Zachary Sorscher

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EDUCATION

UNIVERSITY OF COLORADO BOULDER
- Bachelor of Science in Mechanical Engineering — Summa Cum Laude
- Engineering Honors Program Member — Graduated May 2022

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
- Coursework Towards Bachelor of Science in Mechanical Engineering
- Outstanding Achievement Award for Excellence in Engineering Design

PROFESSIONAL EXPERIENCE

Apple Inc. — Cupertino, CA
Mac Product Design Intern — August 2020 – August 2021
- Collaborated with industrial design, acoustics, manufacturing design, and electrical engineering cross-functional teams to design multiple system-level parts for Mac portables, including plastic and metal components as well as flexible printed circuits (FPCs)
- Utilized tolerance analyses and finite element analyses to make data-driven decisions on design choices
- Worked with global manufacturing suppliers to drive consumer electronics parts from concept to production

Syncroness — Denver, CO
Mechanical Engineering Intern — June 2020 – August 2020
- Contributed design and analysis work to engineering projects, including the Blue Origin New Glenn rocket and Aktivax auto-injectors
- Designed, analyzed, prototyped, and tested an exhaust adapter for a Stratasys Objet30 3D printer by following a standard product design procedure

Sandia National Laboratories — Albuquerque, NM
Engineering Design Intern — May 2017 – September 2018
- Participated as a mechanical design engineer on a multidisciplinary team in the Nuclear Weapons Summer Product Realization Institute competition, and was invited to extend the internship for a year
- Implemented Sandia's PLATO software for topological optimization of critical load testing projects, while providing feedback to the PLATO development team
- Developed and taught a 3-hour seminar explaining the basics of topology optimization, including a hands-on example, to around 30 full-time engineers at Sandia National Labs

Innovation Studio — Champaign, IL
Studio Technician — January 2017 – August 2018
- Provided advice to students working on projects, both personal and for classes, by recommending design features that improve reliability when using additive manufacturing, allowing me to gain multidisciplinary experience in rapid prototyping
- Trained students on, maintained, and repaired 3D printers, laser cutters, and wood shop tools

Illini Formula Electric — Champaign, IL
Member — August 2016 – May 2017
- Designed and modeled a nosecone for the University of Illinois' electric race car using SolidWorks modeling and CFD

Polar 3D — Cincinnati, OH
Ambassador — January 2015 – May 2016
- Taught students at local high schools the power of 3D modeling and rapid prototyping, including such software as AutoCAD, Fusion 360, Inventor, and SolidWorks

RESEARCH EXPERIENCE

University of California at Berkeley — Berkeley, CA
Bio-Inspired Fluid Mechanics — August 2018 – August 2019
- Exploring the geometry optimization of airfoils, inspired by barn owl wings, using physical testing methods

Bio-Inspired Solid Mechanics — August 2018 – August 2019
- Designing tougher composites, inspired by nacre, using a phase field modeling code to model crack propagation

PERSONAL PROJECT EXPERIENCE - https://www.zsorsch.com/projects-1

Shock Failsafe — Albuquerque, NM
Design and Prototyping — May 2017 – August 2017
- Designed and prototyped two passive shock failsafes, applying CAD design and 3D printing skills while learning how to collaborate well on an engineering team
- Final prototypes passed all tests

Electric Motorized Longboard — Cincinnati, OH
Design and Development — August 2013 – May 2016
- Designed and built a fully functional prototype which coupled an AC motor to a longboard truck to allow for constant belt tension and propulsion while turning
- Integrated a micro controller and force sensing resistors to control the board based on the rider's center of mass

SKILLS

3D Modeling: Unigraphics NX, SolidWorks, Fusion 360, PTC Creo, AutoCAD, Inventor, Blender, Teamcenter
Simulation: Abaqus, PLATO, ANSYS, SolidWorks
Programming Languages: Python, MATLAB, Arduino, C++, Mathematica, HTML