Nicholas T. Masso

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Education

Purdue University Bachelor of Science with Honors (GPA: 3.68)   *August 2017-Present*
Major in Aeronautical and Astronautical Engineering, Minor in Computer Science, Minor in Mathematics

Awards/Certifications

Purdue Dean's List 2018, Purdue Dean's List 2019, Level 1 High Power Rocketry Certification

Skills

Microsoft Suite (Word, Excel, PowerPoint, Publisher), Linux OS (Ubuntu, Arch), LaTeX
Programming Languages: Python, C / C++, Java, JavaScript, MATLAB, Simulink, MongoDB, Firebase
CAD: SolidWorks**,** CATIA**,** Inventor**,** Fusion 360**,** Eagle (With assorted 3D printing workflows)
Shop: General safety practices, hand tools, soldering, laser cutting, CNC routing and machining

Work Experience

Researcher, Resilient Extra-Terrestrial Habitat Institute - Purdue University   *February 2020 – Present*
Project: Create a MATLAB model for the Lunar meteorite impact environment for use in a large habitat simulation. Produce a written report with sources and theory explained. Poster presentation in Spring 2020.
- Perform a literature review to determine currently understood impact rates
- Program model, utilizing a Poisson process for random event generation
- Integrate into DEEDS database for case studies and automation

Intern, Rotorcraft Aeromechanics - NASA Ames Research Center   *June 2019 – August 2019*
Project: Created a database access module in Python for use with NFAC data acquisition systems for the purpose of building a new user-facing program. Produced full code documentation and report.
- Designed interfaces and modules for efficiently accessing raw data
- Used backend for performing statistical analysis on large data sets
- Generated formatted PDF reports for standard statistical operations

TA, Introduction to Honors Engineering - Purdue University   *August 2018 – Present*
Working closely with teams of freshman engineering students, grading their work, and offering assistance in areas of physics, programming, and engineering concepts.
- Writing assignments for students in Python and MATLAB
- Scripting updates and operations to be used by TAs and students
- Managing GitHub software repositories

Extracurricular Activities

Design Lead, **Commercial Rocketry Team** - Purdue Orbital   *Sept. 2017 – May 2020*
Member, Commercial Rocketry Team – Purdue Orbital   *August 2020 – Present*
Directing the construction of rockets to fly on commercially available composite propellant, aiding in certifying team members for high-power rocketry, and performing flight and ground tests of sensors and electronics.
- Managing technical documentation (SOPs, RFAIs, etc.) for operations and presenting at Design Reviews
- Facilitating inter-team communication for standards, mounting hardware, and power requirements
- Design and Prototyping with CAD and 3D Printing
- Manufacturing aluminum and fiberglass parts using CNC mills, CNC lathes, and hand tools
- Ensuring safety protocol is followed during construction and launches