COLIN WOLFE

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EDUCATION

Dartmouth College, Hanover, NH **EXPECTED JUNE 2027**
Bachelors, Majors in Computer Science, Applied Mathematics. Minor in Economics **GPA 3.81/4.0**
Relevant Coursework: Object-Oriented Programming, Number Theory, Honors Linear Algebra, Discrete Math, Intro to Public Policy, Multi-Modal Generative AI, Linear Models, Software Design & Implementation
Activities: Dartmouth Political Union, Dartmouth Radio Show, Dartmouth Undergraduate Law Review, Dartmouth Leadership Attitudes & Behaviors Program, NVIDIA Data Parallelism Course

Commonwealth Governor's School, Spotsylvania, VA **May 2023**
Honors/Awards: Valedictorian, National Rural Scholar, SAT Score: 1550/1600 **GPA 4.0/4.0**

WORK EXPERIENCE

Probity Inc., Herndon, VA **May 2024-August 2024**
Software Engineering Intern

- Developed a new human-in-the-loop machine learning paradigm for Spoken Language Verification called Online Active Learning with Corrective Feedback. Achieved results approximately two hundred times better than traditional training.
- Ran a multitude of various experiments, set up additional servers for computing power on Intel NUCs, optimized algorithms for CPUs, and collected a corpus of over 100 GB worth of South Asian Languages.

Digital Applied Learning and Innovation Lab, Hanover, NH **November 2023-Present**
Machine Learning Engineer

- Developed and implemented advanced machine learning algorithms and data preprocessing methods to enable accurate image recognition of plastic symbols. The pipeline included histogram normalization, transfer learning, and more.
- Collaborated with a multidisciplinary team to integrate these algorithms into a user-friendly mobile app. Enhanced the app's capability to educate users on optimal recycling protocols, contributing to sustainable waste management solutions.

Dartmouth Economics Department, Hanover, NH **April 2024 - August 2024**
Web Programmer

- Constructed a website for *The Dartmouth Exchange Journal* sponsored by the Dartmouth Economics Department. Built the platform using HTML/CSS and hosted it on WordPress. Has submission and suggestion capabilities.
- Responsible for maintenance of the website which includes publishing new editions, fixing errors, updating code to proper versions, and handling any additional issues should they occur.

The Dartmouth Newspaper, Hanover, NH **September 2023-Present**
Data Visualization Writer

- Conduct surveys across campus, synthesize data into impactful and clear figures, and write articles reporting on said data. Wrote several articles including an analysis of the reinstatement of standardized tests for the First Year Special Issue.

Thomas Jefferson National Particle Accelerator Facility, Newport News, VA **June 2022-July 2022**
Engineering Intern

- Created AI-based surrogate models of scientific code for the PHASM project (Parallel Hardware viA Surrogate Models).
- Built and implemented advanced physics-informed neural networks to approximate differential equation solutions related to accelerator experiments. Created bash scripts to streamline the installation process into fewer steps on various OS.

PERSONAL PROJECTS

Tiny Search Engine **January 2024 - March 2024**

- Developed a crawler, indexer, and querier to return results for searches in the https://cs50tse.cs.dartmouth.edu/tse/ database. Implements a page-rank algorithm to match advanced queries involving logical conjunctions. Built solely in C.

Nuggets Game **December 2024 - February 2024**

- Worked with a team to construct a multiplayer game where players collect as much gold as possible while navigating tunnels under the Dartmouth CS Building. Uses TCP/UDP/IP to connect the players to the host. Built using C.

Skin Cancer Classifier **August 2021- June 2023**

- Built a high-accuracy convolutional neural network using Fast.ai to classify images of skin as cancerous or not. Built a website to handle uploaded images and showcase their predictions and associated probabilities. Used Python and Flask.

Riverbend High School Bathroom Management System **September 2022 - May 2023**

- Designed a system that automates and manages bathroom requests through a Web Application. Uses the StudentVue API to assign a student to the correct bathroom, Flask as a backend, SQL to hold the data, and HTML/CSS/JS for the website.

SKILLS & CERTIFICATIONS

Programming Languages: C, Java, Python, C++, C#, Rust, R, Bash, Go, SQL, HTML, CSS, JavaScript, MATLAB

Skills: Chinese Mandarin (Beginner), Data Analysis, Technical Writing, Teamwork, Excel - Microsoft Office, Google Suite

Technologies: VS Code, JetBrains, MacOS, Scikit-Learn, LLMs – OpenAI, Windows, Git, CMake, Jupyter Notebook, AWS, PyTorch, TensorFlow, Django, Flask, React, TCP /IP Network, *nix Systems, Deep Learning on Multiple GPUs (DDP), CUDA