

Ethan Chang

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Interests:

- Prototyping, CAD, and component design
- Robotics, mechatronics, and control systems
- Manufacturing, including CNC and manual machining and additive manufacturing

Work Experience

Biological Science Aid - United States Department of Agriculture (June 2022 - Present)

- Developed low cost, 3d printed cyclone separator to remotely collect fungal spore samples
- Redesigned airborne debris sampler, reducing material use and manufacturing time by >75%
- Designed various fixtures and tools, and procedures for biology experiments
- Performed sample processing (DNA extraction, real time PCR), field work, disease monitoring, and other molecular biology projects

Project Experience

Cal Poly Cubesat Laboratory (November 2023 - Present)

- Manufactured satellite components with 3 axis Haas CNC mills, including developing toolpaths and designing fixtures
- Analyzed components for design for manufacturing (tolerance stackup, anodization considerations, tooling requirements, fixturing and workholding, etc.)

Cal Poly Bike Builders (September 2023 - Present)

- Club officer - responsible for teaching club members bike design and fabrication, as well as overseeing the use of club equipment
- Designed and manufactured custom steel mountain bike frame with manual and CNC machining, TIG welding, and brazing

Cal Poly Racing - FSAE (September 2023 - February 2024)

- Designed welding fixtures and sensor mounts with Siemens NX
- Manufactured fixtures and suspension components with manual mills and lathes
- Helped assemble and integrate suspension package

FIRST Robotics Competition (September 2019 - April 2023)

- Led subteam responsible for mechanical design of robot
- Taught students CAD, CAM, and mechanical design skills
- Developed and taught summer robotics class for high school students
- Led design of 2023 robot placing 3rd in the Pacific Northwest championships

Education

California Polytechnic State University, San Luis Obispo

- BS in Mechanical Engineering, concentrating in mechatronics
- GPA 4.00, Expected graduation Spring 2027