Claire Yuan claireyuan6@gmail.com • (650) 517-3788 • linkedin.com/in/yuanclaire | San Jose, CA

EDUCATION

University of Southern California (Los Angeles, CA)
Master of Science, Electrical Engineering - Analog, Mixed-Signal, & RF Integrated Circuits **Jan 2024-May 2025**
Bachelor of Science, Electrical and Computer Engineering **Aug 2021-May 2025**

- BS GPA 3.98 / MS GPA 4.0
- **Courses:** Analog Integrated Circuits, Wearable Technology, MOS VLSI Design, Linear Systems, Electromagnetics, Renewable Energy in Power Systems, Semiconductor Physics, Embedded Systems, Distributed Systems/IoT
- **Awards:** Presidential Scholar, MHI Research Scholar

SKILLS

Electronics: SMT soldering, printed circuit board physical design and layout, test equipment (oscilloscope, DMM, function generator, nanoVNA, e-load), voltage regulation and power delivery, signal and power integrity analysis
Software: KiCad, Altium Designer, LTSpice, Cadence Virtuoso, TINA-TI, MS Office
Programming: C/C++, Python, Git, embedded programming (Arduino, STM32), MATLAB, Raspberry Pi

EXPERIENCE

Circuits Research Fellow – USC Hossein Hashemi Lab (Los Angeles, CA) **Mar 2023-Present**

- Designed and successfully validated a low-power biomedical sensor PCB consisting of op-amps and active filters
- Miniaturized my design on-chip with TSMC 180nm technology, addressing area constraints with pseudo-resistors
- Went through the tape-out process of performing schematic simulations, layout and parasitic extraction, routing to pads, and solving DRC issues
- Achieve tape-out goal in December and conduct testing in the spring semester

Hardware Co-Op – Verkada (San Mateo, CA) **May 2024-Aug 2024**

- Worked on the Sensors and Alarms team cross-functionally with electrical, mechanical, and firmware engineers
- Owned the R&D project for an intrusion sensor which involved researching algorithms, prototyping hardware ideas, and executing test plans
- Analyzed battery lifetime of existing wireless sensors to identify ways to optimize power consumption
- Managed coin cell battery research, designing a PCB to test pulsed load discharge profile and usable capacity
- Simulated and characterized expected ADC voltage values of circuits under different states

Electrical Engineering Intern – Mill Industries (San Bruno, CA) **May 2023-Aug 2023**

- Performed board and system-level validation on a consumer hardware product at a waste prevention startup, establishing necessary design changes through board rework
- Modified reference AC-DC flyback converter design to fit system requirements, compared performance to existing power supply, and presented results to Hardware Team
- Solved high motor inrush current and wrote lab automation script to validate motor relay
- Managed a variety of other tasks, including debugging faulty boards, working with quick-turn vendors, and condensing PCB layout to reduce cost

Research Assistant – USC Sandeep Gupta Lab (Los Angeles, CA) **Aug 2021-Feb 2023**

- Programmed a graph-based approach in C++ to generate all memristor-MOSFET logic cells and corresponding logic function implemented up to any given number of devices
- Enhanced algorithm to filter undesirable cells based on properties and quality metrics

LEADERSHIP

Low Voltage Electrical Lead – USC Solar Car (Los Angeles, CA) **Aug 2021-Present**

- Oversee telemetry and controls implementation of solar-powered electric vehicle
- Decide on components, create schematics, and design STM32 embedded PCBs to monitor data from sensors and communicate via CAN bus
- Plan and develop firmware in C for microcontrollers to interface with peripherals, such as DAC to motor controller
- Delegate low-voltage design tasks to students, providing guidance to facilitate learning and progress

Course Producer – EE155 Intro to Computer Programming (Los Angeles, CA) **Aug 2022-Dec 2022**

- Taught C++ programming concepts to 40+ students in labs and office hours
- Improved auto-grading UNIX scripts for assignments and worked with other TAs to organize course materials