Brian Ye

Mountain View, CA 94040 • yebrian1@gmail.com • (650) 924-3548

Innovative and results-driven Mechanical Engineer with strong fundamentals, complemented by research expertise and hands-on experience. Excels at thinking outside the box to develop creative solutions and iterate and polish ideas into functional prototypes.

ENGINEERING EXPERIENCE

UCLA STRUCTURES COMPUTER INTERACTION LAB — April 2024-Present

Undergraduate Researcher

- Received stipend as part of NSF research grant during Summer 2024
- Lead researcher on novel soft transport mechanism
    - Designed and refined flexible inflatable air pockets and rigid strain-limiting casing
    - Developed air-pressure-based object-sensing and closed-loop control for scalable applications
    - Achieved underwater implementation and explored vertical climbing demonstration
- **Achievements:** Presenting abstract at the 2025 APS Global Physics Summit, accepted into RA-L.

UCLA LEMUR — March 2024-Present

Undergraduate Researcher

- Implemented Arduino based control systems for SMA “artificial muscle” 1D jamming tripod robot
    - Successfully demonstrated adaptable crawling through a restricted space that was 61% width and 31% height of the fully deployed tripod robot
- Designed structural components and controlled DC-motor and servo motors for bio-inspired sweeping robot
- Designed and manufactured a prototype adaptable wrist brace based on the 1D-jamming mechanism
- **Achievements**: *Self-Deployable, Adaptive Soft Robots Based on Contracting-Cord Particle Jamming*, accepted to ISRR 2024 as co-author

BRUIN RACING - SUPERMILEAGE (Shell Eco-Marathon) — August 2022-Present

Steering Subteam, Structures Subteam

- Rolling Resistance Test Rig: used in analysis of tire efficiency, resulting in a 10% increase in efficiency
    - Led a team of 5 in the design and manufacturing of the welded steel frame and roller drum
    - Designed and programmed the ESP32 based controls and data collection hardware and software
- Rear Suspension
    - Created 3D models of the semi-trailing arm rear suspension, optimizing geometry to ensure handling characteristics and technical specifications
    - Used Ansys FEA to ensure adequate load capabilities to avoid failure while minimizing weight
- Windshield Mold
    - Took existing CAD of the overall car and adapted it for just the windshield
    - Manufactured a mold out of a laser-cut wooden frame and foam for thermoforming
- **Achievements:** Ranked 3rd in Shell Eco-Marathon and received $3000 for Data and Telemetry Award in 2023

WORK EXPERIENCE

MAKER NEXUS — September 2022-September 2023

Manager on Duty, Education Team Member

- Manage and maintain 28,000 ft^2 non-profit maker space with a woodshop, cold/hot shop, laser cutters, etc.
- Led classes for member training and summer camp for kids; notably designing curriculum and teaching STEAM Rocketry and Aspiring Maker camps

EDUCATION

UNIVERSITY OF CALIFORNIA LOS ANGELES

Mechanical Engineering, Dean’s Honors List, Class of 2026 - 3.9/4.0 GPA

TECHNICAL SKILLS

- 3D modeling with Solidworks, CATIA; FEA with Ansys, Abaqus; Data analysis/visualization with Python, Matlab
- Manufacturing and Fabrication: CNC mill, lathe, CAM, 3D printing, mig/tig welding, soldering
- Control and Embedded systems with Arduino and ESP32; Python, C++, Arduino IDE, Linux OS, Java