

Matthew Di Giovanni

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EDUCATION

Worcester Polytechnic Institute (WPI), Worcester, MA

Graduation May 2027

B.S. Aerospace Engineering; Astrophysics Minor | GPA 3.95

Sigma Gamma Tau (National Aerospace Engineering Honor Society)

Relevant Coursework: Aerospace Structures, Incompressible Fluid Dynamics, Aerospace Control Systems, Statistical Physics, Orbital Mechanics

SKILLS

Technical: CNC Mill, CNC Lathe, Laser Cutting, 3D printing, Soldering

Software: Ansys, MATLAB, Siemens NX, SOLIDWORKS, Fusion 360, Microsoft Office, VBA code

PROFESSIONAL EXPERIENCE

Process Engineering Intern, Metalex Manufacturing, OH

July 2024 - August 2024

- Developed custom-programmed macros with VBA code to compile complex reports to reduce the filing time and to see correlations between the quarterly reports
- Created comprehensive inspection reports to ensure parts complied with the defined tolerances
- Designed an interface to improve customer-supplied material tracking, especially for aerospace related jobs which requires tracking of materials through multiple years

PROJECT EXPERIENCE

Structures Sub-Team Lead, High Power Rocketry Club, WPI

August 2024 - present

- Led the development of a method of sections bending and a shear stress calculator that also determined the stress concentration factors and the maximum moment experienced over the entire rocket body during a worst case scenario flight to determine the forces acting on couplings
- Designed a hydrostatic testing device to determine the strength of silicone rubber seals
- Verified strength of components using static-structural simulations in Ansys

Recovery Sub-Team, High Power Rocketry Club, WPI

August 2023 - June 2024

- Modeled a 3D printable electronics sled in SOLIDWORKS
- Simulated the worst-case parachute opening force acting on the sled's aluminum bulkhead to find where material can be removed in order to make the bulkhead as light as possible
- CNC milled an aluminum bulkhead that the sled mounts to inside the rocket

Great Problems Seminar, Seeking Sustainability, WPI

September 2023 - December 2023

- Investigated possible solutions to the energy crisis in South Africa
- Communicated research through infographics, an oral presentation, and an evidence-based report

Eagle Project, Califon, NJ, Lebanon Township Troop 92

August 2021 - August 2022

- Managed the planning and execution of a field renovation
- Uprooted invasive plants and replaced with native plants to be converted into a meditative pathway

WORK EXPERIENCE

Crimson Key Tour Guide, WPI Admissions

February 2024 - present

- *Marketing Manager* - Manage social media platforms and take outreach photos
- Provide guided tours of the WPI campus to prospective students and their families

Founder, Molten Layers (www.moltenlayers.com)

2023 - present

- Launched online business to display original 3D models
- Obtained a trademark on the brand logo and name
- Designed and acquired a copyright on original 3D printed board game - "Staircase Race"