

# Vir Goyal

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## EDUCATION

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University of Pennsylvania, MSE in Scientific Computing (May 2026)

Haverford College, B.S. in Physics (May 2025)

GPA: 3.87

**Relevant Coursework:** Applied ML, Big Data, Design of Mechatronic Systems, Advanced E&M, Statistical Physics, Quantum Mechanics, Math Modelling in Sustainability

## RESEARCH EXPERIENCE

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### Haverford College

Haverford, PA

Research Assistant to Professor Dan Grin (*NSF PostDoc Fellow, Ph.D Caltech*) **May 2022 - Oct 2024**

- **Assessing** the validity of axions as potential dark matter candidates through research into the kinetic Sunyaev-Zeldovich effect

Research Assistant to Professor Ted Brzinski (*Ph.D Upenn, SquishLab*)

**Oct 2024 - Present**

- **Developing** an experimental setup to analyze internal stress patterns in a quasi-2D jammed granular packing of photoelastic disks.

### Raja Ramanna Centre for Advanced Technology

Indore, India

Research Assistant to Dr. Manoj S. (*Scientist, Dept. of Atomic Energy, Govt of India*) **June – August 2023**

- **Researched** distributed temperature sensing using Raman Scattering in Fiber Optics.
- **Aided** in installing the technology as a fire detection measure in an Indian Navy aircraft carrier.

## WORK EXPERIENCE

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### Tsalla Aerospace

Bangalore, India

Embedded Systems and Fabrication Intern

**May - August 2024**

- **Redesigned** landing gear, replacing friction fit with a magnet-based coupling system to improve impact resistance and reduce replacement costs
- **Developed** position hold system for drones in GPS-denied environments.

### Maker Arts Space

Haverford, PA

Space Cadet

**May 2022 - Present**

- **Trained** to operate laser cutters, 3D printers, CNC machines, and complimentary software such as Fusion360, SolidWorks, and Adobe Illustrator.
- **Tutored** students to use the 3D printer, soldering irons, and program microcontrollers

## LEADERSHIP & EXTRACURRICULARS

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Saksham - Volunteer

**2017 – 2019**

Strawbridge Observatory - Volunteer

**May 2021 – Present**

Varsity Athlete, Track team, Haverford College

**May 2022 – Present**