Marcus Lo

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EDUCATION

University of California, Irvine *Graduation: June 2027*
Bachelor of Science in Software Engineering
Relevant Coursework: Data Structures & Algorithms, User Interaction Software, Human Computer Interaction, Intro to Python Learning Assistant, Computer Organization, Software Testing & Quality Assurance

EXPERIENCE

AIQUANTA *Aug 2025-Sept 2025*
Intern

- Created Python drone software for DJI Tello, enabling 3 dimensional stabilization and face tracking using PID and OpenCV.
- Implemented swarm functionality, controlling several drones simultaneously using a design that supports scalability, documented procedures for connecting, configuring, programming drones for future company use in STEM education.

AIphotonics *Aug 2023-Sept 2023*
Intern

- Led STEM robot kit development, material was used by 150 high school students.
- Wrote code and designed lesson plans, created documentation and instruction manuals, collaborated with coworkers and CEO on various software projects.

PROJECTS & RESEARCH

Curtain Call Alarm Clock
Software developer

- Wrote C++ and Swift software for an Arduino Nano alarm clock that opens curtains using a motor. Developed method in swift application to send bluetooth signal asynchronously to alarm clock.
- Reduced power consumption by 90% using BLE in Arduino C++ integrated with HC-08 sensor.

Touch Sensitive Electric Piano
Position

- Developed in C++, Python, and Arduino C, building real-time MIDI processing and playback functionality by integrating FluidSynth library and custom serial communication with Arduino-based sensors.
- Implemented cross-platform MIDI input/output handling by connecting Arduino hardware via USB serial to Python and C++ applications, utilizing pyserial to enable robust sensor interfacing, MIDI event handling, and synthesized audio output.

IEEE Young Engineers Conference
Researcher

- Conducted independent research under mentorship to evaluate the efficacy of sound-based sleep induction technology.
- Designed and executed experimental protocols, authored research paper, and presented findings demonstrating positive correlation between sound therapy and improved sleep outcomes.

SKILLS

- **Technical:** Python, C++, Swift, R, SQL, Git, Github, Arduino, Jupyter, OpenCV, HTML, CSS, Figma, Gtest
- **Aviation:** Private Pilot License - Total: 155, PIC: 11.2, completing Instrument Rating