

# ARI RABINOVITZ

[abr229@cornell.edu](mailto:abr229@cornell.edu) | 240-205-5962 | [AriRabinovitz.com](http://AriRabinovitz.com)

## EDUCATION

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**Cornell University**, Ithaca, NY

*Bachelor of Science*

**Major:** Mechanical Engineering

*Expected May 2026*

**Minor:** Aerospace Engineering

**GPA:** 4.11/4.30; Major GPA: 4.16/4.30

**Honors:** Dean's List 2022–2025

Tau Beta Phi, Engineering Honor Society 2024–2025

**Relevant coursework:** Intermediate Dynamics, Mechanics of Materials, Heat Transfer, Fluid Mechanics, Mechatronics, Statics and Mechanics of Solids, Intro to Spaceflight Mechanics, Dynamics, Propulsion of Aircraft and Rockets, System Dynamics, Mechanical Synthesis, Thermodynamics

## RELEVANT EXPERIENCE

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**Deployable Technologies Intern, Physical Sciences, Inc., Andover, MA**

*June 2025 – Aug. 2025*

- Designed and iterated on a quick-release gripper using SolidWorks and 3D-printed prototypes, each capable of supporting 165 lbs. and integrated into a rescue litter carry device intended for long-distance transports.
- Demonstrated satisfaction of gripper's design requirements through experimental tests and finite element analysis (SolidWorks simulation) with mass-production gripper material.
- Integrated sensors to test fuel pump intended for use with low lubricity fluids.
- Assisted in ideation of mobile lightweight folding bridge that can deploy and be retrieved in under 5 minutes and span a 15-meter gap while maintaining a load of 60 tons.

**Lead, Arm sub-team, Cornell Mars Rover Project Team**

*Apr. 2025 – Present*

**Member, Arm sub-team, Cornell Mars Rover Project Team**

*Oct. 2022 – June 2025*

- Designed end effector and structural joints for a six-axis robotic manipulator assigned to perform complex tasks including typing, flipping switches, picking up rocks, and securing a door with a screw.
- Successfully reduced moment on the base gearbox by 12 percent through shifting gearbox and motor locations in the arm's structure.
- Utilized finite element analysis (ANSYS) to demonstrate that arm CNC joints can sustain loads up to 5 kg.
- Added functionality to end effector to fasten a screw, creating rotation and linear motion in one mechanism.

**Research assistant, Cornell ASTRA Lab**

*June 2024 – Aug. 2024*

- Conducted research of high thrust electrospray propulsion technology for very low earth orbit (VLEO) satellites to allow operation for months to years instead of days to weeks.
- Tested the firing of ionic and novel nanoparticle fluids to determine optimal propellant.
- Designed and milled components to add goniometers to the testing rig to support more precise testing.
- Built current sensing circuit that could measure up to 10 kV.

**Research assistant, Cornell Space Structures Lab**

*Jan. 2024 – Present*

- Conduct research to manufacture lightweight, easily transportable, and durable structures in space.
- Develop deployable boom and shaping mechanism to enable in-space manufacturing while preventing buckling or blossoming of the boom.

**Engineering facilitator, Cornell University Academic Excellence Workshop**

*Aug. 2023 – Dec. 2023*

- Co-led weekly collaborative learning sessions for over 20 students that helped enhance their understanding of core concepts in differential equations.

## SKILLS

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- CAD: SolidWorks, Autodesk Inventor, Autodesk Fusion 360
- Computer Languages: MATLAB, C, Python
- Finite Element Analysis: ANSYS, SolidWorks Simulation
- Other: 3-D Printing, Mechanical Drawing, DFMA, Soldering, Mill, Lathe, Microsoft Word, Microsoft Excel

## INTERESTS

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- Tennis, hiking, board games