

Anna Allen

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Summary

I am skilled in software engineering, data science, and other areas of applied and theoretical computer science. My goals include learning more about networking, programming languages/compilers, cybersecurity, and computer systems, and their respective theoretical foundations.

Experience

Stealth

RESEARCH CONTRACTOR

August 2025 — October 2025

Docker, NumPy, PyTorch, OpenAI Gym, Jupyter, Gradle/Java

Developed training data sourcing infrastructure for a reinforcement learning project aiming to train autonomous AI agents for Minecraft. Worked on Minecraft protocol packet parsing/inspection, a spoofed server protocol to replay recorded packet traces, inverse kinematics models for recovering player inputs from raw motion data, and RL environment configuration.

University of Massachusetts Amherst

UNDERGRADUATE COURSE ASSISTANT

Spring 2022 — Fall 2022

JavaScript, TypeScript, Git

Helped teach a mid-level programming course (CS 220: Programming Methodology). Answered student questions, held office hours, and helped run discussion sections.

National Institute of Standards and Technology (NIST)

RESEARCH INTERN

June 2021 — August 2021

TensorFlow, Python, pyplot/Matplotlib, Git/GitHub, Jupyter Notebooks

Assisted with refactoring, documentation, and other tasks on a natural language processing (NLP) research project (specifically, sentiment analysis) under Dr. Apostol Vassilev at NIST.

Mid-Atlantic Gigabit Innovation Collaboratory

PROJECT DEVELOPER

2019 — 2021

Python, Jupyter Notebooks, Git/GitHub, IoT, Firebase, Raspberry Pi, Home Assistant

Worked as an intern on research and development for the MAGIC Healthy Smart Home Project. Organized and improved existing documentation, developed secure infrastructure for data storage, transmission, and processing; assisted on other research and architecture tasks.

Advantage Internet Marketing

JUNIOR WEB DEVELOPER

2018 — 2022

HTML, JS, PHP, WordPress, Adobe Premiere and After Effects, FTP

Built and deployed new websites, wrote content, edited videos, and performed regular updates and maintenance to dozens of websites. Gained experience with front-end web development, writing, and technologies such as WordPress.

Education

University of Massachusetts Amherst

B.S. IN COMPUTER SCIENCE

Fall 2021 — Spring 2023

- Junior in the Manning College of Information & Computer Sciences (CICS); currently on a break
- Have completed CS 187 (Data Structures), CS 220 (Programming Methodology), CS 198C (Programming in C), CS 230 (Computer Systems Principles), CS 250 (Intro to Theory of Computation), CS 240 (Reasoning Under Uncertainty), CS 311 (Introduction to Algorithms), and CS 377 (Operating Systems)

Skills

- Substantial experience with Python, JavaScript/TypeScript, C, C++, and Bash/zsh; and intermediate experience with Nix/NixOS
- Capable Git user in collaborative environments
- Have also worked with other markup formats and typesetting systems such as Markdown and LaTeX
- Highly proficient in written communication
- Projects include *a near-SOTA compression scheme (based on neural arithmetic coding) for a specific encoding of video data and a basic 3D raytracer implemented in the Nix configuration language*

Activities, Achievements

- Was Editor-in-Chief of the school newspaper at Manchester Valley High School for 3 years
- Won 2020 Carroll County Hackathon with StudentPulse application, a system to facilitate communication between students, parents, and teachers to improve student mental health
- Regularly develop personal programming projects, usually focusing on data visualization and user interaction, which can be found on my GitHub page