

Mack Sowers

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University of California, Berkeley *Materials Science and Engineering class of '24*

Relevant coursework: Phase Transformations and Kinetics, Thermodynamics, Corrosion, Polymeric Materials, MatLab, Organic Chemistry, Statics & Mechanics of Materials, Mechanical Properties of Materials, Digital Fabrication, Additive Manufacturing, Engineering Graphics, Electronic Materials, Crystallography, Materials Characterization

Experience

Intern, — Lawrence Berkeley National Laboratory

JUNE 2021 - AUGUST 2021

- Collaborated in a close-knit cohort rotated together through three research groups in a “[rotational internship](#).”
- Utilized MatLab and mathematical modeling techniques to research potential materials for use in Extreme UltraViolet (EUV) Lithography
- Shared code with teammates using github in order to work together efficiently on one problem
- Identified ways to restructure the codification of the modelled photons to correctly represent the phenomenon.
- Implemented machine learning and materials informatics to predict dielectric materials for use in micro electronics
 - Utilized python, pandas, json
- Demonstrated the ability of our model to specifically predict environmentally friendly dielectrics of interest made of abundant material
- Demonstrated the value of Density Functional Theory to calculate material properties, using bash and Lawrencium
- Explored the effect of hydrostatic pressure on perovskites crystal structure, in regards to band gap and electric polarization

Sound Engineer, — Independent contractor

ongoing

- Analysis of frequencies in a room using digital sound board; identifying issues by ear and adjusting complex systems.
- Anticipated the needs of musicians, event managers, and participants

Intern, — Bay Area Rapid Transit, and Jacobs Engineering

JUNE 2019 - SEPTEMBER 2019

- Participation in Jacob's internship program through their contract with BART
- Sourcing accurate and up-to-date AutoCAD files of station maps, and converting to a preferred format for use by the accessibility department while maintaining their accuracy
 - Wrote a guide for that conversion process
- Contribution to planning meetings regarding construction, design, and neighborhood outreach.

Manager and Chef, — Easy Creole

AUGUST 2014 - DECEMBER 2016

- Identified and executed marketing and visual design needs, including official business signage
- Surpassed expectations by reorganizing and restructuring both kitchen and recipes
- Delegated and oversaw tasks as chef
- Fostered community while resolving any problems and disputes