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

Seeking for Full-Time/Internship Position Starting July 2021
Interested in Electrical Engineer Positions

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 prototype and troubleshoot, PCB prototype in KiCAD, developing tests fixtures
Software Development	C/C++, C#, Java, Python, MATLAB, SQLite database

INDUCTRY 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 to switch high-voltage lines for a medical surgery generator
- Developed testing code in C to verify NFC sensor functionality with microcontrollers
- Documented implementation methods, testing procedure and test results
- Presented projects and improvements to managers and peer Co-op students

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
- Helped with the development of custom PCB for sonar, light and flex sensors
- Documented the development process as well as the usage of the circuits

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

- Designed and managed installation a grinder safety system with B&R Automation System (PLC)
- Documented project by writing manuals for operators, electrical diagrams to technicians, and programming doc to engineers

PROJECT EXPERIENCE

Modular Garden Monitoring System
Senior Design (Capstone) Project

- An embedded system that autonomously manages garden environment with friendly UI, modular design and wireless communication
- Designed and prototyped circuit for air & soil temperature/humidity sensors
- Designed circuit for solar panel and its power management module
- Troubleshooted circuit design with lab equipment, and improved design accordingly

OPL2 Chiptune Music Player
Final Project for Japanese Music Class

- An embedded system that plays chiptune (8-bit) music with OPL2 chip that was used in Commodore 64
- Designed, prototyped and troubleshooted a PCB as implementation