

CARLOS GUERRERO ALVAREZ

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<https://www.linkedin.com/in/carlos-guerrero-alvarez/> · <https://github.com/carlosguealv> [Carlos' Website](#)

Dartmouth College, Hanover, NH
Masters of Science in Computer Science
Relevant Coursework: *Distributed Computing, AI/ML Research*

June 2026

Dartmouth College, Hanover, NH
Bachelor of Arts, in Computer Science, Bachelor of Arts in Mathematics:
Relevant Coursework: *Algorithms, Machine Learning, Software Design and Implementation, Software Security, Robotics, Discrete Mathematics, Abstract Algebra, Combinatorics, Number Theory, Real Analysis, Lie Groups*

June 2025
GPA 3.56/4.0

High School, Orihuela Costa, Spain
Honors/Awards: Citations in Physics and Mathematics
Activities: Tennis (Reached a ranking of top 4 in Europe), Computer Science (contributed to the Linux kernel)

June 2021
GPA 3.6

Languages: Spanish, English, and Italian

PROFESSIONAL EXPERIENCE

Y Combinator Headquarters, San Francisco, California

October 2025-April 2026

CTO at Lopus AI (YC W25)

- Led development from product pivot to mid six figure ARR.
- Led a team of five people through the creation of backend for structure and non-structured data, and oversaw the development of the product's frontend.

Arpa-H, HANOVER, NH

January 2024-September 2025

Cybersecurity Project Member for ARPA-H through Dartmouth College

- Found bugs in the OSEHRA Vista system for War Veteran Health Records.
- Implemented a differential fuzzing setup with multiple DICOM libraries, and found multiple vulnerabilities with consequences such as image corruption and memory leakage.
- Co-authored a paper published in Springer's Cybersecurity in Healthcare.

Dartmouth College, HANOVER, NH

November 2023-April 2025

Research Project Leader at the Center for Precision Health and AI

- Developed a full-stack web-app for making machine learning model use easier for cancer pathologists.
- Developed a working prototype in which a user uploads an image, and the application returns annotations and percentages for colon polyp diagnosis.

Dartmouth College, HANOVER, NH

June 2024-Present

Researcher at the Minds, Machines and Society Group

- Worked with Professor Soroush Vosoughi on my undergraduate and Master's theses, and on multiple projects, some of them currently under peer review.
- Published papers in NAACL 2025, and ICML 2026.

PROGRAMMING LANGUAGES & SKILLS

Python, Deep Learning with Pytorch, Machine Learning with Sklearn, Fuzz Testing, Heap Exploitation, Reverse Engineering, JavaScript/Typescript, Dart, C, Java, Flutter, React, Next JS, FastAPI, Firebase, AWS, Snowflake, Vector Databases

PROJECTS

MicroThink: [PyTorch](#), [Lightning](#), [Pandas](#), [Hugging Face](#) | ~3,000 lines

- Used Mamba instead of an Attention Transformer to make a multi-layer language model.
- Trained on the Orca dataset.

Transformer-based Trading Strategy: [PyTorch](#) | ~3000 lines

- Achieved a 2.09 Sharpe ratio with a return of 200% over a three year period.
- Carried out Montecarlo simulations to find the strategy outperforms SPY in 88% of the simulations.

LEADERSHIP & SERVICE/LEADERSHIP & ACTIVITIES

Dartmouth Men's Tennis, Hanover, NH

September 2021-June 2025

Team Member & Co-Captain

- Beat the 2022 Ivy League Player of the Year, ranked 30 in the country at the time of my victory.
- Reached the finals of the Ivy League Individual Tournament in the Fall of 2024.
- Experienced the inner workings and dynamics of a team on a daily basis.
- Captained the team for the 2024-2025 season, improving my leadership skills through trial and error.