Alexander Giglio

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177 Eliot Mail Center
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Education

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

May 2020
Cambridge, MA

Experience

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 electromechanical lock solutions for Superpedestrian's share bike platform

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

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 vehicle frames and performing finite-element analysis in SolidWorks
- Researching composites manufacturing methods and performing flow simulation to improve vehicle aerodynamics

Harvard Open Data Project
Data Analyst and Front-End Web Developer

October 2016-May 2018
Cambridge, MA

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

Skills

CAD/CAM and Hardware
SolidWorks (CSWA Certified), Fusion 360, COMSOL, FEA, 3D Printing, CNC Milling, MIG Welding

Programming and Software
MATLAB, Python, C, HTML, CSS, JavaScript, SQL, Microsoft Office (Excel, Word, Powerpoint)

Spoken Language
English (fluent), Spanish (proficient)

Portfolio at agigli0.github.io