

# Zachary Stutsman

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## Education

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### Vanderbilt University

Nashville, TN

Bachelor of Mechanical Engineering

May 2025

*Astronomy Minor*

GPA: 3.68 / 4.00

Relevant Coursework: Fluids, System Dynamics, Mechanics of Materials, Machine Analysis and Design, Mechatronics, Heat Transfer, Aerospace Propulsion, Machining, Gas Dynamics

## Experience

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### UT Space Institute – HORIZON Group

June 2024 – August 2024

*Summer Research Intern*

- Redesigned a hollow cylinder flare model to include ports for new shear sensing equipment
- Developed a MATLAB script to process data from shear sensors
- Gained familiarity with diagnostics such as Schlieren imaging and pressure and temperature sensitive paints. Also gained experience with full system instrumentation

### Undergraduate Research

September 2023 – May 2024

*Thermite/3D Printing*

- Tested the feasibility of combining thermite with PLA plastic to create ignitable 3D prints
- Combined research and testing to optimize both ignition and mixing methods

### Vanderbilt Rocket Team

November 2023 -- Present

*Payload Engineer*

- Design and fabricate a lander which will descend from the rocket under parachute
- Develop extensive testing protocols for lander and associated subsystems
- Work with full team to integrate systems and construct full vehicle

## Leadership and Extracurriculars

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### Vanderbilt Rowing Team

August 2021 – May 2024

*Team Member*

- 20 hours per week of organized practice alongside additional self-motivated workouts
- Developed strong bonds with teammates in an environment that required constant collaboration and attention to detail

### Boy Scouts

June 2014 – December 2020

*Eagle Scout*

- Held various leadership positions, most notably Assistant Senior Patrol Leader
- Developed a variety of skills, ranging from practical outdoor knowledge to working within a hierarchy of authority, and gained extensive leadership experience
- Mentored younger Scouts, teaching them skills they needed to advance in rank

## Volunteer Experience

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### Eagle Scout Service Project

November 2020

- Designed three “book boxes”, or little libraries, which were placed around the community
- Communicated with troop and community officials to gain approval for the project
- Led a group of 25 Scouts and adults in building and installing the book boxes

### Aceing Autism

January 2022 – Present

*Program Director*

- Lead tennis lessons for kids with autism, helping them to form interpersonal connections and develop motor skills
- Send weekly emails to parents of participants and program volunteers