Alex Giglio

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Industry Experience

Rotational Program Engineer **Jun 2020 - Jun 2022**
Raytheon Technologies | Margaret Ingels Engineering Development Program

Mechanical Engineer **Jul 2021 - Dec 2021**
Collins Aerospace | Mission Systems | Optronics **Carlsbad, CA**
- Performing optomechanical design, analysis, and test duties for precision optical assemblies
- Researching lens edge blackening processes to mitigate stray light and improve lens structural integrity

Mechanical Engineer **Jan 2021 - Jun 2021**
Collins Aerospace | Mission Systems | Mechanical Products **Richardson, TX**
- Modeled and performed trade studies on Boeing E6-B and E4-B trailing wire antenna reel systems
- Designed and simulated a high vacuum testing chamber for lightning arrester development

Systems and Software Engineer **Jun 2020 - Dec 2020**
Collins Aerospace | Avionics **Richardson, TX**
- Automated communications software testing via Python scripting and streamlined testing on simulated hardware
- Utilized MBSE tools to integrate traditional text-based requirements with a SysML logical architecture

Mechanical Engineer Intern **May 2019 - Aug 2019**
SharkNinja | Shark Advanced Development **Needham, MA**
- 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

Education

Bachelor of Science in Mechanical Engineering **Aug 2016 - May 2020**
Harvard University **Cambridge, MA**
- Magna Cum Laude with Highest Honors in Field
- Minor in Computer Science

On-Campus Experience

President and Frame Team Lead **Sep 2017 - May 2020**
Harvard College Human Powered Vehicle Team **Cambridge, MA**
- Leveraged SolidWorks CAD and FEA to design, fabricate, and test rollover-safe steel bicycle and tricycle frames
- Led and instructed a dozen students across four sub-teams to 35th place in 2019 and 21st place in 2020

Research Assistant **May 2017 - Sep 2017**
NYU Department of Psychology | Pelli Lab **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

Skills

Hardware: 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++, DOORS, Cameo, JavaScript, SQL, Microsoft Office, Adobe CC
Spoken Language: English (native), Spanish (proficient)