International Arab Conference on Information Technology

December 22-24, 2017
Yassmine 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 Yassmine 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.

ORGANIZING COMMITTEE

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Zarqa University - Jordan

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- Omar Laabidi, FIRST Association

Local Arrangement Co-Chairs:
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- Raouia Mokni, University of Sfax, Tunisia
- Zouhaira Noubgh, Sousse University, Tunisia

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- Abderrazak Jarraya, FIRST Association

Communication Chair:
- Ahmed Ben Arab, University of Sfax, Tunisia

Communication Co-Chair:
- Mohamed Amine Bousaada, University of Sfax, Tunisia

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Aysh Alhroob, Al-Isra University, Jordan

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Belaid Bouikhalene, Sultan Moulay Slimane University, Morocco
Adnan Shaout, University of Michigan-Dearborn, USA
Ahmad Dalal'ah, University of Hail, KSA
Badie Sartawi, Al-Quds University, Palestine
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<td>08:30</td>
<td>ACIT Opening Ceremony Room:Sidi Bousaid</td>
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<tr>
<td>09:00</td>
<td>Cofee Break</td>
<td>Coffee Break</td>
<td>Visit to Makthar, Kesra, Djbel Serj (Lunch) and Kairouan</td>
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<td>10:00</td>
<td>Plenary session Room:Sidi Bousaid</td>
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<td>Departure From Hotel: 08:00 AM</td>
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<td>10:30</td>
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<td>Back to Hotel: 18:00 PM</td>
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<td>11:00</td>
<td>Lunch Break</td>
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**Room Assignment:**
- Room 1: Amilkar
- Room 2: Sousse
- Room 3: Kairouan

**Additional Events:**
- ACIT Registration Desk Open (08:00-17:00)
- ACIT Registration Desk Open (08:00-13:00)
- Plenary Session Room: Sidi Bousaid
- Deans Meeting Room: Kairouan
- Dinner
- Awards and closing ceremony Room: Sidi Bousaid

**Social Event:**
- Visit to Makthar, Kesra, Djbel Serj (Lunch) and Kairouan
- Departure From Hotel: 08:00 AM
- Back to Hotel: 18:00 PM
**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
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<td>RNN-LSTM based Beta-elliptic model for Online handwriting script identification</td>
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- **Session 2**: Arabic Language Processing
- **Chair**: Osama Badawy
- **Co-chair**: Bassam Hammo
- **Room**: Sousse

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<td>Semantic Elements Extraction based on Syntactic Structure of Arabic Sentences</td>
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<td><strong>Yaser Al-Lahham, Khawlah Matarneh and Mohammad Hasan</strong></td>
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<td>Off-line Arabic Handwriting Recognition using Dynamic Random Forests</td>
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- **Session 3**: Internet of Things
- **Chair**: Ahmad Dalal’ah
- **Co-Chair**: Badie Sartawi
- **Room**: Kairouan

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<td>Service composition based on the social relations in the Internet of things</td>
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<td><strong>Idir AOUDIA, Saber BENHARZALLAH, Laid KAHLOUL and Okba KAZAR</strong></td>
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<td>A comparative analysis of IoT service composition approaches</td>
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<td><strong>Farida Retima, Saber Benharzallah, Laid Kahloul and Okba Kazar</strong></td>
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<td>A quality-aware context information selection based fuzzy logic in IoT environment</td>
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<td>Secure and Energy-effective CoAP Application Layer Protocol for the Internet of Things</td>
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</table>
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
### Session 5: Arabic Language Processing

**Chair:** Bassam Hammo  
**Co-Chair:** Osama Badawy  
**Room:** Sousse

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| 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  
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| 192 | Imane Lahbari, Said El Alaoui Ouatik and Khalid Alaoui Zidani  
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| 175 | Thabit Sabbah, Mosab Ayyash and Mahmood Ashraf  
Support Vector Machine based Feature Selection Method for Text Classification |
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Recognizing handwritten Arabic words using optimized character shape models and new features |

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**Chair:** Rebhi Barakeh  
**Co-Chair:** Emad Abuelrub  
**Room:** Kairouan

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Critical Proficiencies for Requirements Analysts: Reflect a Real-world needs |
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A Two Stage Intrusion Detection Intelligent System |
A proposed framework for Botnet Spam-email Filtering using Neucube

**Oral Session (14:00-15:30)**

**Session 7: Wireless Networks**

**Chair:** Bilal Abul-Huda  
**Co-Chair:** Mohammed Ababneh  
**Room:** Amilkar

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**Session 8: Information Technology**

**Chair:** Thiab Taha  
**Co-Chair:** Osama Badawy  
**Room:** Sousse

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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