Guest Editorial
Edge Computing

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Edge computing is proposed as a new computing paradigm where resources like computation and storage are placed closer to data and information sources. On one hand, edge computing helps the cloud to extend its services to the edge of the network, which improves the response time and user experience. On the other hand, the development of the Internet of Things (IoT) leads to a huge amount of data generated on the user side and there are also a lot of smart devices available, it is a natural way to process data on the edge. In a word, the edge computing paradigm greatly saves the bandwidth of the backbone network and improves the end-to-end latency. It brings new possibilities for complex applications, intelligent services, novel security, and privacy solutions, especially for the researches which depends on the huge amount of data. This special issue features seven selected papers with high quality.

The first article titled "VDRF: Sensing the Defect Information to Risk Level of Vehicle Recall based on Bert Communication Model" proposes a risk level prediction method based on the language pre-training model Bert. The prediction method can transform the defect information into the risk level of the vehicle and then predict vehicle recall automatically. The second paper, "A Homomorphic-encryption-based Vertical Federated Learning Scheme for Rick Management", designs a vertical federated learning system for Bayesian machine learning with the homophobic encryption. Specifically, during the training progress, raw data are leaving locally, and encrypted model information is exchanged. The third paper is "A Novel Data-Driven Intelligent Computing Method for the Secure Control of a Benchmark Microgrid System", which investigates the secure control problem of a benchmark micro-grid with system uncertainties by using data-driven edge computing technology. In detail, it first formulates the state-space function of the benchmark micro-grid system and then derives a novel data-driven intelligent computing method. The fourth paper, "A Recommendations Model with Multiaspect Awareness and Hierarchical User-Product Attention Mechanisms", proposes a novel model to capture the varying attention of a user for different products by using a multilayer attention framework. Specifically, two individual hierarchical attention networks are used to encode the users and products to learn the user preferences and product characteristics from review texts. And an attention network is designed to reflect the adaptive change in the user preferences for each aspect of the targeted product in terms of the rating and review. The fifth paper is "A Study on the Development of a Light Scattering Particulate Matter Sensor and Monitoring System", and it develops a light scattering type PM sensor that can be manufactured at a low cost and can measure PM in real-time. Moreover, the paper builds

a big data system that can systematically store and analyze the data collected through the developed sensor, as well as an environment where PM states can be monitored mobile using such data. The sixth paper titled "A Load Balancing Scheme for Gaming Server applying Reinforcement Learning in IoT" proposes an agent that applies a deep reinforced learning method to distribute loads for gaming servers. The agent has accomplished this by measuring network loads and analyzing a large amount of user data. The seventh paper is "Graph Embedding Code Prediction Model Integrating Semantic Feature", which proposes a graph embedding model that integrates semantic features. The model extracts the structural paths between the nodes in the source code file's Abstract Syntax Tree (AST) and converts them into a training graph.