Frank Zhou

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Education

Cornell University Ithaca, NY

Bachelor of Arts in Computer Science and Math, ***GPA: 3.85/4.30*** *May 2025*

- **Related Courses:** Analysis of Algorithms, Advanced Linear Algebra, Artificial Intelligence, Discrete Structures, Functional Programming, Honors Analysis, Machine Learning, Object Oriented Programming and Data Structures
- **Langanges / Skills:** Python, Java, Competitive Programming, Analytical Problem Solving, Machine Learning

Professional Experience

Software Engineer Intern June 2023 – Present

Cepton *San Jose, CA*

- Build an efficient lidar simulator that allows users to generate pcap files for comprehensive visualization of the field of view captured by lidar systems 80% faster than the previous simulator
- Use computer vision and deep learning techniques to derive high-level information from raw lidar point clouds to enable object classification and visualization
- Work with automotive companies like General Motors and industrial solution providers for lidar adoption projects
- Refactored large codebases to improve readability and performance, while also integrating comprehensive unit tests to verify functionality, enhancing overall code quality, reliability, and development efficiency

Machine Learning Subteam Lead Sep 2022 – May 2023

Cornell University Sustainable Design *Ithaca, NY*

- Led a team of 15 to work on incorporating high-efficiency sensors, various tracking technologies, and machine learning to automate HVAC in classrooms at Cornell
- Designed a neural network that sets the optimal temperature for rooms according to calendar entries of users
- Estimated to save over 14,000 kWh and $1,000 annually for LEED Platinum Certified Building such as Upson Hall

Undergraduate Teaching Assistant Aug 2022 – Present

Cornell University: CS1110 (Intro. CS), CS2110 (OOP and Data structures) *Ithaca, NY*

- Facilitated students in learning and applying data structures and algorithms using Java
- Design and grade assignments, quizzes, and exams that test students' understanding and implementation
- Lead weekly sessions for 30+ students to solidify their understanding of the material

Frontend Engineer Dec 2021 – May 2022

Cornell Finance Club *Ithaca, NY*

- Built and deployed a dynamic website using HTML, CSS, and JavaScript with 2,000+ visits
- Integrated Firebase to store club members' information and used Firebase Auth to authenticate club members

Selected Projects

Minesweeper Solver | *Python* Jan - June 2023

- Developed a Minesweeper solver by integrating deep learning techniques with probabilistic methodologies like CSP
- Optimized the solver to achieve a 40% success rate and solve the game in an average time of 0.06 seconds
- Enhanced testing efficiency by developing automated testing functions, data collection pipelines, and abstraction classes to streamline procedures

Meat By Receipt | *Swift, Python, Google Cloud, Figma* Oct. 2022

- Tracked meat consumption by simply taking a picture of shopping receipts using Google OCR and Google VM
- Improved ease of use by integrating Target API to facilitate price querying and weight estimation
- Created app branding, high-fidelity designs, and prototype in Figma in 36 hours
- Presented end product to a panel of professors, industry professionals, and students, and won best use of Google Cloud out of 204 competitors

Oasis Cube | *OCaml* Sep 2022 – Dec 2022

- Collaborated in a group of 3 using agile programming methods to iteratively develop and deliver a fully functional virtual Rubik's Cube simulator using OCaml Graphics
- Enables users to customize and visualize Rubik's Cubes (2x2 and 3x3 puzzles) in different dimensions and modes

Project Euler | *Python* June 2022-current

- Solved and optimized 50+ computational problems with problems having under 5000 accepted solutions
- Used dynamic programming, graph theory, linear algebra, combinatorics/probability theory, linear algebra, etc