Editorial Preface

Special issue on Advanced Applications in Computer Science and Information Systems
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This special issue provides an opportunity for readers to engage with a selection of refereed papers that will be presented during the second International Conference of Computing and Informatics 2019 (ICCI-2019) which will be held at Benha University, Egypt during 16-17 April 2019 in addition to other regular submitted papers related to the themes of the special issue. The conference provided an excellent forum which contributes new results in all areas of computer science, information technology and computer systems. The conference focused on all technical and practical aspects of computing and informatics with applications in real-world and scientific problems. This special issue aims at providing an opportunity for researchers interested in the advanced applications in computer science, information science, systems and technology to present the advances and latest developments in this area. The special issue is oriented towards both theoretical and applications aspects.

The contents of the selected five articles are described briefly as follows:

The first paper titled "The motivation should be explained more clearly" by Gouda et al. shows how distributed denial of service (DDoS) attack can deplete the resources of the Controller and proposes a lightweight mechanism, which works at the Controller and detects the DDoS attack in the early stage. The proposed mechanism not only can detect the attack, but also identify attack paths and initiate a mitigation process to provide some degree of protection to network devices immediately after the attack is detected. The proposed mechanism depends on a hybrid technique that merges between the average flow initiation rate, and the flow specification of the coming traffic to the network.

The second paper titled "Deep Learning on Digital Image Splicing Detection Using CFA Artifacts" by Hussien et al. presents an automated image splicing forgery detection scheme is presented. It depends on extracting the feature of images based on the analysis of color filter array (CFA). A feature reduction process is performed using PCA to reduce the dimensionality of the resulting feature vectors. A deep belief network-based classifier is built and trained to classify the tested images as authentic or spliced images. The proposed scheme is evaluated through a set of experiments on CISDED dataset under different scenarios including adding postprocessing on the spliced images such JPEG compression and Gaussian Noise.

The third paper titled "Effect of Controlling Parameters of Tone Reservation based on Null Subcarriers (TRNS) on the Performance of OFDM System" by Mounir and El Mashade presents the effect of controlling parameters of tone reservation based on null subcarriers (TRNS) on the performance of OFDM system. This study showed how to increase PAPR reduction gain, enhance BER performance, and reduce the required IBO

In the fourth paper titled "An efficient Neural network-based Prediction Scheme for Hetrogeneous Networks" by Khashaba et al. proposes a new prediction scheme is presented in this article depending on scanning all signal quality between the mobile user and all neighboring stations in the surrounding areas. Additionally, the proposed scheme efficiency is enhanced essentially for minimizing the redundant handover numbers. Both WLAN and LTE networks are used in the proposed scheme. The proposed prediction scheme achieves a success rate of up to 99% in several scenarios consistent with LTE-WLAN architecture. Using the trained network can predict the next target station for heterogeneous network handover points. The proposed neural network-based scheme added a significant improvement in the accuracy ratio compared to the existing schemes using only the received signal strength (RSS) as a parameter in predicting the next station. It achieves a remarkable improvement in successful percentage ratio up to 5% compared with using only RSS

The fifth paper titled "Towards Extract-Transform-Load operations in Big Data context" by Mallek et al. aims to propose a new approach called Big Dimensional ETL (BigDimETL) dealing with ETL basic operations and taking into account the Multidimensional structure. In order to accelerate data handling, Map-Reduce paradigm is used to enhance data warehousing capabilities and HBase as a distributed storage mechanism. Experimental results confirm that the ETL operation performs well especially with adapted operations.

SPECIAL ISSUE EDITOR

Prof. Ahmad Azar has received the M.Sc. degree in 2006 and Ph.D degree in 2009 from Faculty of Engineering, Cairo University, Egypt. In 2014, he got a post- doctoral fellowship in USA. He is a research associate Professor at Prince Sultan University, Riyadh, Kingdom Saudi Arabia. He is also an associate professor at the Faculty of Computers and Artificial intelligence, Benha University, Egypt.

Prof. Azar is the Editor in Chief of International Journal of System Dynamics Applications (IJSDA) published by IGI Global, USA. Also, he is the Editor in Chief of International Journal of Intelligent Engineering Informatics (IJIEI), Inderscience Publishers, Olney, UK. Prof. Azar has worked as associate editor of IEEE Trans. Neural Networks and Learning Systems from 2013 to 2017. He is currently Associate Editor of ISA Transactions, Elsevier and IEEE systems journal. Dr. Ahmad Azar has worked in the areas of Control Theory & Applications, Process Control, Chaos Control and Synchronization, Nonlinear control, Renewable Energy, Computational Intelligence and has authored/co-authored over 200 research publications in peer-reviewed reputed journals, book chapters and conference proceedings.

He is an editor of many Books in the field of Fuzzy logic systems, modeling techniques, control systems, computational intelligence, Chaos modeling and Machine learning. Dr. Ahmad Azar is closely associated with several international journals as a reviewer. He serves as international programme committee member in many international and peer-reviewed conferences. Dr. Ahmad Azar is a senior Member of IEEE since Dec. 2013 due to his significant contributions to the profession. Dr. Ahmad Azar is the recipient of several awards including: Benha University Prize for Scientific Excellence (2015, 2016, 2017 and 2018), The paper citation Award from Benha University (2015, 2016, 2017 and 2018). In June 2018, Prof. Azar has been awarded the Egyptian State Prize in Engineering Sciences, the Academy of Scientific Research and Technology of Egypt, 2017. In July 2018, he has been selected as a member of Energy and Electricity Research council, Academy of Scientific Research, Ministry of Higher Education. In Aug. 2018 he has been selected as senior Member of International Rough Set Society (IRSS). Prof. Ahmad Azar is the Chair of IEEE Computational Intelligence Society (CIS)

Egypt Chapter, Vice chair of IEEE Computational Intelligence Society Interdisciplinary Emergent Technologies Task Force, vice-Chair Research Activities of IEEE Robotics and Automation Society Egypt Chapter, Committee member of IEEE CIS Task Force on Fuzzy Logic in Medical Sciences Also, he is the Vice-president (North) of System dynamics Africa Regional Chapter and an Academic Member of IEEE Systems, Man, and Cybernetics Society Technical Committee on Computational Collective Intelligence.

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