Guest Editorial
Edge Computing – The New Frontier of IoT and 5G Applications

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The Internet of Things (IoT) has grown explosively in recent years. Ranging from sensors to smart phones, these devices record the status of the environment and behaviors of livings. The big data generated by these devices and then gathered together via the Internet support a new way for people to understand our world. We learn more about so many things than in the old days. Data-driven decision-making systems are significantly improved. In many scenarios, new IoT innovative applications have been emerged and piece-by-piece changed our daily lives, e.g., smart city, smart building, intelligent transportation, location-based services, vehicle networks, and industry 4.0.

Meanwhile, the wide range of IoT applications issues many scientific, engineering, and social challenges, including IT infrastructure, hardware architecture, network design, software framework, communication protocol, data (pre)processing in devices, data communication in the network, data storage/processing/analysis in data center, scenario modeling and visualization, security of device/network/system, implementation practice, hybrid system integration, reliability, availability, privacy, social justice/fairness, and so on. The special issue solicits recent advances in IoT technology and applications. This issue aims to collect contributions made by leading-edge researchers from academia and industry to demonstrate how IoT-enabled intelligent service are created, integration of IoT and other hybrid systems, experience sharing and discussions regarding assessment, planning, and utilization of IoT technology

In the paper entitled "A Lightweight Authentication and Key Agreement Scheme for Telecare Medicine Information System" authored by Lo et al. proposes a new Telecare Medicine Information System (TMIS) authentication scheme. The Security analysis shows that the proposed scheme can resist all kinds of attacks and allow changing one's own password offline. The contribution entitled as "CO Multi-Forecasting Model for Indoor Health and Safety Management in Smart Home" by Chang et al. proposes the innovative CO Multi-Forecasting Model (CMFM). It is suitable for application in the semi-supervised learning - based AIoT. In addition it is better safety warning time compared to that of commercially available CO sensors and also helpful for indoor air quality. The contribution entitled as "An ECC based Remote User Authentication Protocol" by Shafiq et al. presents lightweight remote user authentication protocol and the analysis proves that it is more robust and lightweight in comparison of other related protocols. Moreover, performance and security analysis shows that the proposed scheme prevents the major attack and provides additional security features. The contribution entitled as "Construction of Value Classification Model by Tracking NBA Center Players' Performance with Virtual IoT Tagging Technology" by Chang uses of the technique for order preference by similarity to ideal solution (TOPSIS) method to calculate the value analysis indices of players was proposed. This study provides a value index model for evaluating NBA centers and can be also extended to the identification objects under the IoT environment. Finally, the contribution entitled as "A Deep Learning-Based Strategy to the Energy Management - Advice for Time-of-Use Rate of Household Electricity Consumption" by Wu and Lee applies the deep learning method to the electricity usage prediction and gets excellent results. The forecast for usage in the next day can also be used as the basis for Taipower Company's power dispatching.

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Guest Editors

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