# M I C A H  H S U

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## EDUCATION

**University of California, Berkeley** — **Berkeley, California**
*Bachelor of Science, Mechanical Engineering, Expected Spring 2026* — *June 2024 – Present*

- Regents' and Chancellor's Scholar

**Saddleback College** — **Mission Viejo, California**
*Associate of Science, Math and Physics, Summa Cum Laude* — *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** — **Rancho Santa Margarita, California**
*Automation Engineer Intern* — *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** — **Irvine, California**
*Applications Engineer Intern* — *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 a car trunk 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** — **Mission Viejo, California**
*Mechanical Team Lead* — *July 2023 – June 2024*

- Managed task delegation and timelines for a 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, 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 drive.
- Designed and manufactured a lowering platform mechanism housing an in-situ geology experiment.

**FIRST Robotics Competition, Team 3476: Code Orange** — **Irvine, California**
*Robot Designer, Pit Crew* — *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** — **Remote**
*Team 24 Lead Systems Engineer* — *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 N^2 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.