

MICAH HSU

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EDUCATION

University of California, Berkeley

BS, Mechanical Engineering, Expected Spring 2026

- ♦ GPA: 3.84 ♦ Regents' and Chancellor's Scholar (top 2% of admitted students)

Berkeley, California

June 2024 – Present

Saddleback College

AS, Physics, 4.0 GPA with Honors Program

Mission Viejo, California

August 2022 – May 2024

PROFESSIONAL EXPERIENCE

Epirus

Mechanical Engineering Intern

Torrance, California

June 2025 – August 2025

- ♦ Designed and built a motor test bench that replicates 10 Nm loads for critical verification of control software.
- ♦ Drafted reduced-dimension engineering drawings with GD&T for custom steel and aluminum parts.
- ♦ Designed, analyzed, and built a test stand for a 400 lb outboard motor, and a rain simulator for water leak testing.
- ♦ Assisted in assembly and machining modifications during the first build of second-generation flagship product.

Applied Medical

Automation Engineering Intern

Rancho Santa Margarita, California

June 2024 – August 2024

- ♦ Designed a sorting and offloading mechanism with a 300 ms cycle time for an automated clip-forming machine.
- ♦ Developed semi-custom camera software on Ubuntu for machine monitoring and troubleshooting.
- ♦ Designed a portable hardware unit for the software, allowing rapid setup of a machine monitoring system.
- ♦ Programmed a pilot-phase PLC to control motors in coordinated motion at 20% the cost of existing solutions.

Hexagon Manufacturing Intelligence

Applications Engineering Intern

Irvine, California

June 2023 – August 2023

- ♦ Laser scanned and reverse engineered 5 extrusion dies, each up to 650 lb and 32" in diameter.
- ♦ Wrote a CMM program demonstrating fully automatic inspection of GD&T callouts in a CAD model's PMI.
- ♦ Co-taught certification courses of up to 6 customers on quality inspection with CMMs.

EXTRACURRICULAR EXPERIENCE

Space Enterprise at Berkeley

Propulsion Team Member

Berkeley, California

September 2024 – Present

- ♦ Designing a thrust-actuated remote quick disconnect valve system for a liquid rocket.
- ♦ Designed and built a thrust transfer structure with an ignitor plate for a rocket motor static fire.
- ♦ Assisted in plumbing and plate design for the bipropellant valve system for a vertical demonstrator.

Saddleback College Robotics

Mechanical Team Lead

Mission Viejo, California

July 2023 – June 2024

- ♦ Led design, manufacturing, and assembly of a 50 kg, 1.2 cubic-meter Mars rover.
- ♦ Managed timeline, task delegation, CAD standardization, and PDM system for a sub-team of 8 members.
- ♦ Spearheaded full development of a 6-DOF robotic arm with custom cycloidal gearboxes and 42" of reach.
- ♦ Selected and integrated electronics for the arm, including 24V brushless motors, drivers, encoders, and cameras.

Mechanical Team Member

August 2022 – June 2023

- ♦ Designed, manufactured, and wired a 5-DOF robotic arm, capable of lifting payloads up to 22 lb.
- ♦ Developed a novel end effector with a lead screw powertrain, compliant grippers, and built-in hex key.
- ♦ Engineered and constructed a collapsible lowering platform mechanism housing an in-situ geology experiment.

FIRST Robotics Competition, Team 3476: Code Orange

CAD Team Member, Pit Crew Member

Irvine, California

August 2021 – June 2023

- ♦ Prototyped, designed, and built a ball-control "hopper" and a telescoping arm that extends up to 19" in 0.5s.
- ♦ Collaborated on a 6-man pit crew at competitions to perform critical robot repairs under intense time pressure.

SKILLS & INTERESTS

- ♦ **Manufacturing:** Mill, Lathe, CNC Router, FDM 3D Printing, CMM, General Machining.
- ♦ **Software:** SolidWorks (Certified Professional), NX (Design Associate), Design X, Fusion 360, C++, MATLAB, FEA.
- ♦ **General:** Electromechanical Design, GD&T, Drafting, Reverse Engineering, Metrology.
- ♦ **Hobbies:** A Cappella, Rock Climbing, Piano, Guitar, Martial Arts, Philosophy, Reading, Travelling.