SHANGLIN GUO

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PROFILE

Digital design engineer at Analog Devices with experience in digital design and embedded systems, and laboratory experience in FPGA, wireless communications.

EDUCATION

Columbia University GPA 3.82/4.00   New York, NY
M.S. in Electrical Engineering   Sep 2018 – Dec 2019
- Courses: Internet of Things, Computer Networking Laboratory, Embedded Systems

The Hong Kong Polytechnic University GPA 3.76/4.00   Kowloon, HK
B.Eng (Hons) in Electronic & Information Engineering   June 2018

EXPERIENCE

Digital Design Engineer   Wilmington, MA
Analog Devices   Jan 2020 – Present

System Evaluation Engineering Intern   Wilmington, MA
Analog Devices   Jun 2019 – Dec 2019
- Working on the implementation of a high-speed measurement platform with existing sensors, focusing on the implementation of a Python-based fixed-point simulator to evaluate signal-processing data path and algorithms

Teaching Assistant   New York, NY
Columbia University   Sep 2019 – Dec 2019
- Teaching assistant for course ELEN E6776 Topics in Networking: Content Storage & Distribution

Research Assistant   New York, NY
Creative Machines Lab, Columbia University   Sep 2019 – Dec 2019
- Working on the embedded system design, high-speed data acquisition and signal processing of a portable ultrasound system that can generate professional 3D sonograms

Wireless & Mobile Networking (WiMNet) Research Lab, Columbia University   Feb 2019 – May 2019
- Participated in the full-duplex (FD) project, and performed the upgrade of custom-designed FD radios, that consists of an FD transceiver using the USRP N210 SDR and a customized RF canceller

PROJECTS

Musical Stimulus Visualization   Feb 2019 – May 2019
- Implemented on the FPGA a memory-mapped peripheral, and communicated with the peripheral through C program running on the Linux kernel that can access a device driver
- Developed a C program that runs on an ARM-based hard processor system (HPS), performing a Fast Fourier Transform (FFT) and noise suppression on audio input received from a USB microphone
- Designed a Serial-in, Parallel-out (SIPO) shift register in hardware to buffer the data input from software and output the parallel data to a VGA monitor for musical stimulus visualization

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

SKILLS

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

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