

JACOB FAIN

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EDUCATION

Harvey Mudd College, Claremont, CA • GPA 3.74

Expected May 2026

B.S. Engineering

Relevant Coursework

In Progress: Advanced Systems Engr. • Continuum Mechanics • Digital Electronics & Comp. Engr. • Engr. Management

Completed: Experimental Engr. • Diff. Equations / Applied Math for Engr. • Elec. & Magnetic Circuits / Devices •

Thermodynamics • Data / Prob. / Stats for Engr. • Materials Engr. • Intro to Engr. Design & Manufacturing

Skills

Engineering Software: SolidWorks, MATLAB / Simulink, Excel, AutoCAD, LabVIEW, COMSOL

Machine Shop / Laboratory: Lathe, Mill, Waterjet, Lasercutter, MIG Welding, Power Tools, Oscilloscope, Soldering

Programming Languages: Python, Arduino, JavaScript, HTML / CSS, SystemVerilog, C

ENGINEERING EXPERIENCE

Mechanical Engineering Intern, WePackItAll, Duarte CA

June 2024 - July 2024

- Inspected 20+ packaging and assembly lines to enhance safety, sanitation, ergonomics, and operational efficiency.
- Proposed changes to E-stop button placements that will dramatically reduce odds of severe accidents once implemented. Coordinated with technicians to minimize repetitive motion by repositioning pneumatic pumps.
- Calculated costs / savings for 7 facility-wide initiatives, from retrofitting rooms to utilizing \$250,000+ in unused assets.

Leader, Mechanical Design & Fabrication Team, Mudd RoboSub Club

October 2022 - Present

- Developing 2 modular autonomous underwater vehicles for the international RoboSub competition. Overseeing claw, dropper, and torpedo launcher subsystem prototyping through SolidWorks modeling, 3D printing, and dry / wet testing.
- Fabricated chassis and other components using mill, waterjet. Assembled using hand tools.
- Rectified outdated assembly CAD. Supporting file configuration efforts and improving documentation.

Co-Leader, Mechanical Structures Team, Mudd Advanced Rocketry Club

September 2022 - Present

- Assembled and launched a rocket for the '24 FAR-51025UNL state competition, placing 5th. Leading 15 students through design selection, documentation, and cross-team collaboration to pursue the '25 competition.
- Created parachute and mounting system for a remote-control rover that will deploy on descent. Machining composite bulkheads, centering rings, and fins to 0.001" tolerances via mill, waterjet, lasercutter, router, rotary tool, drill / drivers.
- Researched and selected suitable fiberglass. Verifying team's SolidWorks FEA through tension testing.

OTHER EXPERIENCE

Machine Shop Proctor, Harvey Mudd College

August 2024 - Present

- Training fellow students on safe and sanitary operation of various metal fabrication and woodworking machines. Fostering a welcoming, safe learning environment fundamental to countless student projects and experiences.
- Learning industry machines, tools, and techniques through hands-on mentorship.

Co-Founder / Vice President, Automotive Club, Harvey Mudd College

November 2022 - Present

- Promoting sustainability and trailblazing automotive engineering opportunities for future students. Teaching underclassmen the engineering process while garnering alumni and student body support.
- Spearheading design and assembly of a hybrid go-kart, with a \$1,800 budget and scrapped / donated parts.
- Facilitating smooth operation of a club of 30+ members by managing official minutes and meeting agendas.