

X Sun

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Education

UC Berkeley College Of Engineering, Berkeley, CA, USA Aug 2019 - Present
Double Majoring in Mechanical Engineering & Electrical Engineering and Computer Science

- Jacobs Institute Innovation Catalyst Receiver: led a student team to create a mobile, open-sourced USB bicycle phone charger

Mater Dei High School, Santa Ana, CA, USA Aug 2016 - May 2019

- Principle's Honor List, Class of 2019
- Founder and Team Captain of Math Team & Captain of Speech and Debate Team
- Graduated with 96.28 UC transferable units (including Advanced Placements units and courses taken in community college)

Key Qualifications

- Experienced in research (literature review, plan and execute experiments)
- Skilled in data analysis and simulation with Matlab, Python, and Java & CAD with Solidworks
- Proficient with fabrication (3D printers, wood shop, metal shop, and CNC machines)
- Accumulative GPA: 3.65

Research Experience

Research Assistant Feb 2021 - Present
O'Connell Lab

- Making gels with different formulas and conducting compressional & stress relaxing test
- Printing and evaluating hydrogels with a bio fused deposition printer

Research Assistant Feb 2020 - Present
Design For Nanomanufacturing Lab

- Making resins with various monomer and photoinitiators for conducting different experiments
- Printing, post- processing, and evaluating optical components with CAL (Computed Axial Lithography) printer
- Evaluating mechanical properties of a novel hydrogel resin for bio-application
- Building a theoretical simulation for volumetric 3D printing with metal powder in ultrasonic field
- Leading a student team in producing a 3D printable Bacterial Viral Filter model
- Leading a student team in a COVID air purification project that gained 50K fund from the CITRIS Institution: Experimental testing, product design, research principle, and business communication

Ocean Engineering Researcher Dec 2019 - Present
TAF (Theoretical & Applied Fluid Dynamics) Lab

- Operated apparatus around a large scale wave tank in O'Brien Hall at UC Berkeley campus.
- Assisted calibrate wave gauges and force cells
- Team member of UC Berkeley MECC (Marine Energy Collegiate Competition) Team: research, design, and conduct business plan for novel marine energy technologies: Underwater UUV (unmanned underwater vehicle) Charging Station & Wave Energy Microgrid System for Isolated Communities

Researcher June 2019 - Present

Mentored by Professor Zhenyu Gan in Syracuse University, Mechanical & Aerospace Engineering Department

- Investigating into an alternation of the SLIP (Spring Loaded Inverted Pendulum) model

Mechanical Engineer And Researcher

Mar 2020 - July 2020

COVID19 Project - HelpVentilator (<https://www.ventilatorsos.org>)

- Repurposed CPAP and BiPAP machines as ventilators for supplementary medical devices
- Created CAD model for 3D printing and press release
- Built and Tested prototype with off-shelf-products and 3D printing parts
- Created the fist website and started a Gofundme campaign for the project
- The VentilatorSOS team distributed thousands of machines across the world

Research Assistant

Halted by COVID-19 Pandemic

The FLOW Lab

- Redesigning and fabricating a flow tube for a Germany scholar to student two flow-phase flow

Other Activities

Researcher, Mechanical Team Lead

Feb 2020 - Present

Space Technologies At California

- Working on the mechanical control system and manufacturing of payload box in HAB (High altitude Balloon) Team

Engineer & Team leader & Mentor

2016 Feb - Present

Code Orange FRC 3476, RoboRAVE international

- 3rd Place in Innovation & Entrepreneur Competition Asia Regional 2016: Built a robot automated to deliver toilet paper in bathrooms of commercial stores
- 4th Place in FRC (First Robotics Competition) World Championship 2018
- Volunteering for various educational programs: mentor & judge

Officer in Project Grant Committee

Feb 2021 - Present

American Society of Mechanical Engineers UC Berkeley Chapter

- Working on starting a pilot project providing funds to student projects in mechanical engineering classes

Mechanical Engineer

Aug 2019 - May 2020

Cal Space Technologies and Rockery & UC Berkeley Solar Vehicle Team & UC Berkeley Robomaster Team

- Researched on various propulsion systems and simulation techniques of rockery
- Fabricated CCTV camera mount with laser cutting
- Created CAD model for using Ansys to analyze torsional rigidity of the car structure
- Designed and manufactured mechanical parts for additional support on the robot

Skill Sets

- Research
- Finite Element Method & Ansys
- Mechanical Component Design and Fabrication & CAD
- Matlab Simulation & Python & Java
- Design and conduct experiments & Data Analysis