THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

Department of Computing
電子計算學系

Research Seminar

The Last-mile Connection of Internet-of-Things for Smart Cities

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▶ Abstract

Internet-of-Things (IoT) envisions ubiquitous connections of physical world to the cyber space, which can bring immense value to our lives. Low-Power Wide Area Network (LPWAN) has recently emerged as a promising technology to turn IoT visions into reality. LPWANs can achieve long-range low-power communication (e.g., up to 10 km) without the need to replace battery of IoT devices for years. It is promising to solve the last-mile connection of Internet-of-Things for smart cities. Despite the many advantages of LPWANs, how to securely interconnect an ever-increasing number of IoT devices in densely populated metropolises such as Hong Kong imposes tremendous challenges due to the scalability and security issues. In this talk, I will give a brief introduction of the recent progress of LPWAN researches. Some possible directions for future research will be discussed.

▶ About the Speaker

Dr Xianjin Xia is currently a research assistant professor of the Department of Computing, PolyU. He received the BSc, MSc, and PhD degrees in Computer Science from Northwestern Polytechnic University, Xi'an, China in 2010, 2013, and 2018, respectively. Before joining PolyU as an RAP, he worked as a Postdoc researcher at the Hong Kong Polytechnic University during Sep 2018 - Feb 2021. Dr Xia's research interests include Internet of Things (IoT), wireless communications, Low-Power Wide-Area Networks (LPWANs), mobile computing, localization, etc. He has published papers in top-rank conferences (e.g., ACM SenSys, IEEE INFOCOM), and journals (e.g., IEEE/ACM Transactions on Networking). He serves as reviewers for IEEE Transactions on Wireless Communications, IEEE/ACM Transactions on Networking, IEEE Journal on Internet of Things, IEEE INFOCOM, IEEE/ACM IPSN, IoTDI, etc.