

Aaron Berger

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Education

HARVARD UNIVERSITY

Junior: Bachelor of Arts, Computer Science and Mathematics

Cambridge, Massachusetts

5/2025

GPA: 3.98 (unweighted)

Relevant Coursework: Systems Programming & Machine Organization, Data Structures & Algorithms, Systems Deployment, Linear Algebra & Differential Equations, Multivariable Calculus, Sets Groups & Topology, Real Analysis

Skills

Languages/Frameworks: Python, C, C++, Java, HTML/CSS, React Native, SQL

Other: PyTorch, NumPy, ROS, Git, Bash, OpenCV

Experience

CARNEGIE MELLON UNIVERSITY - [Salakhutdinov](#) Lab

Pittsburgh, Pennsylvania

Research Intern (Advised by [Ben Eysenbach](#))

5/2023 - 9/2023

- Researched problems at the intersection of reinforcement learning and belief change.
- Released an [article](#) on the impact of AI in politics with actionable policy and research directions.

CARNEGIE MELLON UNIVERSITY - [Kantor Lab](#)

Pittsburgh, Pennsylvania

Staff Programmer

6/2020 - 8/2021, 5/2023 - 9/2023

- Developed a robust vision [system](#) for inserting micro-sensors into corn stalks to assist in farming, using Mask R-CNN, ICP, and RANSAC for image segmentation and point cloud analysis. Validated in farms in Iowa.
- Created a local, autonomous vineyard navigation [pipeline](#), using deep learning for Lidar point cloud semantic segmentation, extended Kalman filters for tracking vineyard rows, and a custom path planning algorithm for driving. Validated pipeline in simulation.
- Designed a live drone mapping [system](#) for detecting 3D landmarks in forest environments, combining 2D image detection with Lidar-camera projection to yield faster results.
- Built simulation [environment](#) for Carnegie Mellon University students using Clearpath Robotics ROS robots and Gazebo simulator.

CARNEGIE MELLON UNIVERSITY - [Intelligent Coordination and Logistics Lab](#)

Pittsburgh, Pennsylvania

Research Intern

5/2022 - 8/2022

- Developed simulation [package](#) for testing air filter replacement on International Space Station, which is now used to test high-level planners at NASA.
- Researched and implemented optimization techniques for dense multi-vehicle routing problems, focused on assignment of areas to vehicles.

Leadership & Activities

ULTIMATE FRISBEE TEAM - Harvard University

Cambridge, Massachusetts

Captain

8/2021 - Present

[HARVARD-RADCLIFFE ORCHESTRA](#)

Cambridge, Massachusetts

Violinist

8/2021 - Present

[CS50](#): INTRODUCTION TO COMPUTER SCIENCE - Harvard University

Cambridge, Massachusetts

Teaching Fellow

8/2022 - 12/2022

- Selected among 800 students for a teaching position, and led weekly sections to introduce and review and content in C, Python, SQL, and HTML.