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

Seeking for Full-Time Position Starting May 2021
Interested in Embedded System Engineering

Citizenship: international student with 3-year working time in USA (and possible 6 more years with working visa)

EDUCATION

M.S. Electrical Engineering, University of Cincinnati, USA — Graduating May 2022
Intelligent Systems track, ACCEND Program — GPA 4.0/4.0

B.S. Electrical Engineering, University of Cincinnati, USA — Graduating 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 on Eclipse
Prototyping and Testing	On-board and PCB prototyping, developing test fixture and procedure, troubleshooting
Software Development	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

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

Chiptune Music System Prototyped an PCB as an embedded system with OPL2 chip that plays Chiptune music

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)