

JOURNAL OF TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

Inspiring Technologies for Digital Inclusivity

Today digitalization becomes more and more important. Many countries have already channeled their effort to embrace digital inclusion as their main national agenda. However, there are still many challenges when harnessing digital technologies. One of the challenges is digital inclusivity. *Inspiring Technologies for Digital Inclusivity* has been chosen as the theme of the *12th International Conference on IT in Asia (CITA'21)*, which is perfectly align with the challenge.

CITA'21 is a regular series of biennial conferences organized since 1999 by the Faculty of Computer Science and Information Technology, Universiti Malaysia Sarawak, Malaysia. High quality articles have been selected from the papers submitted to the conference. There were overall 31 submissions. The papers were double-blind reviewed by at least two international experts in the field. Reviewers were selected by the *Special Issue Editor*. Final acceptance decisions were released by the *Editor-in-Chief after the recommendation from the reviewers and Special Issue Editor*. A total of seven articles were accepted (acceptance rate: 22%) for publication in the *Journal of Telecommunications and Information Technology*.

It is our highest privilege to collaborate with the *JTIT* editorial team and publish the selected articles in the special issue. It is noteworthy to mention that the *JTIT* only accepts high quality articles and practices a stringent yet effective process. Furthermore, the editorial team has been very responsive and efficient which made the collaboration not only very successful but also gratifying.

This special issue contains seven articles that include the area of image processing, artificial intelligence and mobile security. These articles are well suited for the selected theme and they are pertinent to the aims and scope of the *JTIT*.

Image processing is one of the important areas in computer vision and its advancement has contributed a lot in real-life applications. The article entitled *Enhancing Moon Crescent Visibility using Contrast-Limited Adaptive Histogram Equalization and Bilateral Filtering Techniques* has automated the determination of the religious festivals date based on the analysis of digital images. The article *Novel Feature Extraction for Pineapple Ripeness*

Classification investigates identification methods of ripeness level of pineapples. The authors have proposed a method that consists of six stages. Its core component is based on the analysis of color elements in the digital images. *A Comparative Study of Various Edge Detection Techniques for Underwater Images* is another article that contributes to the image processing area. The authors have used underwater images that contain coral reef images as their case study. Since underwater images are usually suffering from distortion and light attenuation, an efficient edge detection technique is very important. From the comparative study conducted, Canny edge detection technique has shown superior performance compared to other techniques for the underwater images.

The second research area covered in the special issue is artificial intelligence. The first two articles study deep learning and the third one examines agent-oriented modeling. The paper entitled *Detection of Monocrystalline Silicon Wafer Defects using Deep Transfer Learning* uses deep learning technique to detect defects in monocrystalline silicon wafer for industrial production. The proposed technique is able to detect and classify defected samples into six types, namely crack, double contrast, hole, microcrack, saw-mark and stain. The next article that uses deep learning is *Preliminary Evaluation of Convolutional Neural Network Acoustic Model for Iban Language Using NVIDIA NeMo*. The main objective of this article is to investigate and evaluate the utilization of convolutional neural networks for an under-resourced language in performing the automatic speech recognition task. Due to COVID-19 pandemic, education has encountered a major shift. Learning technology like Massive Open Online Courses is introduced to prepare a more engaging and interesting learning environment for students. The article, *How to Model an Engaging Online Quiz? The Emotion Modeling Approach* contributes to this shift by proposing a systematic method that is based on the agent-oriented approach. The main component is to model an engaging application through emotion modeling.

Advancement of digital technologies has led to the emergence of security concerns. They are appropriate and justified as digitalization processes involve a large volume of data communications and transactions. Needless to say, that data and information involved face increased risks and security threats. The article *Implementation of a Malicious Traffic Filter Using Snort and Wireshark as a Proof of Concept to Enhance Mobile Network Security* investigates mobile network security and proposes an anomalies detection mechanism. It works by identifying malformed parameters and intra-layer parameter discrepancies of SS7 network protocol layers.

Overall, the articles published in this special issue further emphasize the importance of information and communication technologies, especially for the digital inclusivity. The contributions of the articles have moved us a small step in the right direction, which in time may add up to a giant leap forward.

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