

# COLIN WOLFE

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## EDUCATION

<b>Dartmouth College</b> , Hanover, NH	<b>EXPECTED JUNE 2027</b>
<i>Bachelors, Major in Computer Science and Engineering, Minor in Mathematical Finance</i>	<b>GPA 3.81/4.0</b>
Relevant Coursework: Security and Privacy, Object-Oriented Programming, Honors Linear Algebra, Discrete Math, Intro to Public Policy, The Price System, Software Design & Implementation, Number Theory	
Activities: Dartmouth Political Union, Dartmouth Radio Show, Dartmouth Undergraduate Law Review, Dartmouth Leadership Attitudes & Behaviors Program, NVIDIA Data Parallelism Course	
<b>Commonwealth Governor's School</b> , Spotsylvania, VA	<b>May 2023</b>
Honors/Awards: Valedictorian, National Rural Scholar, SAT Score: 1550/1600	<b>GPA 4.0/4.0</b>

## WORK EXPERIENCE

<b>TRIP Lab</b> , Berkeley, CA	<b>September 2024-Present</b>
<i>Research Assistant</i>	
<ul style="list-style-type: none"><li>Working under Professor Yang at Dartmouth. Currently investigating the transparency of various machine learning model architectures. Attempting to understand the loss landscapes of neural networks, specifically physics-informed networks.</li><li>Responsibilities include running experiments, reviewing and writing code, generating novel ideas, and more.</li></ul>	
<b>Probity Inc.</b> , Herndon, VA	<b>May 2024-August 2024</b>
<i>Software Engineering Intern</i>	
<ul style="list-style-type: none"><li>Developed a new human-in-the-loop machine learning paradigm for Spoken Language Verification called Online Active Learning with Corrective Feedback. Culminated in the project leads publishing two papers.</li><li>Achieved results two hundred times better than traditional training while utilizing only one-tenth of the initial data.</li><li>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.</li></ul>	
<b>Digital Applied Learning and Innovation Lab</b> , Hanover, NH	<b>November 2023-Present</b>
<i>Machine Learning Engineer and Project Lead</i>	
<ul style="list-style-type: none"><li>Developed and implemented advanced machine learning algorithms and data preprocessing methods to enable accurate image recognition of plastic symbols. Became a Neukom Scholar for the development of novel computational techniques.</li><li>Led teams of machine learning engineers on several projects. Responsibilities included quality and code review, technical and team leadership, scheduling meetings, mentoring, conducting design plans, and more.</li></ul>	
<b>The Dartmouth Newspaper</b> , Hanover, NH	<b>September 2023-Present</b>
<i>Data Visualization Writer</i>	
<ul style="list-style-type: none"><li>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.</li></ul>	
<b>Thomas Jefferson National Particle Accelerator Facility</b> , Newport News, VA	<b>June 2022-July 2022</b>
<i>Engineering Intern</i>	
<ul style="list-style-type: none"><li>Created AI-based surrogate models of scientific code for the PHASM project (Parallel Hardware via Surrogate Models).</li><li>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's.</li></ul>	

## PERSONAL PROJECTS

<b>Tiny Search Engine</b>	<b>January 2024-March 2024</b>
<ul style="list-style-type: none"><li>Developed a crawler, indexer, and querier to return search results in the <a href="https://cs50tse.cs.dartmouth.edu/tse/">https://cs50tse.cs.dartmouth.edu/tse/</a> database. Implements a page-rank algorithm to match advanced queries involving logical conjunctions. Built solely in C.</li></ul>	
<b>Nuggets Game</b>	<b>December 2024-February 2024</b>
<ul style="list-style-type: none"><li>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.</li></ul>	
<b>Skin Cancer Classifier</b>	<b>August 2021-June 2023</b>
<ul style="list-style-type: none"><li>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 pictures and showcase their predictions and associated probabilities. Used Python and Flask.</li></ul>	
<b>Dartmouth Economics Department's Journal Website</b>	<b>April 2024-August 2024</b>
<ul style="list-style-type: none"><li>Constructed a website for <i>The Dartmouth Exchange Journal</i> sponsored by the Dartmouth Economics Department. Built the platform using HTML/CSS and hosted it on WordPress. Has submission and suggestion capabilities.</li></ul>	

## 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