ARI RABINOVITZ

abr229@cornell.edu | 240.205.5962 | AriRabinovitz.com | 11917 Gainsborough Road Potomac, MD 20854

EDUCATION

Cornell University College of Engineering, Ithaca, NY — *Bachelor of Science*

Major:	Mechanical Engineering — *Expected May 2026*
Overall GPA:	4.12/4.30; Major GPA: 4.30/4.30
Honors:	Dean's List 2022-2024
	Tau Beta Phi, Engineering Honor Society, 2024
Relevant coursework:	System Dynamics, Heat Transfer, Fluid Mechanics, Mechatronics, Mechanics of Materials, Dynamics, Statics and Mechanics of Solids, Intro to Spaceflight Mechanics, Propulsion of Spacecraft, Mechanical Synthesis, Thermodynamics

RELEVANT EXPERIENCE

***Member, Arm sub-team*, Cornell Mars Rover Project Team** — *Oct. 2022 – Present*

- Designed end effector, joints, and homing sequence for a six-axis robotic manipulator tasked with complicated dexterous tasks competing in the University Rover Challenge.
- Successfully reduced moment on the base gearbox by 12 percent by making DFM changes to improve the arm's structural support and by moving gearbox from the wrist region to the elbow region
- Perform analysis on arm structure using ANSYS, analyzing joints and demonstrated ability to handle loads up to 5 kg at the end of the arm
- Used Autodesk Inventor to design and build multiple end effector designs for arm with mechanism to allow arm to screw in loose screws, camera, and pinpointing laser.
- Developed end effector that successfully picked up rocks of varying shapes, typed on a keyboard, flipped switches, and secured door with a screw.
- Machined motor mount for end effector using mill and lathe.

***Research assistant*, Cornell ASTRA Lab** — *Summer 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 manufactured mounts to allow for a double goniometer setup to support more precise testing.
- Manufactured glass emitters (singular or array) using mill to shoot propellants employing additive manufacturing.
- 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 blooming of the boom.
- Deploy stepper motors to make roll out the boom using tension to locations at high accuracies.
- Design pinching actuator to permanently deform boom, to allow for structures to be shaped.

***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.
- Facilitated group work using practice problems at or above course level.

SKILLS

- CAD: Autodesk Inventor, Autodesk Fusion 360
- Computer Languages: MATLAB, C, Python
- Soldering, FEA (ANSYS), 3-D Printing, Mechanical Drawing, DFMA, Mill, Lathe
- Microsoft Word, Microsoft Excel

HOBBIES

- Tennis, Board Games, Hiking