

Yuqi Liu

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Education

Georgia Institute of Technology

Atlanta, GA

Doctor of Philosophy in Electrical and Computer Engineering

August 2020 – Present

Washington University in St. Louis

St. Louis, MO

BS in Electrical Engineering, BS in Computer Science

GPA: 3.99/4.0

August 2016 – May 2020

Honors: *Dean's List* – Fall 2016, 2017, 2018, 2019; Spring 2017, 2018, 2019

Outstanding Sophomore Award

Russell R. Pfeiffer Outstanding Junior Award

David H. Levy Outstanding Senior Award

Knowledge and Skills

Circuit & Hardware • Cadence Virtuoso • Synopsys VCS, DC • Cadence Encounter • Vivado

Programming • Verilog • Python • MATLAB • C/C++ • LabVIEW • SCPI

Research Experience

Georgia Tech Electronics and Micro-System Lab

08/2020 – Present

Atlanta, GA

- Working on double pole double throw (DPDT) switch.

XZ Group

01/2019 – 05/2020

St. Louis, MO

- Designed a topological IC based on the Su-Schrieffer-Heeger topological insulator model in BiCMOS8HP process.
- Verified in simulation the eigenfrequency phase transition of a parity-time symmetric coupled LRC dimer circuit and improved it by adding a programmable coupling capacitor which introduces another degree of freedom.

Adaptive Integrated Microsystems Laboratory

01/2018 – 12/2018

St. Louis, MO

- Developed a programmable single spiking neuron simulator using CMOD A7 FPGA.
- Investigated the feasibility of using small indoor plants as sensors from their bioelectric potential.
- Created a Python-based interactive real-time data capture and visualization interface for chip test station used in the lab.

Internship Experience

State Key Laboratory of ASIC and System at Fudan University

08/2018

Shanghai, China

- Implemented a simple MAC unit using DSP on Zynq Ultrascale+ ZCU104 FPGA and investigated clocking limits.

FREQCHIP

07/2017 – 08/2017

Shanghai, China

- Revamped the company's configure software for its new Bluetooth chip using Python and PyQt library.

Coursework Project

- Built a 13-band audio equalizer on Xilinx Nexys4 DDR board and desktop software interface using LabView.
- Designed, simulated and laid out an accelerator for multilayer perceptron with one hidden layer.
- Designed and simulated a current-mode analog computing circuit calculating a polynomial.
- Designed and simulated a first order sigma-delta modulator measuring currents from -100nA to 100nA.
- Designed a Spartan 6 FPGA-based Arduino-shield-compatible board supporting program download and DVI output.