Eli Whitaker

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Objective

Motivated UCLA Mechanical Engineering student with a 4.00 GPA and strong background in robotics, coding, and circuit analysis. Seeking hands-on experience to apply my skills in mechanical design, autonomous systems, and control systems to to solve hands-on engineering challenges in robotics and automation.

Education

- **University of California, Los Angeles** *(Cumulative GPA: 4.00)*
  Bachelor of Science in Mechanical Engineering,
  Expected Graduation: June 2026
  On track for Summa Cum Laude honors
- **Cordova High School, Rancho Cordova**
  International Baccalaureate Diploma
  Graduated: June 2022

Relevant Work and Volunteer Experience

- **Structures-Computer Interaction Lab, Undergraduate Research** *(Summer 2025-Present)*
  Assisting in the development of an autonomous laser-based weeding system for agricultural automation
- **UCLA Recreation, Fitwell Consultant** *(Summer 2025-Present)*
  Managed equipment maintenance tickets, demonstrating organizational skills and facility systems awareness
- **Casa Roble High School, Tutoring** *(Summer 2023)*
  Volunteered in AP Calculus & Integrated Math, providing in-class tutoring

Technical Skills

- **Engineering Tools**: Solidworks, MATLAB, C++, Python, Next.js
- **Robotics & Control Systems**: Dynamics, Systems Analysis, ROS2

Relevant Coursework

- **Statics & Strength of Materials** (MECH&AE 101)
- **Dynamic Systems** (MECH&AE 107)
- **Computer-Aided Design and Drafting** (MECH&AE 94)
- **Kinematic/Dynamics of Robot Systems** (MECH&AE C163A/B)

Personal Projects

Catcher Arm

- A planar 2-R manipulator that autonomously intercepts airborne ping-pong balls within a 0.30 m x 0.30 m workspace. Using ROS2, we utilized computer vision, encoder data, and manipulator dynamics theory to create four controllers, three of which involved centralized control.

Custom Instrument Attachment

- Designed and 3D printed a ukulele-mounted accessory using caliper-based contour measurements and SolidWorks modeling.

Awards

- **Dean's Honor List**: Multiple quarters for high academic performance