# May Wildgrube

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## Education

**Tuft University**, BS in Mechanical Engineering and Physics (Double Major) Sept 2021 – May 2025

- GPA: 3.5/4.0
- **Coursework:** Transport Phenomena, Engineering Design, Control Systems, Classical Mechanics, Modern Physics

## Projects

**Hybrid Rocket Engine** May 2024-Present

- Developing Hybrid Rocket Engine that burns paraffin wax and nitrous oxide
- Modeling combustion using Comsol to include flow, temperature, and species transport to inform design decisions and optimize mixing
- Building and designing pressure chamber and combustion chambers from scratch

**Flight Computers for IREC Competition** October 2023-Present

- Designed and developed flight computer PCB using KiCad for use in the IREC competition rocket as
- Currently improving design to use ESP32 WROOM-32E chip with capacities to read IMU, barometer, and temperature data and transmit over 433Mhz LORA to ground station

## Experience

**Engineering Intern**, Sublime Systmems – Somerville, MA May 2024 – Present

- Worked with a team of engineers to design and commission a pilot plant for Sublime's low carbon Cement
- Worked with P & IDs to design and build piping and valve manifolds for chemical processes
- Optimized processes within the pilot plant for applications in scale-up for the kiloton plant

**Research Assistant**, Tufts Transport Phenomena Lab – Medford, MA Jan 2024 – May 2024

- Designed experiments for permeability research on aerogels using supercritical carbon dioxide
- Built MATLAB scripts to analyze complex transport equations in post-processing of data
- Designed and machined parts of the experimental setup using machines like a lathe and a mill

**Teaching Fellow**, Tufts University CEEO [Center for Engineering Education and Outreach] – Medford, MA July 2023 – Aug 2023

- Taught high school students robotics principles, such as CAD, control systems, and and coding
- Guided students through advanced engineering projects like sorting bots and autonomous planes

## Club Leadership

**Rocketry Team Lead**, Tufts SEDS's Rocketry Team March 2022 – Present

- Developed a rocketry program from 6 to 50 active members over the course of 4 years
- Started 2 separate project teams, the IREC team and the Hybrid team, within two years
- Designed team structure for IREC team that lead to a successful competition
- Created L1/L2 certification program to allow non-engineers to pursue L1 certifications as a hobby

## Skills

**Technical Skills:** SolidWorks, Comsol, KiCad, Onshape, Ansys, Matlab, FEA, CFD, P & ID, Python, C++

**Manufacturing:** Manual Mill and Lathe, Compostites, Waterjet, Lasercutter, 3D printing

**Interests:** Marathon Running, Orchid Collecting, Japanese Language, Book Collecting, Hiking