

EDUCATION

- **Irvine Valley College** Irvine, California
Electrical Engineering Major; Transfer to UC, Los Angeles in Fall 2026; GPA: 4.00 August 2024 – June 2026

EXPERIENCE

- **FUTEK Advanced Sensor Technology** Irvine, California
Embedded Firmware & Hardware Design Engineer I June 2025 – Present
 - Experience in the full PCB creation process include design, validation, fabrication, and assembly. Specialization in mixed signal circuit design, high resolution ADC systems, RF circuit design, and highly accurate power systems.
 - Contributed to high quality and premium projects used in the medical, robotics, and aerospace sectors.*Intern, Electrical Design Engineer II* July 2024 – June 2025
 - Analog and digital circuit design, hardware development, low-level firmware development, PCB layout, and BOM creation using industry-standard computer-aided design tools. Focus in STM32 and PIC32 microcontrollers.
 - Research and development activities, mathematical modeling with MATLAB, circuit simulations with LTSpice, and testing hardware prototypes to validate design performance. Prepared and maintained documentation.
- **Irvine Hacker Fab** University of California, Irvine
Laboratory Specialist and Project Lead; PI: Dr. Hung Cao September 2024 – Present
 - Designed a precision maskless lithography machine for patterning sub-micron features on integrated semiconductor devices. Designed a high vacuum sputtering & thermal evaporation system for semiconductor metalization.
- **Wireless Technology Club** Irvine Valley College
President & RF Engineering Lead March 2024 – Present
 - Earned a prestigious grant from the ARDC (Amateur Radio Digital Communications) and facilitated the construction of a new radio lab facility on campus. Sponsored HAM Radio exams for more than 300 members.
 - Hosted RF engineering workshops and Amateur Radio educational meetings for club members. Outreached to the community throughout Southern California and local high schools.
- **Irvine CubeSat STEM Program (ICSP)** Irvine Unified School District
Laser Communications Lead September 2020 – December 2022
 - Contributing to laser and radio space communications research. Worked with proprietary schematics and PCB documentation, designed 3-D printed bench-marking tools, developed C programs to interface laser technology to the on-board Linux environment. Designed hardware for IRVINE03 satellite to low-earth orbit.
- **NASA L'SPACE NPWEE Academy** NASA & Arizona State University
NASA Proposal Writing and Evaluation Experience, Project Scientist June 2025 – Present
 - Designed a AI-guided wavefront correction system for laser applications with micromovement precision and wavefront distortion correction using bimorph mirrors and Shack-Hartmann wavefront sensors. Worked with other graduate students and professional engineers to develop a rigorous project proposal in collaboration with NASA.

PROJECTS

- **Project LUCIAN (EEG)**: Schematic and PCB design in Altium Designer for the ADS1299 24-bit 8-Channel ADC for EEG and biopotential measurements. Analog and digital circuit design to interface the ADC with an ESP32 WiFi-Enabled Microcontroller. Gained interest and support from the Intel Corporation and was fabricated.
- **Solid-State Tesla Coil**: Large single resonance Tesla Coil with custom high voltage H-bridge power supply PCB. Custom hardware design and resonant frequency adaptive feedback. Support from UCLA's IEEE Chapter.
- **Nixie Tube High Voltage Clock**: Custom 6-digit IN-12 Nixie Tube Clock PCB with integrated STM32 MCU to control high voltage open drain shift registers.
- **UC, Los Angeles IDEA Hacks**: AI-enabled record player. First place in hardware & computer science hackathon.

TECHNICAL SKILLS

- **Languages**: C, C++, Java, Python, x86 Assembly **Technologies**: Oracle PLM, Panasonic SMT Line, HAM Radio
- **Software**: Altium Designer, LTSpice, MPLab, STM32CubeIDE, MATLAB, Linux, Git
- **Hardware**: PIC32MZ, STM32, Oscilloscope, Spectrum Analyzer, Power Supplies, Micro-Soldering