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EDUCATION

Harvey Mudd College, Claremont, CA

Exp. Grad. May 2027

- *B.S. Engineering, GPA: 3.60 / 4.00*
- *Activities: Division-III Ultimate Frisbee, SALSA Mudd, Chamber Music (Viola)*

Relevant Coursework

- Microprocessor Systems, Digital Electronics & Computer Architecture, Radio Frequency, Signals & Systems, Control Systems, Applied Mathematics for Engineers, Manufacturing & Design, Mechanical Design, Rigid Bodies, Continuum Mechanics, Electrical & Magnetic Circuits, Experimental Engineering. *Planned Spring 2027: Analog Circuit Design, System-on-Chip.*

WORK EXPERIENCE

ELDAEON INC., Azusa, CA

Jun. 2026 - Present

Mechatronics & Manufacturing Engineering Intern (NDA)

- Built and hardened the first factory-acceptance test for NEMESIS passive radar, validating 34 checks across boot, encryption, device identity, sensors, and actuators, with negative controls proving the suite itself can fail.
- Eliminated a single-console manufacturing bottleneck by implementing headless SSH provisioning and validating concurrent deployment across a 10-unit production fleet.
- Root-caused hardware/software integration faults across GPS/UART, serial buses, and networking that existing software health checks reported as healthy.
- Identified and corrected false-positive hardware validation that caused units to skip OTP key provisioning and fail downstream disk decryption.
- Validated A/B over-the-air update and recovery infrastructure to deploy the first signed complete OS image across the fleet.
- Designed and iterated testing rigs and 3D-printed fixtures in Fusion 360 prioritizing ease for operator use, DFM, and structural integrity; authored the assembly and wiring guides used on the floor.

Harvey Mudd College Clinic Project (Apple Inc.), Claremont, CA

Aug. 2025 - Dec. 2025

Fall I Clinic Engineering (NDA)

- Designed and tested fixtures for robotic polishing of elastomeric components, evaluating SNR, assembly, and repeatability.
- Evaluated software filtering and test-setup modifications to reduce measurement noise from external vibrations.
- Developed Python-based testing procedures to characterize the effects of feed rate and motor speed on surface finish.

Harvey Mudd College Machine Shop, Claremont, CA

Sept. 2024 - Present

Shop Proctor

- Train 100+ first-time users each semester in mill and lathe operations, CNC routing, heat treatment, and precision metrology.
- Mentor students through the fabrication of multi-material machinist hammers, from interpreting technical drawings and GD&T specifications through machining, heat treatment, dimensional inspection, and full-system assembly.
- Provide hands-on troubleshooting and process guidance to improve machining technique, part quality, and safe operation.

PROJECTS

Iris Table - Five Petal Mechanical Iris

Mar. 2026 - May 2026

- Conducted motion studies in SolidWorks to verify synchronized multi-link motion for a mechanical iris table design.
- Evaluated mechanical failure modes and implemented design improvements for durability, consistency, and manufacturability.

Instrument Tuner Integrating FFT on FPGA

Oct. 2025 - Dec. 2025

- Implemented a 512-point fixed-point FFT on FPGA, achieving sub-Hz frequency resolution without floating-point hardware.
- Designed and verified the fixed-point datapath and control logic in SystemVerilog using waveform-level debugging.

SKILLS

- **Machining & Lab:** Mill, Lathe, CNC Router, DMM, Laser Cutter, 3D-Printing, Oscilloscope, Soldering, Logic Analyzer
- **Design & CAD:** KiCad, EAGLE, COMSOL, SolidWorks, Fusion 360
- **Hardware / FPGA:** SystemVerilog, FPGA Design, Lattice Radiant, Quartus, Questa
- **Embedded / Programming:** C, Python, MATLAB, Simulink, Arduino, Bash, STM32, UART, SPI, I2C
- **Linux & Cloud:** Raspberry Pi OS, LUKS, A/B OTA (RAUC), AWS (CodeBuild, S3, Secrets Manager)
- **Tools:** Git/GitHub, REDCap, MS Office, Jira, Confluence
- **Language:** Spanish - Native/Fluent