



Special Issue on AI-Driven Smart Networking and Communication for Personal Internet of Things: Part II

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Published online: 13 April 2020

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With the rapid development of personal computing technology and intelligent devices, the Internet of Things (IoT) industry has reached a new level for consumers. Compared with the conventional IoT, Personal IoT integrates various ubiquitous networking, communication, sensing, and control capabilities, as well as intelligent analysis and decision technologies, into all aspects of personal daily life process. Nowadays, artificial intelligence (AI) facilitates ubiquitous smart networking and communication, application analysis and prediction, and thus to make an optimal decision. The basic idea of Personal IoT is to leverage a multitude of collaborative ubiquitous personal smart devices and near-user infrastructures to carry out a substantial amount of personal data retrieval, recognition, compression, and communication tasks with low latency, energy efficiency, and many other desirable features.

Despite tremendous benefits and opportunities that the AI offers, there are still many technical challenges that need to be addressed by the research and development communities to realize the full potentials of the Personal IoT. The goal of this special issue is to attract high quality contributions that collectively provide a comprehensive coverage of recently developments related to the AI-driven Personal IOT technology and applications.

The papers published in this special issue are accepted through an open call for papers. The submitted manuscripts were reviewed by experts from both academia and industry. This special issue will be published by International Journal of Wireless Information Networks in two parts. This is the second part of the special issue includes twelve papers.

The paper “A Network Attack Detection Method Using SDA and Deep Neural Network Based on Internet of Things” by *Jingwei Li* et al. proposed this paper proposes a network attack detection method using deep neural networks in the Internet of Things based on a comprehensive analysis of network attacks and deep neural networks. The paper “Data Acquisition and Transmission Scheme for Large Projects Based on LoRa Internet of Things Using Improved Linear Integer Programming Model” by *Jun Hu* et al. designed an environmental monitoring system based on LoRa wireless sensor network, with the characteristics of long transmission distance and low power consumption on LoRa. The paper “A Massive Multi-Modal Perception Data Classification Method Using Deep Learning Based on Internet of Things” by *Linli Jiang* et al. proposed the heterogeneous multi-source multi-modal perception data classification and detection to ensure the quality of data and select some data sources for data transmission in order to save network resources. The paper “A Sink Node Trusted Access Authentication Protocol for Mobile Wireless Sensor Network Using Block Cipher Algorithm Based on IoT” by *Qian Wang* et al. proposed a sink node trusted access authentication protocol using packet cipher algorithm for mobile WSN. The paper “Long Link Wireless Sensor Routing Optimization Based on Improved Adaptive Ant Colony Algorithm” by *Qian Zhou* et al. studied the characteristics of wireless sensor network and the challenges of wireless sensor network routing protocol. The paper “A Novel Important Node Discovery Algorithm Based on Local Community Aggregation and Recognition in Complex Networks” by *Qu-zhi Huang*, proposed a novel important node discovery algorithm based on local community aggregation and recognition in complex Networks.

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The paper “Distance Mapping Algorithm for Sensor Node Localization in WSNs” by *Rong Tan* et al. proposed a node localization algorithm for improving the localization of sensing nodes in the application of wireless sensor networks. The paper “Compression Sensing Signal Detection Algorithm Based on Orthogonal Matching Pursuit” by *Shen Jian* et al. proposed a compression sensing signal detection algorithm based on orthogonal matching pursuit. The paper “Energy-Saving Optimization and Matlab Simulation of Wireless Networks Based on Clustered Multi-hop Routing Algorithm” by *Shun Liu*, proposed a real-time routing protocol by combining the location information and clustering technology to reduce the energy consumption of the wireless sensor network. The paper “Tyson Polygon Construction Based on Spatio-temporal Data Network” by *Xiaoming Bi*, studied the problem of data management and topology transformation of spatio-temporal networks in the face of complex data processing. The paper “A Hadoop Processing Method for Massive Sensor Network Data Based on Internet of Things” by *Yanxin Zhang*, proposed a mass sensing information processing scheme based on IoT service platform based on the analysis of the architecture of the Internet of Things service platform and the key technologies of cloud computing. The paper “Coverage Optimization and Simulation of Wireless Sensor Networks Based on Particle Swarm Optimization” by *Ye Zhang*, studied the coverage optimization of wireless sensor networks based on an improved particle swarm optimization.

We would like to thank all reviewers who have helped in the paper review process, and the authors for their contribution and efforts to complete the papers with a very high quality. Finally, we express our gratitude to Dr. Kaveh Pahlavan for initiating this special issue and inviting us to undertake this rewarding activity.



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