

# Kevin Coulson

## Resume

### WORK EXPERIENCE

SEPTEMBER 2018 - PRESENT

Precise Manufacturing Lab, Berkeley, CA

#### *Graduate Researcher*

Development of computational printing prediction to improve the Computer Axial Lithography (CAL) volumetric 3D printing process. Implementation of light attenuation/absorption and material kinetics modeling into prediction. Redesign of mechanical system design for precision printing.

SUMMER 2019

Formlabs, Somerville, MA

#### *Mechanical Engineering Intern*

Design and fabrication of mechanical calibration jigs for subsystems of the Form 3 and Form 3L SLA 3D printers. Design and implementation of injection molded components into production for the Form 3.

SEPTEMBER 2017 - MAY 2019

polySpectra, Lawrence Berkeley Labs, CA

#### *Engineering Intern*

Design and development of a device to more accurately and efficiently generate working curves for an in-development 3D printing resin by effectively concentrating and accurately producing UV light, thermally insulating resin, and enabling use in an oxygen free environment.

SUMMER 2017

Airwolf 3D, Costa Mesa, CA

#### *Engineering intern*

Worked directly with CEO/lead engineer on making a 2'x3'x3' build volume printer commercially viable by improving user interfacing and general ease of use. Designed models for to demonstrate the properties of novel FDM materials.

### LEADERSHIP EXPERIENCE

2018 - 2020

DFN CAL Lab, UC Berkeley

#### *Lead Undergraduate Researcher*

Designed personal projects and experiments within the lab. Oriented, trained, and led three undergraduate students in the CAL lab. Delegated tasks and experiments, demonstrated procedures, and provided guidance in finding particular interests within the lab.

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### EDUCATION

2020 - 2021 **M.S. Mechanical Engineering**  
UC BERKELEY

2016 - 2020 **B.S. Mechanical Engineering**  
UC BERKELEY  
*Minor in Materials Science*

### EXTRACURRICULAR PROJECTS

2019 - PRESENT **Gear Pump Extruder**  
*Innovation Catalyst grant recipient for a gear pump assisted 3D printer hotend design.*

2018 - PRESENT **Tool Changing 3D Printer**  
*Original tool changing desing. Used for direct-write SLA Hackathon project at Formlabs*

### SKILLS

ADVANCED CAD, 3D Printing (SLA, FDM), MATLAB, SIMULINK, Process Modeling, Machine Design, Prototyping, Digital Fabrication

INTERMEDIATE CAM, Python, Arduino, Electronics/PCB/UI Design, Materials Testing, DFM, DFA, Rendering/Animation

BASIC Data Analysis, Optimizaiton, pandas, Illustrator, Photoshop, After Effects, Premiere, L<sup>A</sup>T<sub>E</sub>X

### INTERESTS

Avid 3D printer designer  
Active designer for 3D printing  
Former jazz pianist and current bassist  
Skiing enthusiast and amateur windsurfer  
Experienced backpacker and outdoorsman