

Sophie Huang

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EDUCATION

University of California, Los Angeles (UCLA)

June 2022

BS, Mechanical Engineering, Chemistry-Materials Science

Los Angeles, CA

- 3.39/4.00 GPA
- Coursework: Fluid Mechanics; Thermodynamics; Composite Materials; Control Systems; Compliant Mechanisms; Finite Element Methods; Manufacturing Processes; Semiconductor Physics

WORK HISTORY

Nikkiso ACD

Aug 2021 - Present

Mechanical Engineering Intern

Santa Ana, CA

- Drafted technical drawings for multi-configuration assemblies and complex P&IDs; maintained BOMs with PDM software; assisted projects by converting and troubleshooting incompatible SolidWorks files.
- Created SolidWorks assemblies for hydro-test pump fixtures; selected appropriate O-ring sizes/materials.

Miravel

Apr 2021 - Present

Mechanical Engineering Intern

Los Angeles, CA

- Performed FEA for system under thermal stress and pressure; redesigned parts to address failure modes.
- Conducted research and formulated procedure for production of biopolymer-bound plant growth media.
- Contributed to design discussions of door architecture to increase ease of assembly and be user-friendly.

PROJECTS & ACTIVITIES

Bruin Racing: Supermileage Vehicle (at UCLA)

Sep 2018 - Present

Structures Subsystem Engineer/Lead

- Performed carbon fiber layup from mold design to oven cure; thermoformed plastic for car body.
- Used CFD to analyze aerodynamics of car geometry and FEA to optimize composite strength/weight.
- Developed curriculum on composites theory, mold manufacturing, and carbon fiber layup.

Engineering without Borders: Navajo Water Project (at UCLA)

Sep 2019 - Present

Civil Design Engineer/Director

- Designed pipe network for pressurized sink, shower, and greywater system; analyzed hydraulic behavior of tank supply line and graded effluent line.
- Dug hole for 300 gallon tank and 100 foot trench for effluent line; troubleshooted pump problems and purchased replacement parts during installation.
- Developed curriculum on fluid dynamics, pipe networks, greywater, and EPANET modeling.

Rayne Research Group: Additive Manufacturing and Metamaterials Laboratory

Jun 2021 - Present

Undergraduate Research Assistant

- Simulated response and deformation of micromechanical structures under different constraints and loads; utilized natural frequency analysis, explicit dynamic analysis, and imperfection factor.
- Fabricated ceramic samples for piezo applications using additive manufacturing powered by LabVIEW.

SKILLS

Softwares: SolidWorks, AutoCAD, ANSYS, ABAQUS, MATLAB/Simulink, Arduino, EPANET, Microsoft Office

Programming languages: C++, Java, Python, HLA, HTML/CSS/Javascript

Other skills: machining (mill, lathe, bandsaw, drill press), 3D printing, GD&T, project management