

Hudson Addams

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EDUCATION

Stanford University

Stanford, CA

B.S. in Electrical Engineering

Expected Grad: 2028

- **GPA: 3.8**
- **Relevant Coursework:** Digital Systems, Differential Equations, Circuits, Computer Programming, Signals and Systems

Work Experience

Vector Defense

Salt Lake City, UT

Engineering Intern

Jun 2026 - Present

- Profiled 50 C-UAS sensor systems across five detection modalities, created multimedia presentations and spreadsheets
- Hand-reworked ~100 PCBAs and proposed layout revisions to reduce assembly rework
- Modeled interceptor engagement geometry in MATLAB to evaluate flight-path and intercept envelopes
- Fabricated ~30 custom wiring harnesses and fiber runs for radio integration, hand-soldered and bench-tested connections

AuSt Group

Salt Lake City, UT

Research and Design Intern

Jun 2025- Sept 2025

- Developed and tested 3 new prototypes for medical heart catheters and sheaths, tensile and torque testing
- Developed new lab machinery and created test models to upkeep old lab machinery
- Used CAD and FDM/SLA printers to model new prototypes for device parts and create fixtures for assembling devices

Extracurricular Activities

Stanford Robotics Club

Stanford, CA

Planktoscope Team Member

Jan 2026 - Present

- Building a plankton-detecting research buoy for understanding plankton behaviors off the coast of Florida
- Used KiCad to design PCBs for power regulation and input processing
- Selected electrical components and developed supporting circuit architecture and design

Inter-Fraternity Council

Stanford, CA

Vice President

Dec 2025 - Present

- Adjudicated conduct violations across 9 chapters, issuing verdicts and sanctions in coordination with university administration
- Proposed and implemented revisions to IFC judicial procedure, adopted across all 9 chapters

Engineering Projects

6S LiPo Battery Pack & Field Charging System - Vector Defense, 2026

- Designed a 6S (22.2V nominal) lithium-polymer pack with integrated BMS for cell balancing and over-discharge protection
- Developed a battery-to-battery charging circuit using power-resistor current limiting to transfer charge between packs
- Integrated magnetic pogo-pin connectors for blind-mate field connection

Mixing/Cleaning Fixture - AuSt Group, 2025

- Designed and assembled a novel medical fixture to clean SLA 3D-printed parts
- Developed a control system with a speed dial, start/stop button, and stepper motor driver
- Modeled and 3D-printed custom motor and mixer mounts using CAD and an FDM printer

“Useless Box” - Academic Project, 2025

- Constructed an electromechanical box that uses a motorized arm to flip its own switch
- Designed circuit schematics integrating multiple switch types, a DC motor, and control components

Technical Skills

- **Hardware Design:** Schematic capture and PCB Layout (KiCad, Altium), analog and power circuit design
- **Embedded & Firmware:** C/C++, microcontroller firmware, stepper motor control, Raspberry Pi
- **Lab & Fabrication:** Hand soldering/PCBA reworking, cable/harness fabrication, bench tools (oscilloscope, DMM)
- **Software & Analysis:** Python, MATLAB, Julia, Git
- **Mechanical:** SolidWorks, AutoCAD, 3D printing (FDM, SLA)