper title
176	Nawaf Alrehin and Bilal Abul-Huda A General Structure for the Approaches used in the Human Action and Activity Recognition from Video
202	Ahmad al-qarem, khairi blaou and Mouhammd Al-awadi Efficient EEG Classification using Differential Evolution of multi-level DWT
217	Mohammed Alweshah, Mohammed Ababneh and Almahdi Alshareef Multi-Gene Genetic Programming for predict rainfall data
208	Ahlem Youssef and Sami Gazzah Multi-camera 3D modeling of a human body using the shape from silhouettes technique
166	Ramzi Zouari, Houcine Boubaker and Monji Kherallah RNN-LSTM based Beta-elliptic model for Online handwriting script identification

- **Session 2:** Arabic Language Processing
- **Chair:** Osama Badawy
- **Co-chair:** Bassam Hammo
- **Room:** Sousse

ID	Authors & Paper title
160	Mariam Biltawi, Arafat Awajan and Sara Tedmori Towards Building a Frame-Based Ontology for the Arabic Language
162	Duaa Abdelrazaq, Saleh Abu-Soud and Arafat Awajan Distinguishing Nominal and Verbal Arabic Sentences: A Machine Learning Approach
163	Raghda Hraiz, Mariam Khader, Arafat Awajan and Akram Alkous Semantic Elements Extraction based on Syntactic Structure of Arabic Sentences
167	Yaser Al-Lahham, Khawlah Matarneh and Mohammad Hasan Conditional Arabic Light Stemmer: CondLight
190	Mahmoud Al-Ayoub, Amal Gigieh, Areej Al-Qwaqenah, Mohammed Al-Kabi and Bashar Talafhah Aspect-Based Sentiment Analysis of Arabic Laptop Reviews
187	Kawther Rouini, Khawla jayech and Mohamed Ali Mahjoub Off-line Arabic Handwriting Recognition using Dynamic Random Forests

- **Session 3:** Internet of Things
- **Chair:** Ahmad Dalal'ah
- **Co-Chair:** Badie Sartawi
- **Room:** Kairouan

ID	Authors & Paper title
139	Adnan Shaout and Spencer Scott IoT Fuzzy Logic Aquaponics Monitoring and Control Hardware Real-Time System
152	Marwa Meissa, Saber BENHARZALLAH and Laid KAHLOUL Service composition based on the social relations in the Internet of things
148	Idir AOUDIA, Saber BENHARZALLAH, Laid KAHLOUL and Okba KAZAR A comparative analysis of IoT service composition approaches
147	Farida Retima, Saber Benharzallah, Laid Kahloul and Okba Kazar A quality-aware context information selection based fuzzy logic in IoT environment
189	Firas Albalas, Majd Al-Soud and Omar Almomani Secure and Energy-effective CoAP Application Layer Protocol for the Internet of Things

140	Adnan Shaout and Brennan Crispin Real Time Hardware System for Synchronizing IoT Device State using the MQTT Protocol
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Saturday, 23 December 2017

Plenary Session (09:00-10:00)

- **Speaker:** Najiba Tagougui
- **Title:** Deep Neural Network
- **Chair:** Hassan Mahmoud Noura
- **Co-Chair:** Ahmed Alqerem
- **Room:** Sidi Bousaid

Abstract:

Deep Learning is the new trendy area of Machine Learning research. It is attracting a lot of attentions nowadays since it leads to obtaining many exciting results within a wide range of applications (healthcare, autonomous driving, image, speech and video recognition and natural language processing). This tremendous growth in its popularity and usefulness was largely thanks to more powerful computers, larger datasets and techniques to train deeper networks.

The focus of the talk is on understanding some of the core principles and fundamentals behind deep neural networks and how applying them can guarantee accurate results. We will highlight perspectives of the field since the years ahead are full of challenges and opportunities to improve deep learning even further and to bring it to new frontier

Oral Session (10:30-12:00)

- **Session 4:** Pattern Recognition
- **Chair :** Belaid Bouikhalene
- **Co-Chair:** Adnan Shaout
- **Room:** Amilkar

ID	Authors & Paper title
183	Walid ELHEDDA, Maroua Mehri and Mohamed Ali Mahjoub A Comparative Study of Filtering Approaches Applied to Color Archival Document Images
210	Sami GAZZAH and Najoua Essoukri Ben Amara Vehicle Re-identification in Camera Networks: A Review and new Perspectives
211	Amari Dakhli and Sami GAZZAH Tracking of multiple objects based on the histogram of oriented gradients for pedestrian detection
157	Fatima Zahra Torki, Laid Kahloul, Saber Benharzallah and Leila Belaiche Reconfigurable Manufacturing Systems (RMSs): A literature review on the use of genetic algorithms for RMSs
207	Nouha Khediri, Mohamed Ben Ammar and Monji Kherallah Towards an online Emotional Recognition System for Intelligent Tutoring Environment

214	Sirine Ammar, Nizar Zaghden and Mahmoud Neji Comparison of Supervised Learning Algorithms for Face Categorizing
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- **Session 5:** Arabic Language Processing
- **Chair:** Bassam Hammo
- **Co-Chair:** Osama Badawy
- **Room:** Sousse

ID	Authors & Paper title
193	Nour Alhuda Damer, Al-Ayyoub Al-Ayyoub and Ismail Hmeidi Automatically Determining Correct Application of Basic Quranic Recitation Rules
165	Mohamed Elleuch and Monji Kherallah Enhancement of Deep Architecture using Dropout / DropConnect Techniques Applied for AHRSystem
181	Cherifa BEN KHELIL, Chiraz Ben Othmane Zribi, Denys Duchier and Yannick Parmentier A new syntactic-semantic interface for ArabTAG an Arabic Tree Adjoining grammar
192	Imane Lahbari, Said El Alaoui Ouatik and Khalid Alaoui Zidani Arabic Question Classification using Machine Learning Approaches
175	Thabit Sabbah, Mosab Ayyash and Mahmood Ashraf Support Vector Machine based Feature Selection Method for Text Classification
188	Ibtissem HajAli and Mohamed Ali Mahjoub Random Forests for the Recognition of Handwritten Arabic Mathematical Symbols
180	Anis Mezghani, Abdessamad Malaoui and Monji Kherallah Recognizing handwritten Arabic words using optimized character shape models and new features

- **Session 6:** Information Technology
- **Chair:** Rebhi Barakeh
- **Co-Chair:** Emad Abuelrub
- **Room:** Kairouan

ID	Authors & Paper title
154	Azmi Shawkat Abdulbaqi and Eman B. Haddad Robust Multichannel EEG Signals Compression Model based on Hybridization Technique
146	Malek Al-Zewairi, Salam Hamdan and Mustafa Al Fayoumi Enhanced Multi-keyed Risk Adaptive Hybrid RFID Access Control System
199	Fahd Ouatik, Mustapha Raoufi, Belaid Bouikhalene and Skouri Mohammed Smart Real-Time RC Circuit Remote Laboratory Architecture
182	Nour Eldin Elshaiekh, Yasir Ali Ahmed Hassan, Amna Abdelrouf Alhassan Abdallah The Impacts of Remote working Activities on Workers Performance
197	Issam Jebreen and Ahmad Al-Qerem Critical Proficiencies for Requirements Analysts: Reflect a Real-world needs
164	Nevrus Kaja, Adnan Shaout and Di Ma A Two Stage Intrusion Detection Intelligent System

168	Ammar Almomani, Mohammad Alauthman, Mohammed Al-Betar and Ahmad Manasrah A proposed framework for Botnet Spam-email Filtering using Neucube
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Oral Session (14:00-15:30)

Session 7: Wireless Networks - -

Chair: Bilal Abul-Huda

- **Co-Chair:** Mohammed Ababneh

- **Room:** Amilkar

ID	Authors & Paper title
173	Ghassan Samara and Mohammad Hamad AbdElazeez Aware-Routing Protocol using Best First Search Algorithm In Wireless Sensor Network
156	Manel Houimli and Laid Kahloul Formal Verification of Collision Free Mobility Adaptive Protocol for Wireless Sensor Networks
144	Jilali ANTARI, Mustapha BOUKRIM and Abdessamad MALAOUI Applying an Algorithm on GSM Model Using PSK constellations
172	Ghassan Samara An Intelligent Routing Protocol in VANET
194	Ibrahim Fadul and Yasir Abdelgadir Authentication Enhancement Using Mobile-Based Application
203	Amer Abu Salem and Noor Shudaifat Enhanced LEACH Protocol for Wireless Sensor Networks
212	Amina Gharsallah, Faouzi Zarai and Mahmoud Neji A Seamless Handover Algorithm for V2X Communications

- **Session 8:** Information Technology

- **Chair:** Thiab Taha

- **Co-Chair:** Osama Badawy

- **Room:** Sousse

ID	Authors & Paper title
174	Alaa El-Halees and Emad Kehail Integrate Database Design Techniques with Agile Applications
145	Salih Sami and Murtadha M. Hamad Discover and Eliminate the Duplicate Records from Data Warehouse by Q-gram and Statistical Methods
195	Mohammed Maina Modu and Maigana Bakawu Evaluation of health management information system in some selected area of Yobe state
169	Sirine Touati, Safa Bhar Layeb and Joughaina Siala Chaouachi Management of Construction and Maintenance Projects in Tunisian Public Sector : Brief comparison Tools and Suggestions For Future Frameworks
170	Mohamed EL MOHADAB, Belaid BOUIKHALENE and Said SAFI Impact of enterprise resource planning systems On Scientific Research System in Public University
198	Fahd Ouatik, Mustapha Raoufi, Belaid Bouikhalene and Skouri Mohammed Decision Making System for Remote Laboratory using Data Mining Algorithm

215	Marwa Ben Salah, Ameni Yengui and Mahmoud Neji Construction of OTunAr : ontology of Tunisian Archeology
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Awards and Closing Ceremony (20:00-21:00)

Sunday, 24 December 2017

Social Event: Visit to Makthar, Kesra, Djbel Serj and Kairouan