Ashley Cheung

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EDUCATION

Harvey Mudd College, Claremont CA — May 2023
B.S. in General Engineering, Concentration in Theatre — GPA: 3.7

SKILLS

- SolidWorks, MATLAB, Vectorworks, Adobe Photoshop, Adobe Illustrator, GitHub, Python, C++, Microsoft Suite
- 3D printing, laser cutting, soldering, Arduino, Raspberry Pi, machine shop tools - lathe, bandsaw, table saw

EXPERIENCE

Gradient Comfort, San Francisco CA — *Mechanical Design Engineer Intern* — Jun 2022 - Aug 2022

- Waterproofed electronics enclosure of air conditioning unit to ensure safety and reliability of product
- Designed and prototyped top cover of unit to decrease cost and improve user experience

Mudd Makerspace, Claremont CA — *Head Steward* — Sep 2021 - May 2023

- Meeting with leadership team to work on administrative duties, outreach, and improvements to the space.
- Staffing student-led makerspace by helping students find and safely use tools such as laser cutters, 3D printer, waterjet cutter, sewing machines, and various hand tools.

Harvey Mudd Clinic (Aprovecho), Claremont CA — *Engineer* — Sep 2022 - May 2023

- Optimizing and modularizing design of air blowing device to reduce emissions and increase efficiency of wood fired stoves
- Prototyping and evaluating new designs to reduce melting and clogging failures due to heat and ash

Escape Room Club, Claremont CA — *Club President* — Jan 2020 - May 2023

- Organizing collaboration of twenty students' individual puzzles in an hour long library themed escape room to be played by hundreds of students in December 2022.
- Building and wiring moving bookshelf puzzle in a team of 3 using wood shop tools and Arduinos.
- Painting and assembling custom temporary walls to divide a classroom into multiple sections to be progressed through during the experience.

Harvey Mudd Clinic (Amazon Lab126), Claremont CA — *Engineer* — Sep 2021 - May 2022

- Led construction of robot to autonomously navigate household environments and collect audio data.
- Developed Python software to move omnidirectional robot using mecanum wheels in a specified direction.
- Utilized vision based localization algorithm that recognizes AprilTags to calculate position and rotation.

PROJECTS

"Silent Sky" Theatre Production — Sep 2022 - Nov 2022

- Designed and constructed set of student-led theatre production of "Silent Sky"
- Managed and delegated prop buying, building, and borrowing
- Led run crew of show to execute scene changes and organize props

Mudd Advanced Rocketry Club — Feb 2021 - May 2023

- Leading subteam responsible for structural and propulsion components (body tubes, fins, nosecone, motor) of a dual deploy rocket designed to fly to 30,000 ft at the Spaceport America IREC competition in 2023.
- Simulating flight in OpenRocket to predict apogee and find component geometries to optimize parameters.
- Coordinating logistics with other subteams (avionics, recovery, and payload) to integrate each subsystem into the overall design.
- Teaching underclassmen basics of rocketry, 3D modeling in SolidWorks, and flight simulations.

Autonomous Underwater Robot — Apr 2022 - May 2022

- Worked on a team of 4 to build an autonomous vehicle to deploy in the ocean
- Configured sensors in Arduino language to take pressure and temperature data
- Developed algorithm to autonomously navigate using chirps received through three microphones

Solar Panel Smoothie Cart — Sep 2020 - Apr 2022

- Coordinated design and manufacturing of a solar powered smoothie cart to encourage and learn about sustainability through engineering.
- Modeled and analyzed geometry and strength of design with SolidWorks.
- Organized design files with GrabCad and BOM.