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

Seeking for Full-Time/Internship Position 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

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

INDUSTRY EXPERIENCE

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

- Developed driver programs in Assembly for module controllers to communicate with the main system controller over serial bus
- Developed testing code in C to verify NFC sensor functionality with microcontrollers
- Documented testing procedure and desired 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
- 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

PROJECT EXPERIENCE

Servo Driving and Mirroring with FPGA
Final Project for Embedded System Class

- Designed a servo motor driver that reads in an analog voltage from one motor and writes out PWM signal to another motor accordingly
- Implemented the design in System Verilog with mixed structural/behavioral models
- Designed and implemented a post-processing control unit for the embedded ADC on Basys 3 board

RTL Design for a Custom Control Unit
Final Project for Computer Organization & Architecture Class

- Designed a 16-bit single-bus paradigm finite-state control unit with basic instruction set, with a non-pipelined and a pipelined version
- Presented and simulated design in Logisim-Evolution software
- Documented design prosedure and optimization methods