# GRANT FELLOWS

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#### **EDUCATION**

Bachelor of Science in Mechanical Engineering, Purdue University, 3.54 GPA

Expected May 2027

#### **SKILLS**

Software Development Python, Java, JavaScript, MATLAB; Flask, HTML, CSS;

Data processing & modeling with NumPy, Pandas, SymPy, Matplotlib

Siemens NX, Autodesk Inventor, Fusion 360 (CAD/CAM/FEA),

Simcenter/FEMAP (FEA)

Fabrication Manual mill/lathe; CNC mill (Tormach), 3D printing, laser cutting

#### **EXPERIENCE**

## OrbShip Fellow, Orb Aerospace

3D Modeling & Simulation

May 2025 - Aug 2025

Grand Rapids, Michigan

- · Developed a Python library and web app for improving FEM simulation of additive manufactured parts, allowing Orb engineers to better understand the stiffness and failure properties of printed parts before real-world testing
- $\cdot$  Wrote extensive documentation and presented to Orb team on the use of this approach for simulating 3D prints
- · Conducted 50+ ASTM tensile tests and data analysis to demonstrate validity of simulation in real-world parts

#### Systems Engineering Lead, Purdue Lunabotics

Aug 2024 - May 2025

West Lafayette, Indiana

- · Created and edited technical descriptions of robot processes, tracked and verified robot and system requirements
- · Onboarded and managed new members
- · Awarded 3rd place in Systems Engineering, 2nd place in Presentation and Demonstration, and 4th place overall out of 58 teams for 23-24 season

## Autonomy Team Member, Purdue Vertical Flight Systems

Aug 2025 - Present

West Lafayette, Indiana

· Designing flight controller software for Purdue Vertical Flight Systems' entry into the GoAERO challenge

## Laser-Assisted Processing Researcher

Aug 2023 - May 2024

West Lafayette, Indiana

- · Researched applications of laser-assisted processing to industrial decarbonization for Dr. Benxin Wu's Vertically Integrated Projects team
- · Synthesized findings from over one hundred papers into a report and final presentation to inform further research by the lab

# FTC Robotics Captain, Eastside Preparatory School

Aug 2019 - May 2023

Kirkland, Washington

- · Captained First Tech Challenge robotics team 8103 (Null) for 2021-2022 season. Led hardware team for 2022-2023 season
- · Designed, prototyped, and fabricated mechanisms for 4 years of game challenges and robots

#### **PROJECTS**

See gwfellows.github.io/portfolio for a portfolio of my personal engineering projects, including;

- · A GPS mount for ship railings. Built for a container ship captain's custom use case; parts are in active use today
- · An ergonomic electric guitar body built from 3 laser-cut aluminum plates
- · A Python library for tree-based genetic programming, used to perform symbolic regression on datasets