Alexander Giglio

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Education

Harvard University
May 2020
Cambridge, MA

Bachelor of Science in Mechanical Engineering
Magna Cum Laude with Highest Honors in Field (GPA: 3.88)
Secondary Field in Computer Science

Industry Experience

Mechanical Engineer Intern
May 2019-August 2019
Needham, MA

SharkNinja (Shark Advanced Development)

- CAD modeled and fabricated components for testing in prototype cordless vacuum cleaner nozzles
- Designed a mechanical meter and wrote a complementary computer vision application in Python to measure brush roll bristle-floor engagement within 0.1 mm; verified system and procedure with gage R&R study

Engineering Intern
June 2018-August 2018
Cambridge, MA

Superpedestrian

- Developed a solid mechanical model for predicting spoke tension based on the sound from plucking a spoke
- Documented wear and friction testing on Copenhagen Wheel access panels, spokes, and freehubs
- Prototyped electromechanical lock solutions for Superpedestrian's share bike platforms

On-Campus Experience

Club President
September 2017-May 2020
Cambridge, MA

Harvard College Human Powered Vehicle Team

- Designing, fabricating, and testing human powered vehicles for an annual ASME competition
- Coordinated engineering design process with competition requirements and budget limitations
- Leveraged SolidWorks CAD and FEA to design and validate a recumbent bike frame for manufacturing
- Led a 6-person team to its first competition in spring 2019 and placed 35th out of 50 colleges

Teaching Fellow
January 2019-May 2019
Cambridge, MA

ES120: Introduction to Solid Mechanics

- Assisted Professor Katia Bertoldi in teaching introductory solid mechanics to 30 students
- Taught problem-solving sessions, held office hours, wrote exam problems, and graded assignments
- Rated 4.2/5 by students through anonymous course evaluations

Object Recognition Research Assistant
May 2017-August 2017
New York, NY

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

- 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

Skills

CAD/CAM and Hardware
SolidWorks (CSWA Certified), Fusion 360, Creo, COMSOL, ABAQUS, 3D Printing, CNC/Manual Machining, Welding

Programming and Software
MATLAB, Python (NumPy, OpenCV), C/C++, JavaScript, SQL, Microsoft Office (Excel, Word, PowerPoint), Adobe CC

Spoken Language
English (fluent), Spanish (proficient)

Portfolio at agigli0.github.io