Camerin Lee

Los Angeles, CA • camerinl@usc.edu • (323)-620-7074 • https://www.linkedin.com/in/camerin-lee • camerinUSC.github.io

Education

University of Southern California, Viterbi School Of Engineering | Los Angeles, CA August 2024 - *Present*

Bachelors of Science, Computer Science

Experience

Systems Testing Intern | Los Angeles Department of Water and Power *August 2025 - Present*

- Coordinated in-person end-to-end testing for new web and backend features, triaging 100+ defects and reducing average bug-fix turnaround by 25%.
- Collaborated with software engineers to reproduce, isolate, and debug issues across staging environments.

Undergraduate Research Assistant – Full-Stack Development | USC ICT *June 2025 - August 2025*

- Designed and deployed a full-stack web platform (React, TypeScript, PHP, MySQL, AWS EC2) supporting 50+ concurrent users for real-time video/audio capture
- Built backend infrastructure to coordinate client events, data capture, and asynchronous processing.

Research Intern – Superconductor Logic Design | University of Southern California (USC) January 2025 - *June 2025*

- Built Python automation tooling to generate, validate, and optimize performance-critical RSFQ logic cells
- Debugged and optimized cell generation pipeline, increasing library coverage from ~30 to 50+ unique cell types
- Reduced manual layout and verification time by ~50% through automation and tooling improvements.

NSF REU Research Fellow | Purdue University | CISTAR NSF Engineering Research *May 2024 - August 2024*

- Implemented a large-scale stochastic optimization system in Python (Pyomo, Pandas) modeling renewable energy systems with 10k+ decision variables.
- Drafted and presented a research poster based on my model and results to 150+ researchers at Purdue University

Cybersecurity Intern | City of Los Angeles | City Hall East *June 2023 - May 2024*

- Developed Python automation scripts to parse, classify, and triage malicious emails, improving incident response time by 30%.
- Led monthly, live cybersecurity awareness sessions for 300+ employees to promote cybersecurity practices

Projects

High-Performance LZW File Compressor with Custom Dictionary | C++ *December 2025*

- Implemented a full LZW file compression and decompression system in C++, using template-based policy design to swap dictionary implementations at compile time with zero runtime overhead
- Built a custom multi-bucket dictionary structure optimized by string length to reduce hash collisions and improve lookup performance during compression
- Implemented careful resource management and binary I/O using STL streams and memory-safe containers

Real-Time Temperature Monitoring & Control System | C/C++ (Sensors, Actuators, Firmware) *May 2025*

- Developed low-level C firmware for a real-time temperature monitoring and actuator control system using ADC sensor input, timers, interrupts, PWM, and EEPROM.
- Designed interrupt-driven control logic to maintain timing for sensor sampling, display updates, and actuator response.
- Implemented persistent storage of user-defined thresholds using EEPROM, and added serial communication to share data between multiple devices
- Integrated LCD output and rotary encoder input to enable real-time user interaction with system parameters.

Skills

- **Computer Programming: C/C++, Python, Java, JavaScript/TypeScript**
- **Developer Tools: Linux, Git, Docker, AWS, React, Node.js, SQL, Spring Boot**
- **Systems & Concepts: Embedded Systems, Operating Systems, Concurrency, Networking**