

DANIEL HARRINGTON

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Portfolio: danielharrington.me/

EDUCATION

B.Sc. Physics and Mathematics, Tufts University

(in progress–May 2026)

Minor in Computer Science

Relevant Courses:

- Linear Algebra – use of MATLAB and applications to CS and geometry
- Modern Physics – with Python challenges, e.g. graphing spacetime diagrams and Lorentz transforms
- Electronics – circuit design/analysis, building SiPM-based muon detector
- Differential equations, Data Structures, Bridge to Higher Mathematics

HS Diploma, Honors with Distinction, Foundation Academy, Western Academy of Beijing

- National Merit Scholar Finalist

EXPERIENCE

Tufts SEDS Club – Radio Telescope Team Lead, Board Member

(Fall 2022-)

- Lead project to develop and construct a 3-meter educational radio telescope for public use
- Develop full-stack software for user observation scheduling, data analysis/storage, dish rotator control
- Perform dish and assembly structure geometry and stress calculations, write reports
- Manage ~\$15k budget and lead team of ~10, revived project after 2 year hiatus

Tufts Hillel Community Action Partners Club

(Spring 2023-)

- Develop/lead weekly STEM sessions with middle schoolers (e.g. 3D design, optics/lasers, chem demos)

Opportutoring, Beijing Chapter – Chapter Director, Tutor

(Fall 2019-Spring 2021)

- Planned and taught live online English lessons to refugees; aided in scholarships and TOEFL practice; ran meetings; coordinated with international partner groups
- Spoke on panel to school faculty on organization mission and equity advocacy

Western Academy of Beijing STEMx Club – Co-leader

(Fall 2019-Spring 2021)

- Organized and led interactive workshops for 4th graders in various STEM areas
- Developed experiments; ran meetings; organized schedules, collaborated with faculty

PROJECTS

See Portfolio Site

- **Waveguide Simulations** – FDTD sim of EM wave propagation in 2D waveguides; Python/meep
- **Physics Simulations** – Fluids, EM waves, N spring systems, 3D projection, and more; C++/SFML, JS
- **Exoplanet Data** – NASA data analysis, computed planetary metrics, regression; Python

SKILLS

Software: Python (Pandas, numpy, matplotlib, meep), C/C++, JS, CAD (Fusion360), Mathematica, web development (React, Flask), SQL, Git, Office, LaTeX, Linux/MacOS/Windows

Hardware: Electronics, soldering, prototyping (3D printing, laser cutting, woodworking, etc.)