

EDUCATION

Computer Science B.A., Biology B.A., Swarthmore College

May 2025

- GPA: 3.8 / 4
- Relevant courses: Data Structures and Algorithms, Computer Systems, Advanced Algorithms, Computational Imaging, Game Systems, Software Engineering, Linear Algebra, Discrete Mathematics

TECHNICAL SKILLS

Languages

Python, C++, C, C#, TypeScript, JavaScript, HTML/CSS, R, SQL, Go

Tools & Libraries

Azure, CI/CD, React.js, Node.js, Git, Gitlab, Vim, Ruby on Rails, Firebase, Jekyll, SAS, Unix/Linux

TECHNICAL EXPERIENCE

Software Engineer Intern

May 2025 — Aug 2025

USAA *San Antonio, TX*

- Wrote 5000+ lines of JavaScript code to modernize the Web Detokenizer, an application that decodes member-identifying data, thus streamlining access and detokenization for users and increasing efficiency by 64%.
- Integrated REST APIs to securely fetch and display decoded data, leveraging React.js and emphasizing modular components by utilizing the React Redux library for navigation.
- Engineered my own unit tests to ensure final product reliability and future iterability.

Software Engineer Intern

May 2024 — Aug 2024

Environmental Protection Agency

Washington, D.C.

- Applied statistical and machine learning techniques in R, including random forest models, to assess the risk of 200+ chemicals in water and identify optimal sets of 10 predictors (from 330 variables) to model chlorophyll a concentrations in streams.
- Organized the "I Used to Wear a Lab Coat" seminar series for the Office of Science and Technology where staff share their experiences prior to the EPA.

Computational Biology Research Fellow

Jan 2023 — May 2025

Swarthmore College Biology Department

Swarthmore, PA

- Processed and analyzed microbiome sequences of 100 frogs' DNA sequences post-metabarcoding in R.
- Conducted alpha diversity analysis to find microbe variety, microbial community abundance to determine microbe count, ordination analysis to visualize microbes relationships among species, and heat map analysis to show the abundances of microbes across species.
- Discovered significant variability in microbial diversity across species and in the buccal vs gut microbiomes of individual frogs, helping understand how the gut changes buccal microbes.

Machine Learning Research Fellow

Jan 2022 — July 2022

Swarthmore College Computer Science Department

Swarthmore, PA

- Used Brain-Computer Interfaces (Muse) and machine learning models to gather and analyze EEG signals to improve EEG-based cognitive task predictions.
- Integrated unsupervised (K-Means) and supervised (Random Forests, CNN, RNN) algorithms to improve EEG-based cognitive task predictions by handling both external and internal noise.
- Organize EEG datasets using Python, reviewed and revised scientific papers and code for publication.

OTHER EXPERIENCE

Student Academic Mentor

Aug 2022 — May 2025

Swarthmore College Office of Academic Success

Swarthmore, PA

- Advised students with academic questions, course registration, time management, study strategies, reading techniques, etc.
- Assisted 30+ students in computer science and biology classes with lecture material, labs, and homework.
- Served as a mentor for 50+ first-year students and pointed them to campus resources.

PROJECTS

Jetpack Joyride Demake

November 2024

- Used C to develop a NES game inspired by mobile game "Jetpack Joyride".
- Embedded system application that utilizes scrolling, sprite animations/generation, collision detection, music implementation, and custom nametables.

Smurf: Rescue in Gargamel's Castle Remake

September 2024

- Used Lua to develop a TIC-80 game inspired by Atari 2600 game Smurf: Rescue in Gargamel's Castle.
- Embedded system application that utilizes maps, sprite animations, player physics, and collision detection.