Molly Drumm

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Project Portfolio: mollydrumm.com **LinkedIn:** linkedin.com/in/mollydrumm **GitHub:** github.com/mollydrumm2

EDUCATION

Cornell University, College of Engineering, Ithaca, NY **May 2024**
Master of Engineering, Aerospace Engineering, **GPA: 3.9**

Cornell University, College of Engineering, Ithaca, NY **May 2023**
Bachelor of Science, Mechanical Engineering, **Cum Laude, GPA: 3.6**
Dean's List: Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023

Relevant Courses: Intermediate Fluid Dynamics with CFD, Heat Transfer, Turbulence and Turbulent Flows, Aeronautics, Dynamics of Flight Vehicles, Thermodynamics, Python, Propulsion of Aircraft and Rockets, Wind Power, MATLAB

EXPERIENCE

SharkNinja, Needham, MA, *Floorcare Research & Development Mechanical Engineering Coop* **Jan - Dec 2025**
- Developed liquid air momentum separators by ideating and testing designs with 3D print prototypes and CFD simulation to prevent spitting dirty water from the exhaust in two multimillion dollar category products.
- Worked closely with stakeholders across multiple teams to prioritize user experience in dirty water tank design.
- Balanced fidelity and efficiency to develop product prototype testing in a fast paced environment, accounting for product use edge cases.

Teaching Assistant, Cornell University, *ANSYS Simulation* **January - May 2024**
- Collaborated with a professor to create and prepare learning materials and projects for the CFD and FEA classes.
- Mentored students in class and office hours on using FEA and CFD simulations in ANSYS.

Esmaily Lab, Cornell University, *Masters of Engineering Project* **September 2023 - May 2024**
- Implemented a MATLAB script using a Fourier Transform to smooth data of a 3D beating heart model over time.
- Utilized software to smooth each frame of the same model in space using spherical harmonics.

GE Aerospace, Evendale, OH, *Fan and Compressor Aerodynamics Intern* **June - August 2023**
- Implemented two novel data reduction methods in Python and Fortran 77 for test results.
- Performed assessment of test hardware using NX to ensure compatibility with future test configurations.
- Supported match of low-fidelity aerodynamics model to test data.

New England Wire Technologies, Lisbon, NH, *Process Engineer Intern* **June - July 2022**
- Implemented tensile tests of three different extruded thermoplastics at high temperatures, analyzed experimental yield stress to assess the viability of coreless extrusion.
- Analyzed CFD results for a thermoplastic extruder that makes custom multi-lumen catheters and used data to modify extrusion tooling in Autodesk Inventor to improve flow distribution.
- Designed a ceramic piece assembly in CAD to fit over and attach to the extruder head to work as a heat guard.

Combat Robotics at Cornell, Cornell University, *Vice Subteam Lead* **October 2021 - May 2023**
- Oversaw 6 mechanical engineers working to design and build a low kinetic energy 12 lb combat robot focused on creative design, strategy, and repairability to compete in the Norwalk Havoc Robot League.
- Modeled designs of the assembly in Autodesk CAD, taking weight, robustness, and part costs into consideration.
- Manufactured robot components on a mill, soldered electronics, and assembled a competition ready robot.

SPECIALIZED SKILLS

Novice: GD&T, CNC Machine, Lathe Machine, C++, Fortran 77, Generative Design
Proficient: Solidworks, Creo, Autodesk, Mill Machine, Soldering, ANSYS CFD and FEA, MATLAB, Python
Interests and Activities: Formula One, Big Red Marching Band, Shakespeare Troupe, Skiing, Violin, Guitar, Knitting