

Alexander Giglio

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Education

Harvard University

S.B. Candidate in Mechanical Engineering, Secondary Candidate in Computer Science
GPA 3.94

May 2020
Cambridge, MA

Experience

Hardware Engineering Intern

Superpedestrian

June 2018-August 2018
Cambridge, MA

- Developed a solid mechanical model for predicting spoke tension based on acoustic response
- Documented wear and friction testing on Copenhagen Wheel access panels, spokes, and freehubs
- Prototyped lock solutions for Superpedestrian's future bikeshare platforms

Object Recognition Research Assistant

New York University Department of Psychology and Neural Science, Pelli Lab

May 2017-August 2017
New York, NY

- Programmed a simulation of retina cell responses in MATLAB to model object recognition processes
- Leveraged SLA 3D printing and Fusion 360 to print sub-millimeter-resolution braille charts for tactile acuity testing
- Generated graphics in MATLAB for Dr. Denis Pelli's presentation on his model for visual equivalent noise

Satellite Optics Research Assistant

Harvard-Smithsonian Center for Astrophysics, Romaine Group

January 2017-May 2017
Cambridge, MA

- Performed x-ray reflectometry measurements on prototype materials for miniature x-ray optics
- Drafted custom laboratory equipment in SolidWorks to expedite lens coating and mandrel cleaning processes

Student Organizations and Projects

Harvard University Human Powered Vehicle Team

Vice President

September 2017-Present
Cambridge, MA

- Creating and teaching a curriculum of machining and engineering design classes for new members
- Designing and performing stress simulations on frames in SolidWorks
- Researching composites manufacturing methods to improve vehicle aerodynamics

Harvard Open Data Project

Data Analyst and Front-End Web Developer

October 2016-Present
Cambridge, MA

- Analyzing student spending habits in Python and developing visualizations in JavaScript
- Improved data catalog access page by reformatting the catalog item data structure and reducing visual clutter

Skills

Programming and Software

Proficient at performing data analysis and modeling physics in MATLAB, Python, and C
Comfortable designing websites with HTML, CSS, JavaScript, and SQL

CAD/CAM

SolidWorks (CSWA Certified), Fusion 360, 3D Printing, CNC Milling

Spoken Language

English (fluent), Spanish (proficient)