



Editorial: Recent Advances in Wireless Internet

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Editorial:

Novel IT industry evolution improves people's life and brings economic benefits using innovative technologies of the Internet of Things (IoT), edge/fog computing, cloud computing, social networks, vehicular ad hoc networks, AI, and big data. Due to amount of heterogeneous wireless and IoT devices deployed in open environment, and intensive data stream generation, the research issues on wireless network and Internet technology for development in various industries and smart city have many challenges need to overcome.

The goal of this special issue is to publish both state-of-the-art and prospective papers that present advances towards the performance enhancement of wireless networks and Internet technology in various industries and smart city which were selected from the 11th EAI International Wireless Internet Conference (WiCON 2018). After the event, an open call was published to encourage the contributions presented at WiCON 2018 to be extended and submitted to this special issue. Each paper was carefully evaluated by at least three reviewers. This careful evaluation process has allowed us to select 6 high quality research papers. We strongly believe that the selected papers will make a significant contribution to this field. We present a brief overview of each manuscript in the following.

In the paper entitled “The Implementation of a Cloud-Edge Computing Architecture Using OpenStack and Kubernetes for Air Quality Monitoring Application” authored by Endah

Kristiani, et al., deploys a complete set of cloud-edge computing architectures, and evaluates the high-performance computing systems, clusters, and networks using Ganglia Monitoring System.

The second paper, “Co-tier Uplink Power Control in Small Cell Networks by Stackelberg Game with Two-Way Pricing Mechanism”, authored by Chih-Cheng Tseng, et al., proposes a co-tier power control scheme, which enables SBSs to bargain for their compromised uplink transmit power under the premise that the maximum tolerable interference bound is not violated. And the optimum uplink transmit power is derived through mathematic analyses.

The third paper, “A coverage vulnerability repair algorithm based on clustering in underwater wireless sensor networks” by Wenbo Zhang, et al., proposes a vulnerability repair algorithm based on clustering. In the algorithm, the temporary control node determines whether the vulnerability is worth repairing.

The fourth paper, “MAC Technology of IEEE 802.11ax: Progress and Tutorial”, by Mao Yang, et al., introduces the latest MAC layer progress of WLAN standards (IEEE 802.11ax), and discusses the key technologies of MAC technologies of IEEE 802.11ax in details.

The fifth paper, “Robust Network Intrusion Detection Scheme Using Long-Short Term Memory Based Convolutional Neural Networks”, by Chia-Ming Hsu, et al., proposes a deep learning model to enhance the performance of the intrusion detection system, and compares the proposed method with existing works.

The last article titled “Vehicular Edge Computing and Networking: A Survey”, authored by Lei Liu, et al., presents a comprehensive survey on the existing work in Vehicular Edge Computing.

Acknowledgements As the guest editors of this special issue, we would like to thank all authors who have submitted papers to the special issue and in particular those whose papers have been accepted for this special issue. Assistance from the editorial staff of the Mobile Networks and Applications is also much appreciated. Besides, the guest editors wish to acknowledge all those who have generously given their time to review the papers submitted for consideration for inclusion in this special issue. Finally, our special thanks go to Dr. Imrich Chlamtac (editor-in-chief) for his valuable support throughout the preparation of this special issue.

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Mohammed Atiquzzaman (Senior Member, IEEE) obtained his M.S. and Ph.D. in Electrical Engineering and Electronics from the University of Manchester (UK) in 1984 and 1987, respectively. He currently holds the Edith J Kinney Gaylord Presidential professorship in the School of Computer Science at the University of Oklahoma. Dr. Atiquzzaman is the Editor-in-Chief of Journal of Networks and Computer Applications, the founding Editor-in-Chief of

Vehicular Communications, and serves/served on the editorial boards of many journals including IEEE Communications Magazine, Real-Time Imaging Journal, International Journal of Communication Networks and Distributed Systems and Journal of Sensor Networks and International Journal of Communication Systems. He co-chaired the IEEE High-Performance Switching and Routing Symposium (2003, 2011), IEEE Globecom and ICC (2014, 2012, 2010, 2009, 2007, 2006), IEEE VTC (2013) and the SPIE Quality of Service over Next Generation Data Networks conferences (2001, 2002, 2003). He was the panels co-chair of INFOCOM'05, and is/has been in the program committee of many conferences such as INFOCOM, Globecom, ICCCN, ICCIT, Local Computer Networks, and serves on the review panels at the National Science Foundation. He is the current Chair of IEEE Communication Society Technical Committee on Communications Switching and Routing. Dr. Atiquzzaman received the 2018 Satellite and Space Communications Technical Recognition Award (IEEE) for "valuable contributions to the Satellite and Space Communications scientific community", the 2017 Distinguished Technical Achievement Award (IEEE), for "outstanding technical contributions and services in the area of communications switching and routing". He was honored with the IEEE Communication Society's Fred W. Ellersick Prize and NASA Group Achievement Award for "outstanding work to further NASA Glenn Research Center's effort in the area of Advanced Communications/Air Traffic Management's Fiber Optic Signal Distribution for Aeronautical Communications" project. He is the co-author of the book "Performance of TCP/IP over ATM networks" and has over 300 refereed publications, available at www.cs.ou.edu/~atiq. His current research interests are in areas of transport protocols, wireless and mobile networks, ad hoc networks, satellite networks, power-aware networking, and optical communications. His research has been funded by National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), and U.S. Air Force, Cisco, and Honeywell.