

Sophie Li

Philadelphia, PA 19104 | (469) 430-6806 | sophieli@seas.upenn.edu

EDUCATION

University of Pennsylvania, School of Engineering and Applied Science, Philadelphia, PA
Bachelor of Science in Engineering in Mechanical Engineering and Applied Mechanics
Cumulative GPA: 3.5/4.0

May 2027

TECHNICAL SKILLS

Skilled Programmer (Java, Python, OCaml, C++, LaTeX)

- Designed several projects for both personal and school use in all languages (numpy, matplotlib)

Significant Experience with CAD

- SOLIDWORKS, Autodesk Fusion 360, Integrated with COMSOL to conduct Thermal Analysis

Familiar with Imbedded Systems and Hardware Interfacing

- Experienced with Arduino Uno R4-wifi, Raspberry Pi, open source hardware and infrastructure

Lab Skills

- Nanoindentation, Mechanical Exfoliation of 2D material, Profilometer, Optical Microscopy, Scientific Communication

Languages

- English (native), Mandarin(native), Cantonese (proficient)

RELEVANT COURSEWORK COMPLETED

Intro to Mechanical Design, Linear Algebra, Ordinary Differential Equations, Programming Languages and Techniques, Probability, Electromagnetism and Radiation, Statics, Thermodynamics, Partial Differential Equations

EXPERIENCE

PENN HYPERLOOP– Philadelphia, PA

August 2024 – Present

Operations and Mechanical team member

- Designed a propulsion system able to deliver more than 300 kN of thrust force during digging
- Collaborated on a launch structure for the TBM that can laterally transport 2000 kgs of pipes
- Advanced to the Not-a-boring-Competition twice within first 2 years of club establishment

TERTULIANO LAB, UNIVERSITY OF PENNSYLVANIA– Philadelphia, PA

June 2024 – August 2024

Undergraduate Researcher – PURM (Penn Undergrad Research Mentoring Program)

- Completed a 10-week on-site laboratory research experience within the Tertuliano Lab in the Mechanical Engineering department
- Conducted nanoindentation experiments to characterize the strain energy and strain rate dependence of SiO₂- Si substrates
- Utilized Python to analyze over 500 load-displacement curves and presented results in group meetings and research expo

VENTURE LAB– Philadelphia, PA

Mechanical Engineer – Munch Industry

January 2024 – May 2024

- Engineered the first working prototype powder chain by the design and integration of over 70 CAD components
- Optimized machine efficiency by 20% and rigorously tested the product to spearhead upcoming large-scale pilot program

VIP-Practicum Fellow – Munch Industry

September 2023 – December 2023

- Innovated the user interface for the automated boba machine, incorporating customer feedback from 100+ test users
- Applied basic business development skills and accessed preliminary product architecture

SUMMER SCIENCE PROGRAM (SSP) – UNC Chapel Hill, NC

June 2022 – July 2022

Astrophysics Internship

- Engaged in a 6-week research project with on-site asteroid data acquisition from the Skynet Robotics Telescope Network
- Implemented SWIFT prediction model, Method of Gauss and Laplace for Asteroid 2015 HH10 ephemeral generation
- Collaborated and compiled a report, final data accepted by Minor Planetary Center (MPC)

ACTIVITIES

Society of Women Engineers, Committee Member

September 2023 – Present

Penn Aerial Robotics Club, Member

September 2023 – Present

Penn Wharton China Summit, VP internal

December 2023 – Present