

Eyan Documet

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Mechanical Engineer with expertise in additive manufacturing, mechatronics, mechanical design, and materials. Seeking an internship or full-time position in robotic hardware, manufacturing, and/or R&D.

EDUCATION

University of California, Berkeley, B.S. in Mechanical Engineering - 3.72 GPA Dec 2025

- **Relevant Coursework:** Manufacturing and Design Communication, Simulation of Advanced Manufacturing Processes, Robotic Locomotion, Mechatronics Design

EXPERIENCE

Engineering Intern, Lawrence Berkeley National Laboratory - Berkeley, CA Jun 2025 - Aug 2025

- Led the development of mechanical prototypes, experimental setups, and data tools while independently managing timeline, goals, and execution.
- Performed full characterization of 55 permanent magnets through rigorous experimentation and measurement.
- Promoted and revised 30+ part/assembly drawings in Windchill PLM, verifying project feasibility.
- Maintained, assembled, and upgraded prototype hardware to ensure performance met specifications.
- Developed new software tools in Python to streamline data analysis, robotic control, and visualization.

Rear Suspension Engineer, UC Berkeley Solar Vehicle Team - Berkeley, CA Feb 2025 - Dec 2025

- Created CAD models and new manufacturing plans for an aluminum/carbon-fiber suspension for a tri-pod racing vehicle.
- Led the transition from conventional design techniques to automated topology optimization and MDFM, which halved part-count and reduced weight.
- Participated in design reviews with team leads and project managers, providing technical input that refined designs and ensured alignment with project objectives and timelines.

MESA Tutor, College of the Canyons - Valencia, CA Apr 2022 - Jun 2023

- Delivered targeted instruction across multiple STEM subjects, enhancing comprehension for over 50 students per semester.
- Led biweekly review sessions in concert with course faculty, boosting student exam scores by 15% through focused concept reinforcement.

PROJECTS

Robotic Fire Suppression System - 2.5-DoF robotic platform for autonomous fire detection, prevention, and suppression in hazardous and remote environments.

- Designed frame in Fusion 360 from reverse-engineered COTS parts; implemented fire suppression using Arduino with Adafruit IR sensors and finite state machine control.

PID Controlled Inverted Pendulum - 1-DoF inverted pendulum system with stable upright control via PID feedback loop.

- Designed and selected hardware components for a scratch-built inverted pendulum robot. Tuned ESP32-based PID controller using the Ziegler–Nichols method. Currently developing ML-based controller for double pendulum on a similar setup.

Throwable-Wearable Personal Security Alarm - A 3D printed personal security device worn around the neck and thrown at potential threats.

- Selected electronics, designed enclosure in SolidWorks, and produced drawings emphasizing manufacturability.

SKILLS

Languages: Python, MATLAB, C/C++ (Arduino), L^AT_EX, LabVIEW

Mechanical Design: Creo Parametric, SolidWorks, Fusion 360, GD&T, DFM/A, FEA, Reverse-Engineering

Robotics/Embedded Systems: Electronics, Mechanisms, Data Acquisition, Control Systems, PID Tuning

Project Management: Windchill PLM, Spreadsheets, Technical Reporting