Kayla Fox

+1 (516) 713-3519 | kaylafox@seas.upenn.edu | www.linkedin.com/in/kaylafox | https://www.kaylafoxportfolio.com/

EDUCATION

University of Pennsylvania *Philadelphia, PA*
B.S.E. in Mechanical Engineering & Applied Mechanics *Aug 2024 - May 2028*
GPA: 3.93 / 4.0
Current Coursework: Thermodynamics I, Engineering Mechanics: Dynamics, Mechanical Engineering Lab I, Analytical Methods for Engineering, Engineering Ethics, Biological Data Science I

SKILLS

Skills: Machining, CAD Modeling, Engineering Drawing, Tolerancing, Experimental Design, Data Analysis, AI Workflow Integration
Programming Languages: Python, Java, OCaml, G-code
Proficiencies: SolidWorks, Arduino, 3D Printing, DraftSight, Microsoft Office, ImageJ

WORK EXPERIENCE

Relativity Space *Long Beach, CA*
Incoming Vehicle Structures Design Engineering Intern *May 2026 - August 2026*
- Designing and developing mechanical components and assemblies from concept through initial release, collaborating with manufacturing teams to optimize design for production; performing tolerance stack analyses, packaging assessments, and GD&T-based drawing creation while supporting BOM and configuration management across multiple systems

University of Pennsylvania - Department of Mechanical Engineering & Applied Mechanics *Philadelphia, PA*
Research Assistant, PURM Award | SOLIDWORKS, Python, GCode, ImageJ, Powerpoint *May 2025 - July 2025*
- Developed microfluidic devices to generate and control microdroplets with precise size, composition, and placement; gained hands-on experience with techniques such as soft lithography, 3D printing, microfabrication, and microscopy
- Programmed and calibrated 3D printer via Gcode and Python to enable precise control for accurate droplet placement
- Independently designed, prototyped, and iterated custom 3D-printed lab components in SolidWorks based on verbal problem descriptions, ensuring final parts met functional requirements

Columbia University - Biomedical Engineering Department *New York, NY*
Research Assistant | MATLAB, Powerpoint, Excel *July 2023 – Aug 2023*
- Researched at the Ultrasound and Elasticity Lab at Columbia Medical Center, focusing on ways to open the Blood Brain Barrier (BBB) with ultrasound and microbubbles
- Meticulously followed lab procedures, operated specialized lab equipment, and conducted full experiments; analyzed large data sets in MATLAB to create graphs that identified key trends; presented these findings in weekly lab meetings
- Authored a research paper on BBB drug delivery and presented findings at NYU GSTEM symposium

Adventures in Learning *Great Neck, NY*
Tutor/Soccer Coach | Leadership, Communication, Mentorship *Sept 2022 – June 2024*
- Supported a nonprofit after-school program helping underserved elementary students
- Tutored 5th and 6th grade students in core academic subjects, fostering academic growth and confidence
- Designed and led a weekly soccer program to promote teamwork, discipline, and physical activity

PROJECTS

Jet Engine Afterburner - Researching, designing, and fully building a jet engine afterburner for Penn Jet Propulsion *Present*
Stirling Heat Engine - Designing and manufacturing a gamma type stirling engine for my machining class *Present*
2048 Game - Recreated the game 2048 using the Java Swing GUI framework *Dec 2024*
Fidget Spinner - Designed and fabricated a fully functional fidget spinner using both laser cutting and 3D printing *Feb 2025*

CAMPUS INVOLVEMENT

Penn Jet Propulsion - *R&D Team* *Sept 2025 – Present*
- Exploring, studying, and building different types of propulsion devices, gaining hands-on experience in the engineering design process, CAD, CNC Machining, and CFD Software

Society of Women Engineers - *Educational Outreach Committee* *Sept 2024 – Present*
- Planned and led outreach programs including GEARS (Girls in Engineering and Related Sciences) Day and a campus shadowing initiative, coordinating campus tours, class visits, and academic guidance for high school students

UPenn Women's Club Soccer *Sept 2024 – Present*
Delta Delta Delta *Jan 2025 – Present*