

Matthew V. Lewton

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Education

Purdue University | West Lafayette, IN

Bachelor of Science in Mechanical Engineering, Mathematics minor.

Expected Graduation: May 2025

GPA: 4.0

Experience

Bechtel Innovation and Design

Center Manufacturing Peer Mentor

West Lafayette, IN

April 2022–Present

- Conduct CAD/CAM consultations with students seeking to design and manufacture parts for projects in research, automotive racing, rocketry etc.
- Assist students operating CNC and mills and lathes.
- Guide students in setting up tooling and work holding.

Purdue Space Program SEDS Liquids Team

Composites and Manufacturing

West Lafayette, IN

August 2021–Present

- Team is designing a liquid rocket for competition at FAR Mars with apogee over 65k ft.
- Designing, manufacturing, and testing carbon fiber composite structures (airframe, fins, etc).
- Machine parts for structural and engine components.
- Modeling and simulating structural performance of composite structures.

Montgomery College NASA MINDS Team

Lead Engineer

Rockville, MD

October 2020–October 2021

- Designed a lunar surface simulation testing rig with vacuum chamber and controlled heat flow which uses waste heat and the natural temperature gradient of lunar regolith to generate electricity,
- Received NASA and university funding to construct and test experimental thermoelectric system.
- Simulated thermal performance of testing rig and thermoelectric generators.
- Team placed 4th overall, 1st place Technical Paper.
- Co-Authored research paper, presented at IEEE MIT URTC conference 2021, published in IEEE Xplore.

Technical Skills

Software: Solidworks, Ansys, Siemens NX, Inventor, Fusion 360

Expertise: Composites design, CNC machining, mechanical and thermal simulation, 3D printing.

Programming Languages: Python, C, MATLAB, HTML/CSS, Some SQL

Personal Projects

High Power Rocket and Composites (July 2022)

- Designed and built high power rocket for Level 1 NAR certification.
- Built fiberglass airframe with a wet layup and interior molds.
- Designed and built avionics to record altitude, acceleration, and pitch.

Portfolio Website: mattlewton.me (June 2022)

- Designed custom HTML templates for Jekyll.
- Pages generate from Markdown article content.
- Styled in CSS styled myself without any libraries.

Roommate Compatibility Test (April 2021–May 2021)

- Created survey and Python algorithm to create a compatibility score for any two possible roommates. Considers over 30 weighted aspects of a roommate, such as common interests and living habits.
- Distributed on the Purdue Class of 2025 Discord server and has been used by over 140 students.