

MICAH HSU

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EDUCATION

University of California, Berkeley

Bachelor of Science, Mechanical Engineering, Expected Spring 2026

Berkeley, California

June 2024 – Present

- ♦ Regent's and Chancellor's Scholar (top 1% of students at Berkeley)

Saddleback College

Associate of Science, Math and Physics

Mission Viejo, California

August 2022 – May 2024

- ♦ GPA: 4.00 ♦ Honors Program ♦ AGS PTK NSLS Honors Societies ♦ Dean's List: Fall 2022 – Spring 2024

PROFESSIONAL EXPERIENCE

Applied Medical

Automation Engineer Intern

Rancho Santa Margarita, California

June 2024 – Present

- ♦ Designing an automated pneumatic mechanism that checks for air leaks in newly assembled valves to decrease cycle times by 50% compared to manual labor.
- ♦ Programming a new, cost-effective Programmable Logic Controller using ladder logic to control drivers and motors for coordinated motion in automated machines.

Hexagon Manufacturing Intelligence

Applications Engineer Intern

Irvine, California

June 2023 – August 2023

- ♦ Operated an articulated measuring arm to laser scan and reverse engineer CAD models of five extrusion dies, each up to 650 pounds and 32 inches in diameter.
- ♦ Laser scanned the trunk of a car to design a custom spoiler capable of producing a 60-pound downforce at 80 mph. Analyzed the design with Cradle Computational Fluid Dynamics.
- ♦ Co-taught certification courses of up to six customers on quality inspection with Coordinate Measuring Machines.

EXTRACURRICULAR EXPERIENCE

Saddleback College Robotics

Mechanical Team Lead

Mission Viejo, California

July 2023 – June 2024

- ♦ Managed task delegation and timelines for a mechanical sub-team of eight members. Guided the team from prototyping and design to manufacturing and assembly of a 50-kilogram, 1.2 cubic-meter Mars rover.
- ♦ Designed, manufactured, and wired a novel six-degree-of-freedom robotic arm with 42 inches of reach and featuring strain wave and custom cycloidal gearboxes driven by 24V brushless DC motors.

Mechanical Team Member

March 2022 – June 2023

- ♦ Designed, manufactured, and wired a five-degree-of-freedom robotic arm, capable of lifting payloads up to 22 pounds and performing dexterous tasks such as plugging in a USB.
- ♦ Designed and manufactured a lowering platform mechanism housing an in-situ geology experiment.
- ♦ Operated machines such as a CNC Router and 3D printers to manufacture these designs.

FIRST Robotics Competition, Team 3476: Code Orange

Robot Designer, Pit Crew

Irvine, California

August 2021 – June 2023

- ♦ Prototyped and designed two competition robot subsystems, including a telescoping arm that extends up to 19 inches in 0.5 seconds. Directed manufacturing, assembly, and revisions for each subsystem.
- ♦ Collaborated on a six-man pit crew at competitions to regularly repair the robot under intense time pressures.

NASA L'SPACE Mission Concept Academy

Team 24 Lead Systems Engineer

Remote

September 2022 – December 2022

- ♦ Led a team of five student engineers to produce an 84-page Preliminary Design Review for a Near-Earth Object investigation, detailing systems integration, vehicle design, and scientific instrumentation.
- ♦ Created system block diagrams and N² charts to represent interfaces between six vehicle systems.

SKILLS & INTERESTS

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