Alexander Giglio

Portfolio: agigli0.github.io
Email: alex.giglio@live.com
Mobile: (917) 902–3700

Education

Harvard University
Aug 2016 - May 2020
Cambridge, MA

Bachelor of Science in Mechanical Engineering
Magna Cum Laude with Highest Honors in Field – GPA 3.88
Minor in Computer Science

Work Experience

Collins Aerospace
Jun 2020 - Dec 2022
Richardson, TX

Rotational Engineer in Mission Avionics Systems

- Writing requirements and test procedures to integrate next-generation radios onto the Bell-Collins FARA prototype
- Automating test procedures with Python scripting to accelerate development
- Leveraging model-based systems engineering methods to build a DoDAF V2.0-compliant rotary-wing aircraft model

SharkNinja
May 2019 - Aug 2019
Needham, MA

Mechanical Engineer Intern in Shark Advanced Development

- Digitally modeled and fabricated components for testing in prototype cordless vacuum cleaner nozzles
- Designed a mechanical meter and wrote a complementary Python computer vision application to measure a vacuum cleaner nozzle's bristle-floor engagement with 0.1 mm precision and verified precision with a gage R&R study

Superpedestrian
Jun 2018 - Aug 2018
Cambridge, MA

Engineering Intern

- Developed and verified a solid mechanical model for predicting spoke tension based on the sound from plucking a spoke
- Prototyped electromechanical lock solutions for Superpedestrian's share bike platforms

On-Campus Experience

Harvard College Human Powered Vehicle Team
Sep 2017 - May 2020
Cambridge, MA

President and Frame Team Lead

- Designed, fabricated, and tested human-powered vehicles for an annual national ASME competition
- Created classes and conducted design reviews to teach practical engineering skills to newer students
- Leveraged SolidWorks CAD and FEA to design and validate rollover-safe steel bicycle and tricycle frames
- Led a dozen students across four sub-teams to 35th place in 2019 and 21st place in 2020

Harvard School of Engineering and Applied Sciences
Jan 2019 - May 2019
Cambridge, MA

Teaching Fellow for 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

NYU Department of Psychology, Pelli Lab
May 2017 - Sep 2017
New York, NY

Research Assistant

- 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

Skills

Hardware: 3D Printing, Manual Machining (lathe, vertical mill), MIG/TIG Welding
CAD/CAM: SolidWorks (CSWA Certified), Fusion 360, CNC Machining, Creo, COMSOL, ABAQUS
Software: Python, MATLAB, C/C++, JavaScript, SQL, Microsoft Office, Adobe CC
Spoken Language: English (native), Spanish (proficient)