Editorial

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Biographical notes: S. Satheeskumaran received his PhD degree from Anna University in Information and Communication Engineering in 2016. He currently serves as a Professor and Research Head in the Department of Electronics and Communication Engineering, Anurag Group of Institutions, Hyderabad, India. He is a Guest Editor for a few Inderscience and Emerald journals and served as volume editor for Springer conference proceedings. He has research and teaching experience of more than 18 years and his research interests include internet of things, machine learning, biomedical signal processing and artificial intelligence-based healthcare applications. He has published more than 50 research papers in SCI/Scopus journals and reputed conferences. He is a reviewer for IEEE, Elsevier, Springer, Taylor & Francis, Wiley and IGI Global journals.

Vigna Kumaran Ramachandaramurthy completed his PhD at UMIST, UK in 2001. He is presently a Professor and heads the Power Quality Research Group in University Tenaga Nasional, Malaysia. He also leads several research and consultancy projects. His main research interests are power system studies, power system protection, power quality, renewable energy integration and grid impact of distributed generation. He has been appointed as the Principal Consultant by Tenaga Nasional Berhad to conduct power system studies for renewable energy farms in Malaysia and completed more than 250 projects on behalf of Tenaga Nasional Berhad.

K. Nithiyananthan is currently working as a Professor in the Department of Electrical and Computer Engineering, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia. He has rich professional experience of 18 years in academic governance through his services in various academic committees and boards. He guided many postgraduate students in embedded system, design drives and controls for automation and currently guiding 12 PhD research scholars. He serves as an editor and guest editor for many Scopus indexed journals and published more than 100 papers in international journals and conferences.

Machine learning and deep learning techniques have gained huge popularity in recent years for internet of things (IoT)-based data management and computations. Signal processing with machine learning is deployed in vital applications such as healthcare assessment, surveillance, natural language processing, industrial automation and superior language translation. IoT with artificial intelligence enables us to develop feature-rich products and smart systems with high performance and less computational burden. In autonomous cars, visual intelligence is built using computer vision and machine learning algorithms for recognising surrounding objects and specific patterns. Deep learning techniques enable robots to deal with variety of data and images within a limited time.

Artificial intelligence and machine learning are applied in computer and communication networks in the form of network design and management. In IoT cloud platforms with numerous sensors and smart devices, intelligent techniques are essential for dealing with IoT data and quality of service (QoS). In a cloud computing environment, novel architectures such as software-defined networks and virtual networks are essential to address increased network complexity and to improve network automation.

This special issue attracted many important papers that address the challenges in applying machine learning and artificial intelligence techniques for computing and networking applications in the IoT. This special issue comprises of few interesting contributions such as natural language processing, distributed networking, network security wireless body area network, IoT, big data analysis and cloud computing.

In the first paper 'Translation of code mixed language to monolingual languages using rule-based approach' by Shree Harsh Attri et al. focuses on computational linguistics area of artificial intelligence. Machine translation system is considered in which the identification and translation of morphological inflections are considered with respect to language structure. Analysis and translation of code mixed language have been carried out by the authors. In the second paper 'Enhancing the operations for integrity check on virtual instance forensic logs using cuckoo filter trees' by Gayatri S. Pandi et al. recommended techniques which are helpful in validating the logs against tampering. Algorithms are developed using cuckoo filter trees that assist in providing the integrity of logs.

The paper 'A biometric-based secure, energy efficient, lightweight authentication protocol for wireless body area networks' by T. Santhi Vandana and S. Venkateswarlu depicts the application of wireless body area networks for remote healthcare monitoring using wearable computing devices. The paper titled 'ICU medical alarm system using IOT' by Fahd Alharbi develops a biomedical healthcare monitoring system using IoT that reports the ICU medical alarm to doctors, nurses and family. It is helpful for doctors and healthcare professionals to intervene in emergency situations.

In the paper 'An integrated principal component and reduced multivariate data analysis technique for detecting DDoS attacks in big data federated clouds' by Sengathir Janakiraman proposes an integrated principal component and reduced multivariate data analysis technique for detecting DDoS attacks in big data federated clouds. It reduces the dimension of feature characteristics extracted from the big data traffic information by minimising the principal components using the method of correlation.

The paper titled 'Smart scheduling on cloud for traffic signal to emergency vehicle using IoT' by J. Mannar Mannan et al. describes the IoT-based adaptive traffic signal control system. GPS enabled ambulance position indicator get controls the traffic signal dynamically based on the position of ambulance and traffic density by using IoT devices. The paper 'Hybrid privacy preserving clustering for big data while ensuring security' by T.P. Pushphavathi and P.V.R. Murthy utilises tensor relational information model to provide security. The privacy preserving c-means-based hybrid approach provides better results without disclosing the private information.

The guest editors are grateful to all the authors for submitting their high quality research works and valuable contributions. We express our deep sense of gratitude to all the anonymous reviewers for their support in completing this special issue. Guest editors strongly believe that the contribution of this special issue will be of great interest in the development of computing and networking applications in the IoT. We would like to appreciate the tireless support and encouragement granted to us by Professor Yi Pan, the Editor-in-Chief of *International Journal of Cloud Computing*.