

SHANGLIN GUO

(XXX) XXX-XXXX | XXXXXXXXXXXXXXXXXXXX | sgXXXX@columbia.edu

linkedin.com/in/shanglin-guo | github.com/guoshanglin | guosl.com

PROFILE

Electrical engineering graduate student with extensive experience in embedded programming; capable of sizeable hardware-software integrations. Laboratory experience in Linux and computer networks configurations. Familiar with networking protocols, TCP/IP 4-layer architecture. Seeking summer 2019 internship opportunities.

EDUCATION

Columbia University New York, NY
M.S. in Electrical Engineering Sep 2018 – Dec 2019 (Expected)

GPA 4.00/4.00

- Courses: Internet of Things, Computer Networking Laboratory, Embedded Systems
- Research: Wireless & Mobile Networking (WiMNet) Research Lab

The Hong Kong Polytechnic University Kowloon, HK
B.Eng (Hons) in Electronic & Information Engineering June 2018

GPA 3.76/4.00

EXPERIENCE

Wireless & Mobile Networking (WiMNet) Research Lab, Columbia University New York, NY
Research Assistant Feb 2019 – Present

- Participated in the Columbia FlexICoN (Full-duplex Wireless: From Integrated Circuits to Networks) project focusing on the design and implementation of full-duplex wireless communication testbed
- Explored architectures and algorithms that can allow radios to achieve simultaneous transmission and reception on the same frequency channel. Integrated signal processing blocks and self-interference-cancellation/MAC layer algorithms on USRP (Universal Software Radio Peripheral) SDRs (Software-Defined Radios)
- Currently working on integrating the custom-design full-duplex radios into the city-scale COSMOS testbed for evaluating the system in real-world environments

Brno University of Technology Brno, CZ
Research Assistant Jul 2017 – Aug 2017

- Developed and investigated node localization methods for Bluetooth/IEEE 802.15.4 wireless networks in C
- Implemented the localization methods on AVR microcontrollers as nodes, analyzed the result and optimized the localization methods based on the location error observed in lab experiments

PROJECTS

Juniper Networks/Comcast SDN Throwdown Competition 2019 Feb 2019

- Developed a creative solution using the Juniper Networks NorthStar SDN Controller, with a combination of networking and programming to solve real-world issues such as random link failures and load balancing
- Optimized the given network infrastructure, which consists of 2 servers and 12 routers across the US, and through monitoring and planning, finally achieved the dynamical provision of explicit routing paths using segment routing
- Ranked 3rd out of 14 registering teams

Internet Connected Smart Watch Sep 2018 – Dec 2018

- Programmed on an embedded system (Feature HUZDAH board) using MicroPython to interface with sensors and actuators (accelerometer, LCD display) via I2C and SPI protocols
- Learned and understanding the networking standards (REST, CoAP) of IoT devices
- Integrated cloud services (Google and Twitter APIs) to the system, and running AWS EC2 instances that work with MongoDB to recognize hand gestures using linear SVM

SKILLS

Programming Language: Python, C/C++, SystemVerilog, Java, Git, HTML, JavaScript, MATLAB

System and OS: Linux/Unix, Windows, Android | **Platform:** AWS, MongoDB, Microsoft Azure, GitHub