

Sunya Afrasiabi

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Education

University of Pennsylvania, BS in Mechanical Engineering Sept 2024 - May 2028

- **Relevant Coursework:** Thermal-Fluids Engineering, Statics and Strength of Materials, Python Programming, Intro to Mechanical Design, Linear Algebra, Differential Equations, Probability

University at Buffalo, Gifted Math Program

Sept 2023 - April 2024

- **Coursework:** College Calculus III, Introduction to Linear Algebra

Experience

NASA L'SPACE Proposal Writing & Evaluation Experience, Radiation Team Lead Fall 2025 - Present

- Develop innovative solutions to the limitation of radiation-resistant materials in HDPE composites; gaining hands-on experience in technical proposal composition, project evaluation, and NASA's mission review process.
- Competing for up to \$10,000 in funding to further develop the proposed project concept.

Mars Rover Club, Chassis Team

Jan 2025 - Present

- Developing detailed chassis models and component assemblies using SolidWorks in preparation for the University Rover Challenge.
- Authoring sections of technical design proposals and research reports for internal preparation.

Engineers Without Borders, Farm Committee

Jan 2025 - Present

- Helped design and construct a vacuum-powered seed cleaner for Novick Urban Farm, automating seed-chaff separation to improve post-harvest efficiency.
- Constructed a greenhouse with a team of 5, enabling year-round crop cultivation.

Wharton Undergraduate Aerospace Club, Research & Innovation Committee; Consulting Committee

Jan 2025 - Present

- Analyzing aerospace market trends and emerging technologies to identify and present new business opportunities through collaborative research projects.

Penn Astronomical Student Association, Outreach Director

Sept 2025 - Present

- Assisted in running weekly telescope nights, developed telescope operation skills, and coordinated inter-club events to promote astronomy on campus

MyStory Program, Founder and Project Lead

Aug 2020 - June 2024

- Founded a non-profit initiative, securing \$24k+, managed a team of 30+ volunteers, established partnerships with 20+ community organizations.

Employment

Quaker Mascot, University of Pennsylvania

September 2024- Present

- Engage hundreds as the mascot, applying strong interpersonal skills, adaptability, and on-the-spot judgment to enhance live event experiences

Papers

Linear Algebra Foundations of Neural Networks, University of Pennsylvania

August 2025

- Wrote an expository research paper linking advanced linear algebra concepts to neural network architectures, training algorithms, and real-world robotics applications. ([Link to file](#))

Aviation Solutions for Wildlife Prevention, Wharton Undergraduate Aerospace

May 2025

- Co-authored an investor-oriented whitepaper on UAVs, AI wildfire prediction, and aerospace innovations, framing \$6.4B+ market opportunities and potential \$5B annual cost savings. ([Link to File](#))

Skills

CAD: SolidWorks, Onshape **Programming:** Python, HTML **Tools:** Microsoft Office, MailChimp, Jekyll, Git