Liu(Zuguang Liu) (513)886-6058 liu2z2@mail.uc.edu LinkedIn Website

Seeking for Full-Time Position/Internship Starting July 2021
Interested in Electrical & Computer Engineering Positions

Citizenship: F1 student with 3-year-long Optional Practical Training (no need for sponsorship, see detail from USCIS)

EDUCATION

M.S. Electrical Engineering, University of Cincinnati, USA — January 2020 - May 2022
∗ Willing to postpone for job opportunities — GPA 4.0/4.0

B.S. Electrical Engineering, University of Cincinnati, USA — August 2016 - May 2021
Mathematics and Embedded Systems minor, University Honors Program — GPA 3.9/4.0

SKILLS

Signals and Systems	DSP, Frequency analysis, feedback control systems, PID controller, linear system theory
Embedded Hardware	System design with MCU, interface with sensors, actuators, serial and wireless communications
Circuit Design	Analog and digital circuit design, analysis and simulation, Verilog HDL on FPGA
Embedded Programming	Assembly for PIC on MPLAB, C for Atmel on Atmel Studio, FreeRTOS for ARM Cortex-M
Prototyping and Testing	On-board and PCB prototyping, developing test fixture and procedure, troubleshooting
Software Development	Git, Linux, C/C++, C#, Java, Python, MATLAB, SQLite database

EXPERIENCE

Electrical Engineer (R&D Co-op) — June - August 2019
Ethicon Endo-Surgery Inc. — *Blue Ash, OH*

- Designed, assembled, troubleshooted and tested a PCB for a prototype product
- Designed a hardware-robust circuit for switching high-voltage lines
- Built test fixtures for NFC sensors using microcontrollers
- Documented implementation methods, testing procedure and test results
- Presented projects and improvements to managers and peer Co-op students

Automatic Assembly System Engineer (Co-op) — Jan - August 2018
Jergens Inc. — *Cleveland, OH*

- Designed and managed installation a customized grinder safety system with B&R Automation System (PLC)
- Designed and implemented the GUI and finite-state machine control for the industrial system in C-based language
- Applied project management skills to maintain progress and ensure delivery
- Documented project by writing manuals for operators, electrical diagrams to technicians, and programming doc to engineers

Engineering Teaching Assistant for Bio-Robotic Class — October 2019 - April 2020
Biology Department, University of Cincinnati — *Cincinnati, OH*

- *Sensing in Animals and Robots* is an NSF funded program that teaches animal sensing by robotic implementations
- Developed firmware for sensors and actuators and simple front-end methods to students
- Helped the robot development, class organization and helped students understand the engineering portion of the class

PROJECTS

Brain Computer Interface Research Decomposed EEG signal to identify patterns in human motor imagery experiment

Neuromorphic Computing Research Developed an analog circuit system to simulate spiking neural signal

Not-A-Boring Competition Designed the control system for an autonomous tunnel boring machine (TBM) with an international team. Team's design proposal selected with 11 other finalists among 390 competitors (ongoing)

Modular Garden Monitoring System An embedded system that autonomously manages garden environment with friendly UI, modular design and wireless communication (Senior Capstone Project)

Gas Tracking and Prediction App Used web crawler that collects gas prices, SQL to maintain database and developed early-stage data analysis methods for price prediction

Mask Detection Robot Developing an autonomous system that detects and suggests face masks on a person by a neural network algorithm (ongoing)