Hannah Sherman

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2026**
Bachelor of Science, Mechanical Engineering, GPA: 4.0, Dean's List (all semesters)

RELEVANT EXPERIENCE

SpaceX, Starbase, TX, *Engineering Intern* **Jan. 2025 – Aug. 2025**

- Engineering intern on the Starship Ground Support Equipment (GSE) Team. Responsible for hardware development for Acceptance Testing of the Starship Second Stage and Superheavy Booster.
- Responsible Engineer to procure critical path hardware for Starship static fire on Launch Mount 1. Reduced fabrication time from 8 weeks to 3 weeks to deliver hardware ahead of schedule.
- Owned the thermal protection system for static fire stand hardware, enabling long-duration static fire operations.
- Designed and implemented a robust hardware design to save up to $8000 in replacement parts.
- Implemented hardware change on Starship integration stands to save up to 6 hours during vehicle integration.
- Designed and analyzed a 3-DOF steel weldment mechanism for Starship static fire stand.

Northrop Grumman, Dulles, VA*, Systems Engineering Intern* **May 2024 – Aug. 2024**

- Selected as a 2024 Brooke Owens Fellow.
- Produced 50+ page documentation package to perform trade study on the implementation of 3D visualization platform, Cesium, to replace its native counterpart, easing UI migration from desktop to the web.
- Developed and executed test procedures & acceptance criteria to evaluate CesiumJS API for required features. Concluded that Cesium can successfully execute 8 required capabilities for satellite visualization.
- Implemented Python script that converts positional telemetry data into a form for live streaming into Cesium UI.

ASTRA Lab, Ithaca, NY, *Undergraduate Researcher* **Jan. 2024 –Present**

- Investigating the effects of surface etching and geometric variance in electrospray needles on TOF-SIMS results.
- Re-designed and tested components of an electrospray Time of Flight Secondary Ion Mass Spectrometry (TOF-SIMS) experiment to increase particle throughput and decrease signal to noise ratio.
- Designed, manufactured, and tested an electrospray plume demonstration for increased modularity.

Cornell University Unmanned Air Systems, Ithaca, NY, *Structures and Payloads Engineer* **Sep. 2023 – Present**

- Developing a novel tilt rotor propulsion system to reduce aircraft system weight.
- Designed and manufactured a fiberglass propellor via wet composite layup that reduces drag by 26% and prevents flow into back of aircraft fuselage. Optimized geometry in SolidWorks Flow Simulator.
- Led transition from electric propulsion system to gas engine to increase aircraft flight time to ensure completion of competition mission. Designed and implemented a testing platform for a 60cc gas engine, led and oversaw engine break-in and tuning, and spearheaded integration of gas engine into aircraft system.
- Designed an aluminum gas engine mount to withstand 40lbs of static thrust using ANSYS mechanical.

Cornell Engineering Learning Studios, Ithaca, NY, *Learning Studio Design Intern* **Jun. 2023 – Aug. 2023**

- Designed, prototyped, and manufactured a scale-model forklift demonstration using 3D printing and laser cutting for Statics & Mechanics of Solids class. The demonstration was used by 250 students enrolled in the course.
- Created parametrized CAD designs for laser cut components to adapt to variations in acrylic sheet thickness, streamlining the process of updating dimensions to reduce waste.
- Developed a MATLAB GUI to aggregate student's experimental data in an interactive format.

CAMPUS INVOLVEMENT

Women of Aeronautics and Astronautics, *President, Publicity Officer, General Member* **Jan. 2023 – Present**
ELI Peer Tutor, Cornell Engineering, *Statics, Multivariable Calculus, Physics Mechanics* **Jan 2023-May 2024**
Teaching Assistant, Cornell Engineering, In*tro to Mechanical Engineering*; *Fluid Mechanics* **Aug. 2023 – Present**

SPECIALIZED SKILLS

Programming Languages: MATLAB, Python, C++, JavaScript, HTML, CSS
Programs: Siemens NX, SolidWorks, ANSYS, COMSOL, Jira, Microsoft Office Suite
Fabrication Skills: Mill and Lathe (Red Apron trained at Cornell), 3D printing, laser cutting, soldering, drill press, hand tools, composite lay-ups
Foreign Languages: Spanish (advanced); Korean (intermediate)