

Jack Ploof

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Education

Harvard College

A.B. Physics: GPA 3.67/4.0

Cambridge, MA

May 2029

Relevant Coursework: Mechanics & Special Relativity, Linear Algebra and Vector Calculus.

Currently Enrolled: Electrodynamics, Linear Algebra and Vector Calculus II, Inorganic Chemistry

Surry Community College (Dual Enrollment)

Dobson, NC

Associate in Science: GPA 4.0/4.0. Associate in Arts: GPA 4.0/4.0

May 2025

Relevant Coursework: Calculus II & III, General Physics I & II, Linear Algebra, Differential Equations.

Yadkin Early College High School

Yadkinville, NC

GPA 4.6406/4.0. ACT Composite 35/36

May 2025

Relevant Coursework: AP Calculus AB (5), AP Chemistry (5), Honors Spanish I, II, & III

Work Experience

Surry Community College

Dobson, NC

Science Division Assistant

August 2024 – May 2025

- Prepared lab equipment, synthesized solutions, managed lab acquisitions and assisted with faculty research
- Operated equipment such as: stills, centrifuges, autoclaves, and incubators, etc. at **BSL-1** standards

Academic Experience

Harvard Undergraduate Aerospace Collective

Cambridge, MA

Software Team Lead

September 2025-Present

- Developed and deployed novel solar panel pointing algorithm in **CircuitPython**.
- Currently overseeing final testing of HUCsat, a 2U student-built CubeSat expected to launch in Spring 2026.

First Tech Challenge (FTC) Robotics Team 22289

Yadkinville, NC

Team Captain

August 2021 – May 2025

- Lead a dozen members and overhauled programming workflow, switching to traditional object-oriented programming in **Kotlin**, achieving better productivity with **git** integration.
- Hands-on experience with **git** integration, and in areas such as hardware control/communication, odometry & PID control, and machine vision with **TensorFlow**.

The Summer Science Program in Astrophysics

Chapel Hill, NC

High School Participant Researcher

June 2023 - July 2023

- Worked in groups of 3 to research, observe, collect and analyze data, perform orbital calculations, and write a final research report on near-earth asteroid 2002 KL6.
- Hundreds of lines of code written in **Python**, 10+ hours of experience operating a research-grade telescope.
- Attended relevant lectures on topics such as scientific programming, vector calculus, general and special relativity, optics, cosmology, astrodynamics, and chaos theory.

Skills

Technical: Python (matplotlib, numpy, and astropy modules), Kotlin/Java, Maple, LaTeX, Wolfram Mathematica, Microsoft & Google Suites. Certifications: OSHA 10-Hour Certification

Interests: Materials Science, Computational Physics, Astronautics, Film Photography, Philosophy