Editorial

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Research and development in the area of computer science and information technology has been directly instrumental in the growth of industrial progress over the years. Having the advancement of either in fundamental or applied researches, the series of improvements have help reshaping industrial direction to be eventually dependent of digital information and controls to the very basic daily chores in human history.

The special issue entitled Translational Advancement to Heighten Industrial Technology Revolution collects and compiles the works of multi-layered researchers and practitioners related to industrial technology in a volume to provide insights of new technological research and application transformation. The topics covers applied and fundamental research efforts in several areas including modelling, optic health, knowledge models, enterprise networks, forensic, mobile technology, wireless technology, internet of things (IOT), software tools, analysis models and disaster management.

The papers in this special issue have been selected from the extended versions of several IEEE conferences and the submitted papers through a public call. All papers have been peer-reviewed according to the journal standards. The accepted papers in this special issue are classified into two groups.

The first group focuses on the area of applied research in digital enterprise technology. The paper titled 'Modelling and time evaluation of optical disc and retinal lesions' by Jan Kubicek et al. aims to propose a procedure having ambitions to an automatic and autonomous extraction of the retinal lesion from the retinal images, and its time evaluation. The retinal lesions are considered on a base of the optical disc which is simultaneously segmented from the retinal images. It is clinically supposed that the optical disc has stable geometrical features over the time contrarily geometrical features of the retinal lesions are time-developed. The proposed methodology for a time modelling of the retinal lesions comprises three essential procedures. The optical disc and the retinal lesions segmentation on a base of the time evolving curves ensure indication areas of these retinal objects. Consequently, the binary classification is used with a target of an extraction of a respective model of the optical disc and the retinal lesions. The paper titled 'Solving problems on a knowledge model of operators and application' by Hien D. Nguyen et al. present a mathematical approach for building a knowledge model of operators, called Ops-model. The foundation of this model includes: concepts, operators, and inference rules. Each concepts of this model is a class of objects with the behaviours for solving problems on themselves. This model refers to both unary and binary operators and their properties: commutation, association, identity. Based on the structure of Ops-model, general problems on this model are studied, such as: reducing an expression, prove an equality of expressions. The algorithms for solving these problems are designed. They are also proved their effectiveness. Moreover, Ops-model has been applied to specify a part of knowledge domain about vector algebra in high school. It is used for constructing a program for solving some problems on this knowledge domain. The solutions of this program are step-by-step, readable and suitable with the learners' level. This program is also tested and evaluated by the high-school students. It is useful for supporting students to learn this subject. The paper titled 'Adaptive modulation and coding selection mechanisms for single-cell LTE broadcasting in enterprise network' by Mohammed Algharem et al. introduces two mechanisms that use the standard deviation (StD) of eMBMS user's modulation and coding scheme (MCS) level group operated on single cell mode to select its optimal MCS level efficiently. Typically, MCS level is selected on the basis of users' worst channel condition, which results in wasting

network resources. Since the eMBMS performance directly depends on the selected MCS level, an efficient adaptive modulation and coding (AMC) scheme is essentially needed. The proposed mechanisms are simulated using LTE simulator, and the results show that the proposed mechanisms increase the eMBMS performance in terms of throughput, delay and packet loss ratio, compared to the worst channel gain and averaging mechanisms. The paper titled 'A forensic evidence recovery from mobile device applications' by John K. Alhassan et al. proposes an evidence data retrieval method from Instagram App using two networks based platforms [that is, pure peer-to-peer (PPP) and special cluster peer (SCP) based], whose concept is to manage mobile device communication and generate multiple copies of users data/information to be dumped across three servers. The forensic test results were obtained from PPP and SCP developed to securely extract data from mobile devices. This shows that, SCP outperformed PPP in terms of the time taken to fulfil forensic auditor's request, throughput and broadband utilisation which are 42.82% to 57.18%, 56.81% to 43.19% and 35.41% to 64.53% respectively.

The second group of articles focuses more on fundamental models and framework in digital enterprise technology. The paper titled 'Reliable wireless MAC layer for industrial internet of things using polarisation diversity' is presented by Ritesh Kumar Kalle. In this paper, novel medium access techniques to improve the reliability in the RPW wireless communication have been described. Author also consider extensions to the MAC layer to support multi-hop network using the tree topology. An overview of MAC layer methods and comparative mathematical analysis is provided that clearly show the benefits of multi-hop RPW over conventional networks. In particular, analysis results indicate that for median frame transmission probability of 0.5, we observe a reduction of end-to-end latency by 75% and improvement of 95% in throughput for a tandem network configuration. The paper titled 'Rating of software trustworthiness via scoring of system testing results' by Muhammad Dhiauddin Mohamed Suffian et al. proposes a software trustworthiness rating strategy that uses the scoring upon the completion of system testing execution. The strategy covers rating of software that has undergone system testing completely or partially. It is based on multiple levels calculation toward coming out with final rating: test strategies imposed, completeness of system test execution, test iterations, test case priority and test case result for each iteration. As a result, the multilevel scores calculation successfully derives meaningful trustworthiness rating for the software under test, whether it is a complete rating or partial rating. The paper titled 'Analysis of operative factors and practices in social CRM' by Ayush Tiwari and Madhvendra Misra presented that the purpose of their research paper is to study the impact of operative factors in social CRM domain on the performance measures of the organisation. The study aims to discover and assess the implications of Social CRM on the organisation's performance behaviour. The performance measures are identified in the light of social CRM domain. The identified operative factors such as customer focus, competitor focus, marketing intelligence and cross-functional collaboration are the factors that play a pivotal role in determining the performance of the organisation. The paper titled 'A systematic literature review on activity recognition with context-awareness techniques for mitigation of disasters' by Fatai Idowu Sadiq et al. presents a systematic literature review on context awareness using activity recognition for mitigation of disasters. Disaster preparedness and the method of mitigating it or reduction of causalities are very important in order to save human lives. The review process went through four

phases which are: planning, collation, filtration of dataset to get the most relevant materials, exploration and the description based on findings was carried out. The problem with the existing studies are: technology used lack the capacity to give feedback to potential victims, inability to move the technology around, high false negative alarm, low sensor quality for crowd behaviour monitoring. This study used smartphones which is handy and has potential of being carried about. The analysis of the result was presented under three major headings which are publication by year, techniques, results and findings. The result shows the research gap in the area of disaster mitigation and the further study suggests the need to extend context-aware framework for stampede prediction based on activity recognition accuracy used in the previous study.

The editors hope that this issue will provide valuable knowledge, research gaps, new ideas and translational research opinions in digital enterprise technology, which supplements digital industrial revolution. With much gratitude and appreciation to the authors contributed in this special issue, the editors hope that the hard work and efforts will be expedient and pragmatic for a wide-ranging furtherance of computational fundamental or applied digital solutions.