

Abby R. Mirsky

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EDUCATION

Duke University Pratt School of Engineering | Durham, NC

May 2028

B.S. in Mechanical Engineering / GPA: 3.76/4.0

- **Relevant Courses:** Mechanics of Solids, Engineering Innovation (Mechanical Engineering), Special Topics in Engineering, Engineering Design and Technical Communication

TECHNICAL SKILLS | Python, C++, Arduino, Solidworks, Autodesk Inventor, Onshape, Git, GIS.

PROJECTS

Solid Propulsion Design | Duke AERO

Sept. 2025 - Present

- Collaborating on a specialized propulsion subteam to design and fabricate the solid rocket motor forward closure for a competition rocket targeting 30,000 ft apogee.
- Coordinating CAD modeling, FEA simulations, and machining operations to optimize structural integrity and component integration under high-pressure conditions.
- Supporting testing and design validation efforts to ensure reliable performance and safety of propulsion components.

Underwater Robotics Design Team | Personal Project

Aug. 2025 - Present

- Leading CAD design for the hulls and central console to create a hydrodynamic, water-stable robotic vessel.
- Developing and prototyping an Arduino-controlled robot with swimming, object detection, and retrieval capabilities to identify and recover specific underwater materials.
- Designed the retrieval mechanism, enabling precise underwater object capture and surface delivery during testing.

Liquid Medication Dispenser | Student Project

Aug. 2024 - Dec. 2024

- Led the CAD design of the complete dispenser housing and internal structure to integrate Arduino-controlled electronics for automated liquid medication delivery.
- Developed customizable reminder and dispensing mechanisms to support individuals with memory impairments in maintaining medication adherence.
- Utilized Arduino programming and digital fabrication tools to prototype and test device.

WORK EXPERIENCE

Engineers In Action | Shiselweni Region of Eswatini, Africa | Summer Intern

Dec. 2024 - July 2025

- Selected through international program to collaborate on and off site with engineers, local masons, and community members in designing and constructing a 128 m pedestrian suspension bridge, the longest in Eswatini
- Led all project documentation and media efforts, managing videography, photography, and social outreach to highlight construction milestones and community impact.
- Developed educational videos and technical resources to support and educate future teams.

HRS Water Consultants | Lakewood, CO | Summer Intern

June. 2023- Aug. 2023

- Consulting firm utilizing science/engineering to solve clients' water issues.
- Supported groundwater research and pollution analysis efforts by logging, organizing, and processing environmental field data and building GIS maps to visualize water quality and conservation trends.

Colorado Space Business Roundtable (CSBR) | Denver, CO | Summer Aerospace Fellow

June. 2023- Aug. 2023

- Selected for a fellowship engaging with leaders from Lockheed Martin Space, Boeing, Sierra Space, and other aerospace organizations to explore industry strategy, innovation, and operations.
- Collaborated with industry professionals to analyze challenges and opportunities in Colorado's space sector.

OTHER EXTRACURRICULARS & AFFILIATIONS

US Figure Skating Association (USFSA) National champion/competitor, DejaBlue Accapela, DukeAERO, Society of Women Engineering (SWE).