Guest Editorial: Special Issue on "IoT in Flipped Classrooms for Modern Education"

Vijayalakshmi Saravanan, Sujatha Krishnamoorthy, Xuyun Zhang

Internet of things (IoT) in Flipped classrooms is the most creative form of modern education in which the global curriculum system takes special consideration. It explores the impact on student learning and improvement based on organized computer-assisted interactive idea mapping, as it is used as an in-class Auxiliary IoT tools in flipped classroom teaching for modern education. The advent of IoT in modern teaching strategies fulfills the requirements and priorities to understand the subject. Other than education values or inventing libraries or researching the field, the IoT has attracted enthusiastic educational professionals due to flipped classroom concepts using Augmented Reality (AR) and Virtual Reality (VR), or secure education spaces for the modern education system. The application of instructional data mining and learning processing has been continually taken into account with the advent of IoT in Flipped Classroom Models and the accelerated growth of research analyses to take advantage of learner data to optimize the process. IoT Flipped classrooms can effectively allow students to become efficient in learning. Also, significance of IoT Technology has been utilized in educational institutions, as it can be the key driver to enhance educational outcomes. The contribution of the articles included in this issue will be explained below.

In this paper titled as "Application of Intelligent Virtual Reality Technology in College Art Creation and Design Teaching" by Yan Zhang has proposed a Graphical paradigm can be an effective supplement to natural paradigm. The author here has proposed a new interactive intelligent virtual reality (VR) paradigm to alleviate deep conflicts in virtual scenes by adding aperture blur and adjusting the distance between components and subjects by taking VR finding different and augmented reality (AR) Tetris scenes as examples. He also compares two deep conflict mitigation methods from six dimensions for bringing about learning, accuracy, ease of use, authenticity and comfort. He also introduces non photorealistic rendering technology into virtual scene construction, and non-photo realistic rendering to improve artistic style of virtual environment.

The contribution entitled as "Application of Internet of Things Framework in Physical Education System" by Lixun Hu et al has proposed the usage of the Internet of Things (IoT) framework in the physical education system. The author has also proposed a new framework called the IoT-based Physical Activity Recognition (IPAR) model. He has further used physical action recognition using data from a single tri-axial accelerometer for recognizing action and medical parameters like accelerometer, oxygen level, pulse rate, and temperature.

In the third article titled as "Online Art Design Education System based on 3D Virtual Simulation Technology" by Chao Yang has proposed an SVR-SA model combining support vector machine regression analysis and simulated annealing algorithm. The new algorithm used high prediction accuracy, small error, and meets engineering design requirements. In addition, the author has shown the characteristics of art design, to efficiently connects virtual reality technology with art design process, designs online art education functional modules, and conducts system performance verification.

The subsequent article named as "Design and Research of Intelligent Screening System for Graduate Recruitment based on Big Data assisted Ontology-based Blockchain Design" by Jie Guo et al has proposed a big data assisted ontology-based blockchain design (BDOBD) as an intelligent screening system for evaluating job candidates using ontological mapping. BDOBD follows three steps for screening applicants for recruitment. The system collects and constructs the ontology document on candidates in the first step. In the second step and third step the criteria for candidates Job openings and requirements are shown for retrieving qualified applicants.

Finally, the contribution entitled as "Research on Handwritten Note Recognition in Digital Music Classroom Based on Deep Learning" by Yanfang Wang has used deep Gaussian process model, a non-parametric model and a deep Gaussian matching network for small batch handwritten note recognition. This framework can adaptively learn a deep structure and effectively map the labeled support set and unlabeled samples while avoiding overfitting due to insufficient training data. Further, Gaussian Processes (GP) type of supervised learning system that can be used to solve problems like regression and probabilistic classification. The results shows that handwritten note

*Corresponding Author: Vijayalakshmi Saravanan; E-mail: vsavse@rit.edu

recognition effect is better and effective using this model.

We believe that all papers included in this Special Issue will have an excellent and valuable scientific contribution Furthermore, all the articles that are approved for publication have undergone a keen examination and review process to meet the standards of the journal. We would like to thank all the authors for the exemplary hard work they have done while writing these articles and effort they have made to modify them based on reviewer's comments. Finally, we thank the Editor-in-Chief of the Journal of Internet Technology (JIT), for allowing us to publish this Special Issue, and for his strong supports throughout the entire publication process. We are very proud for the final outcome of our joint efforts, and believe that readers of JIT and other audiences will value our contributions

Guest Editors

Vijayalakshmi Saravanan
Rochester Institute of Technology, United States
Ryerson University, Canada
E-mail: vsavse@rit.edu

Vijayalakshmi Saravanan is currently working as Assistant Professor at Golisano College of Computing and Information Sciences, Rochester Institute of Technology, USA. Also, working with WINCORE Lab at Ryerson University. Earlier she was a Postdoctoral Associate at UB (University at Buffalo), The State University of New York, USA and University of Waterloo, Canada under the prestigious "Schlumberger Faculty for the Future" Fellowship award (2015-2017). She is having 10 years of teaching and has published many technical articles in scholarly international journal and conferences. She is serving as technical reviewer and program committee member for reputed conference & journals such as GHC, SIGCSE and Springer. Her research interests includes Power-Aware Processor Design, Big Data, IoT, Computer Architecture, multi-core architecture, s/w and h/w co-design of multi-core, power-performance analysis of multi-core architecture. She is a Senior Member of IEEE & ACM, CSI, Ex-Chair for IEEE-WIE VIT affinity group, India (2009-2015), NPA (National Postdoctoral Association) Annual Meetings committee, Workshop/IIA Co-Chair (2017-2018) Poster committee Co-chair (2018-2019) and a Board member of N2WOMEN (Networking Networking Women).

Sujatha Krishnamoorthy
Assistant Professor, Department of Computer Science,
Wenzhou - Kean University, China
E-mail: krishnsu@wku.edu.cn

Sujatha Krishnamoorthy is the Assistant professor of Computer Science at Wenzhou - Kean University. Earlier to WKU she was the Research and Development Head at Sri Krishna college of Engineering and Technology, Coimbatore, India. She has over 7 years of research experience and over a decade long experience in teaching. Her specialization is Digital Image Processing with Image fusion. She has published over 60 papers in International refereed journals like Springer and Elsevier. She has delivered several guest lectures, seminars and chaired the session at various Conferences. She is serving as a Reviewer and Editorial Board Member of many reputed Journals and Technical Program Committee member of National Conferences and International Conferences. She has received a Best Researcher Award and her research interest is Image processing and her thesis was about the High Dynamic Range Image Processing. She has mentored several research projects under UGC-MRP and DST-CSRI schemes in her previous tenure. Currently she has extended her interest in computer vision and working with medical images.

Xuyun Zhang
Senior Lecturer, Department of Computing
Macquarie University, Australia
E-mail: xuyun.zhang@mq.edu.au

Xuyun Zhang is currently working as a senior lecturer in Department of Computing at Macquarie University in Australia. He worked as a lecturer in The University of Auckland during 2016 - 2019 and a postdoc researcher in NICTA (National ICT Australia, now Data61, CSIRO) during 2014 - 2016. He got his PhD degree in Computer Science and Technology from University of Technology Sydney (UTS), Australia in 2014, and his Master's and Bachelor's degrees in the same major from Nanjing University, China in 2011 and 2008. He is an early/mid-career researcher with an international track record of research in areas including scalable and secure machine learning, big data privacy and cyber security, big data mining and analytics, cloud/edge/service computing and IoT, etc.