

Education

Harvard University

S.B. Candidate in Mechanical Engineering, Secondary Candidate in Computer Science
GPA 3.89

May 2020
Cambridge, MA

Off-Campus

Mechanical Engineer Intern

SharkNinja (Shark Advanced Development)

June 2019-August 2018
Needham, MA

- 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

Superpedestrian

June 2018-August 2018
Cambridge, MA

- 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

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

On-Campus

Club President

Harvard College Human Powered Vehicle Team

September 2017-Present
Cambridge, MA

- 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

ES120: Introduction to Solid Mechanics

January 2019-May 2019
Cambridge, MA

- 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

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, JavaScript, SQL, Microsoft Office (Excel, Word, Powerpoint), Adobe CC

Spoken Language

English (fluent), Spanish (proficient)

Portfolio at agigli0.github.io