
Editorial

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teaching experience in various organisations and universities in Hong Kong. He has also obtained 15 research grants including three research grants from the Research Grant Council of Hong Kong.

Minhong Wang is a Professor and Director of the KM&EL Lab in the Faculty of Education, The University of Hong Kong. Her areas of expertise include technology-enhanced learning and cognition, creative thinking and reasoning, and artificial intelligence applications. She is the Editor-in-Chief of *Knowledge Management and E-Learning*, Associate Editor of *Information & Management*, editorial board member of *Journal of Research in Science Teaching* and *Journal of Computer-Assisted Learning*. She is also Eastern Scholar Chair Professor at East China Normal University and Visiting Research Professor at Beijing Advanced Innovation Centre for Future Education, Beijing Normal University.

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Due to the promising performance of deep neural network models like convolutional neural networks and adversarial generative networks and the rapid development of the high-computing hardware like graphical processing units and tensor processing units, artificial intelligence (AI) techniques have been widely employed in various domain-specific applications, including stock market prediction, disease detection, and diagnosis, administrative decision-making, image/video repairing and so on in the recent years (Hwang et al., 2020).

Although there has been a growing trend in research funds and publications about AI in education (Chen et al., 2020), it is still difficult to identify a well-known AI application in the education field. Therefore, there is a large gap for fully exploiting the potential power of AI techniques in education. Meanwhile, big data, which can further empower AI models during training data, has been increasingly generated in particular by the users of mobile devices in the current mobile era. Therefore, this Special Issue aims to publish high-quality research about AI applications in education in the current mobile era. The submissions have been carefully reviewed by international experts in AI and education. Totally five papers are accepted in this Special Issue after rigorous reviews. Specifically, there are four original research articles and one review article in this Special Issue.

The first paper entitled ‘Enhancing skill prediction through generalising Bayesian knowledge tracing’ enhances the conventional Bayesian Knowledge Tracing (BKT) Model for predicting the number of learned skills. By incorporating the prior knowledge, the proposed enhanced BKT model can gain a significant improvement in terms of prediction accuracy. The proposed model can be applied to various educational scenarios, including how to predict student performance in mathematical problems from learning logs or how to establish the connections among two skill points.

The second paper entitled ‘Automatic topic detection on Chinese essays: a technology enhanced approach for facilitating formative use of summative assessment’ proposes to employ an artificial technique called Hierarchical Latent Tree Analysis (HLTA) for identifying the topics from student essays. The identified topics are organised in a hierarchical manner due to the hierarchical clustering nature of the HLTA method. Furthermore, the authors of this article have investigated how to employ these topics to facilitate the assessment of student essays in an undergraduate class.

The third paper entitled ‘Mobile-based learning of drug prescription for medical education using artificial intelligence techniques’ introduces an AI-based mobile system for medical education to facilitate making clinical decisions and reducing errors in drug prescription. The core AI techniques employed in this system is a matching algorithm for deciding whether the learners have drug prescription in a reasonable range based on vector features from word2Vec and cosine similarity. The qualitative results from medical students demonstrate the effectiveness of the proposed system.

The fourth paper, ‘Context-aware recommender system for adaptive ubiquitous learning’, implements a recommender system based on the Radio Frequency Identification (RFID) technique to facilitate mobile learning. Specifically, the proposed system suggests courses according to contextual information including locations, noise level, and time. The experimental results based on users have shown that the system gains very high scores in various aspects including portability, user-friendliness, and so on.

The last paper, ‘Advancements and hot research topics of artificial intelligence in mobile learning: a review of journal publications from 1995 to 2019’, has conducted a comprehensive review in the research topic ‘artificial intelligence-supported mobile learning (AImL)’. The review has covered the journal publications about AImL and identified hot topics in different stages for 25 years. In recent five years, the review has found that the research topics are related to ‘artificial neural networks’, ‘machine learning’, ‘opinion mining’ and so on.

The above five articles in this special issue have demonstrated how AI techniques can be integrated in education in the current mobile era and what are the important research questions and future research directions in this field. More importantly, we would express our deep appreciation to the Editor-in-Chief, Prof. Gwo-Jen Hwang, of the *International Journal of Mobile Learning and Organisation*, for his great support for publishing this special issue. We also like to thank Ms. Janet Clements for her great effort for this special issue.

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