Editorial

Rafa Yunus Jassim*

College of Science,
Department of Physics,
Tikrit University,
Tikrit, Iraq
Email: r.y.jasim@tu.edu.iq
*Corresponding author

Dac-Nhuong Le

Faculty of Information Technology,
Duy Tan University,
Da Nang, Vietnam
Email: Nhuongld@hus.edu.vn

Xiaobo Zhang

School of Electrical Engineering,
School of Automation,
Guangdong University of Technology,
Guangzhou, China
Email: zxb_leng@gdut.edu.cn

Biographical notes: Rafa Yunus Jassim received his PhD in Physics – Electron Optics from the University of Mosul, College of Sciences, in 2015, his MSc in Physics of Materials, Semiconductors, Solar cells, Photodiodes, and Thin films at University of Mosul College of Sciences, Department of Physics in 1997, and his BSc in Physics, University of Mosul, College of Education Department of Physics, in 1988. Now he works in Tikrit University College of Science, Department of Physics. He has also worked in several research institutes, such as the The General Establishment for Extractive Operations Al-Kindi Public.

Dac-Nhuong Le has an MSc and a PhD in computer science from Vietnam National University, Vietnam in 2009 and 2015, respectively. Presently, he is Associate Professor, Associate Dean of Faculty of Information Technology, Haiphong University, Vietnam. He has been involved with academics including teaching and research since 2005. He has 60+ publications in reputable international conferences, journals, and online book chapter contributions (indexed by SCI, SCIE, SSCI, Scopus, ACM, DBLP). He is researching the field of evolutionary computation, specialising in evolutionary multi-objective optimisation, network communication, security, cloud computing, and VR/AR.

Xiaobo Zhang has a Master of Computer Science and Doctor of Engineering (Control Theory and Control Engineering). He works in the Internet of Things Department of Automation, Guangdong University of Technology. He is a Guangdong Science and Technology Commissioner, and is engaged in teaching, technology research and development, product design and scientific theoretical research in the field of industrial control and information technology services. His main research interests are hardware and software design for IoT and big data, intelligent information processing and intelligent control (robot) and other industrial control systems. He has participated in more than 60 national and provincial research projects.

We hope our proposal to present a special issue will add more value to the benefit of society at large as it is no longer possible to leave the educational process in its various stages without dealing with modern technology to keep up with the rapid developments of this era. Development and modernisation, through good planning, have become a most important goal that educators strive to achieve to meet the needs of society and the demands of learners' growth. Many nations have realised the importance of planning to build a society. An advanced basis in science and knowledge, cognitive development and the considerable scientific and technical progress of the second half of the last century have led to a continuous increase in the amount of data and information that humans produce and deal with in various

areas of life, which has prompted a search for ways to store, retrieve and invest this information and data in an optimal manner so that societies can advance into becoming information societies – a stage that is considered to be an extension of the industrial stage, in which the economy of societies depends mainly on information industries and not on traditional industries. If developed societies so far have the greatest wealth and the most powerful economies, then the present century will witness a transformation in which the wealth of advanced countries will be informative. Information technology is finding appropriate methods and tools for storing information, organising it, quickly retrieving it when necessary, and presenting it in the best and most useful forms that help in making appropriate decisions. Here, the importance of the computer appears like a basic element in all applications or industries related to information because it will depend on information bases, and the computer will be the device that drives it, along with increased productivity in other industries. Studies have shown that knowledge and information lead to a worker performing his or her work efficiently and intelligently.

This special issue deals with some important applications, which we expect to be very useful, especially in the field of education. Topics covered include: efficient residential load forecasting using a deep learning approach; big data analytics in social media platforms; study application of weather interface; the application of hazard identification and risk assessment for reducing occupational accidents in firework industries, with specific reference to Sivakasi. Comparative studies of satellite multispectral image data processing with MapReduce and classification algorithms are also presented. As well as IoT and TQM, and their useful applications, some of the papers also examine potential behaviours of e-commerce, and another aims to establish an effective prediction model from a huge dataset that offers a linear regression model to forecast flight searches using the big data framework Spark ML library and statistics. Experiments on realistic datasets of domestic airports reveal that the suggested model's accuracy is close to 90% using the big data framework.

The guest editors would like to thank all the authors for submitting their manuscripts to this special issue. We would also like to acknowledge the reviewers for their contributions in reviewing the papers and providing constructive comments that helped authors to improve the papers. Finally, the guest editors would like to thank Prof. Quan Min Zhu (the Editor-in-Chief of *IJCAT*) for his consistent support, which makes the publication of this special issue possible.