

Natalia Rabinovich

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EDUCATION

Rutgers University Honors College

New Brunswick, NJ

Bachelor of Science in Aerospace Engineering, Dean's List

May 2028

- **Relevant Coursework:** Thermodynamics, Fluid Mechanics, Mechanics of Materials, CAD, Calc I–V
- **Technical Training:** UNP Satellite Fabrication Course
- **Self-Study:** CodePath Web Development Program (WEB101, WEB102)

RELEVANT EXPERIENCE

Thermal Engineering Project Lead

Summer 2026

SPICESat CubeSat, Rutgers

New Brunswick, NJ

- Lead a 4-member team developing the thermal-control strategy for a CubeSat fluid payload, translating 9 mission requirements into thermal limits, orbital analysis cases, and hardware design constraints for CDR readiness.
- Run 10+ hot/cold case orbital simulations in Thermal Desktop and use MATLAB to process temperature histories, predicting payload temperatures from -10C to 40C, and improving fluid temperature distribution gradient by 30%.
- Compare 10 working fluids and 3 heater configurations across 14 performance criteria in a weighted decision matrix, selecting a design that maintains the payload between 10C and 15C while minimizing power consumption.

Project Manager

Sep 2024 – Present

Space Technology Association, Rutgers

New Brunswick, NJ

- Lead an 8-subteam, 40 member CubeSat program selected for the Air Force University Nanosatellite Program, coordinating mechanical, thermal, electrical, software, and mission operations work across technical milestones.
- Own Phase A execution within UNP's spacecraft development cycle, tracking system requirements, action items, schedules, technical documentation, and a \$250K mission budget while coordinating milestone design reviews.
- Lead weekly multidisciplinary design reviews to identify subsystem interface conflicts, assign action owners, and resolve technical risks before hardware testing, submission deadlines, and major program reviews.

Undergraduate Research Assistant (Incoming)

Expected Fall 2026

Space Propulsion with Advanced Chemistry and Energetics (SPACE) Lab, Rutgers

New Brunswick, NJ

- Selected for a competitive research position supporting chemical and electric spacecraft propulsion, advanced propellants, and Very Low Earth Orbit (VLEO) propulsion systems over the course of the 2026-2027 academic year.

Mechanical Lead

Sep 2022 – May 2024

Questionable Engineering Team, FIRST Robotics Competition

Jersey City, NJ

- Led mechanical subsystem design in Onshape/AutoCAD, ensuring compliance with competition requirements.
- Integrated arm prototype into the final robot, achieving reliable object manipulation under match constraints.
- Led the team to the FIRST Robotics World Championship, earning Rookie All Star and Highest Seed awards.

WORK HISTORY

Tutor

Dec 2024 – Present

Varsity Tutors

Remote

- Tutor SAT Math/English, and Spanish; tailor instruction to students' learning styles; create customized homework.

Counselor

May 2025 – Jul 2025

The Academy at Rutgers for Girls in Engineering and Technology (TARGET)

New Brunswick, NJ

- Designed and led hands-on engineering activities for students in grades 6–11, guiding participants through CAD design, prototyping, and technical problem-solving while strengthening my public speaking and presentation skills.

SKILLS & AWARDS

Systems Engineering: Requirements tracking, trade studies, PDR/CDR preparation, technical documentation

Technical: Cleanroom practices, soldering, wiring, conformal coating, staking, satellite hardware integration

Software: Onshape, AutoCAD, SolidWorks, Thermal Desktop, Fusion, FEA

Programming: MATLAB, Python, Linux, HTML, CSS, JavaScript, React, Swift, Xcode

Awards: FIRST Rookie All Star, Rookie Highest Seed (World Championship), Full tuition 4-year merit scholarship

Languages: Fluent in English, Spanish, and Russian