

## Electrical Engineering and Computer Science Technical Seminar Series

Friday, September 6, 2019  
12:00 PM in COB 263

# Push the Limits of Wireless Connectivity for IoT Devices

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Faculty Host: Wan Du

### Abstract

One vision of Internet of Things (IoT) is to provide seamless connectivity for everyday objects. IoT devices are deployed densely in space to enable ubiquitous intelligence; and are connected wirelessly to support frequent data exchange. These devices are also becoming increasingly mobile, such as IoT-powered inventory management, personal robots and autonomous cars. However, the current network stack lacks primitives to support the desired connectivity, management and services of IoT devices. In this talk I will present two solutions to push the limits of connectivity for IoT devices. The first system, Wi-Fi Goes to Town, provides seamless wireless connectivity for high speed automobiles by very small wireless cells. The second system, PLoRa, enables long-range backscatter communication for low-power IoT devices by hardware-software co-design. Finally, I will conclude with a future research vision centered around building secure and scalable IoT systems.

For additional information contact Prof. Wan Du <[wdu3@ucmerced.edu](mailto:wdu3@ucmerced.edu)>

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### Biography

Longfei Shangguan is currently a senior researcher at Microsoft Cloud&AI, Redmond. His research interest includes wireless systems, mobile computing, and IoT systems. He has published more than 30 papers in highly refereed conferences such as SIGCOMM, NSDI, MobiSys, SenSys, etc.

