

Amy Hao

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Education

University of California, Santa Barbara (UCSB)

Bachelor's of Science, Mechanical Engineering

June 2023

- Regents Scholar
- College of Engineering Honors
- GPA: 3.96
- Dean's Honors (8 Quarters)

Master's of Science, Mechanical Engineering

June 2024

Relevant Courses: Introduction to Machine Shop, Toy Product Design, Introduction to Mechanical Engineering Design, Mechanics of Materials, Manufacturing and GD&T (anticipated Spring 2023).

Skills

Digital and Computer-Aided Design: Adobe Photoshop, Solidworks, Abaqus FEA, and Rhinoceros 3D

Prototyping: 3D printing (Objet, SLA, FDM), laser cutting, and machining tools.

Computer Programming: MATLAB, Arduino IDE, Python, C++, and Java.

Engineering Projects

Senior Capstone Project: Spinal Surgery Trial Instrument, *SeaSpine*, UCSB

Sep. 2022-Present

Team Leader

- Design and prototype adjustable trial instruments for anterior lumbar interbody fusion (ALIF).
- Use Solidworks, Abaqus FEA, 3D printing, and physical design tools to model and develop designs.
- Maintain project schedule, organize assignments, and communicate with sponsors and advisors.

Crutch Tip Redesign, *Hawkes Lab*, UCSB

Jul. 2021-Present

Undergraduate Researcher

- Design slip-resistant crutch tips to enable greater ease of movement for crutch-users.
- Develop and perform experiments to characterize existing commercial crutch tips.

Soft Actuator Research, *Hawkes Lab*, UCSB

Feb. 2020-Jun. 2022

Undergraduate Research Assistant

- Prototyped and tested sunlight-powered soft actuators for untethered locomotion of soft robots.
- Performed over 100 experiments to characterize the soft actuators using Arduino IDE and Excel.
- Designed, prototyped and tested the soft robots utilizing these soft actuators.
- Contributed data to a research paper to be submitted to Science Robotics in 2023.

Water Catchment and Filtration System, *Engineers Without Borders*, UCSB

Oct. 2019-Oct. 2020

Water Filtration Team Member

- Developed and planned water catchment system and implementation in La Sabaña, Panama.
- Devised an end-use water filtration system using silver-coated clay filters for Panama families.

Water Generator Condenser, *SACNAS Atmospheric Water Generator Project*, UCSB

Oct. 2019-Jun. 2020

Condenser Team Member

- Planned and built an energy- and cost-efficient condenser for an atmospheric water generator.
- Created diagrams and sketches of the development processes.
- Optimized ease of use, quantity of water, and energy usage with a team of collaborators.

Design Experience

Illustrator, Designer, *Octothorpic*, Walnut Creek, CA Oct. 2016-Jun. 2020

- Collaborated with an author to bring characters, outfits, and landscapes to life in a novel and comic.
- Published illustrated novel, HILT CYAN, in March 2018.

Student, *embARC Summer Design Academy*, University of California, Berkeley (UCB) Jul. 2018-Aug. 2018

- Designed, modeled, and presented a pavilion inspired by rowers at the Aquatic Park in Berkeley.
- Used Rhinoceros 3D, FDM 3D printers, and laser cutters to complete design assignments.

Leadership Experience

Mentor, *UCSB Peer Network*, UCSB Jul. 2022-Present

- Assist two freshman mentees through their first year of college by providing one-on-one support.

Peer Mentor, *Regents Scholars Association*, UCSB Oct. 2021-Present

- Provide advice on topics including internships, research, and courses to a freshman mentee.
- Introduce the mentee to campus resources and help them navigate through college life.

Co-Founder and Vice President, *Nerds4Hire*, Walnut Creek, CA Feb. 2019-Jul. 2019

- Organized a student-led tutoring collective and managed a team of over 20 student tutors.
- Negotiated with and worked alongside the school's PTSA and administration for publicity.

Peer Tutor, *Las Lomas High School*, Walnut Creek, CA Sep. 2018-Jun. 2019

- Assisted struggling freshman high school students with classwork, homework, and studying.
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