

Michael Zhou

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EDUCATION

Carnegie Mellon University | Pittsburgh, PA

May 2025

Bachelor of Science in Computer Science | Machine Learning Concentration

GPA: 4.0/4.0

- Coursework: Functional Programming, Parallel & Sequential Algorithms, Computer Systems, Distributed Systems, Mathematical Finance, Theoretical CS, Probability and Computing, Machine Learning (Ph.D.)
- Leadership & Awards: ScottyLabs Committee Head, SCS Dean's List High Honors (All Semesters), 2022 CMU Quantathon Finalist

SKILLS

Programming Languages: Advanced in Python, C, C++, JavaScript, TypeScript, Standard ML, Julia. Learning Golang, Rust, Java

Tools & Frameworks: OOP, Pandas, NumPy, PyTorch, SQL, MongoDB, React, FastAPI, Flask, Docker, AWS, GCP, Git, Linux, Bash

Awards: 5x AIME Qualifier (Score: 8), National Chemistry Olympiad Honors Top 150 (2x Finalist), Congressional Art Competition Winner

EXPERIENCE

Carnegie Mellon Robotics Institute

Oct 2023 – Present

Research Assistant | Pathak Lab

Pittsburgh, PA

- Working under Prof. Deepak Pathak on novel problems in generative models and self-supervised learning

Lawrence Livermore National Laboratory

May 2023 – Present

Research Intern | Applied Machine Learning for Cybersecurity

Livermore, CA

- Generating and analyzing an open-source malware dataset from host processes, building new infrastructure for data collection
- Used enhanced ML models and anomaly detection algorithms to isolate cyber-attack patterns from encrypted network data

T-AI: Artificial Intelligence Teaching Assistant [↗](#)

Feb 2023 – Present

Co-Founder | TA for Free Educational Videos

Pittsburgh, PA

- Designed modular AI pipeline architecture enabling 5x feature development speed, led efforts in user studies and business plans
- Experimented with various LLM-driven architectures for answering student questions, tested with TA's of a 300+ student class
- TartanHacks 2023 Grand Prize, and Best Use of Google Cloud Award

Carnegie Mellon University School of Computer Science

Spring 2023, Fall 2023

Teaching Assistant | 17-313: Foundations of Software Engineering, 07-180: Concepts in AI

Pittsburgh, PA

- Designed and tested assignments, held weekly office hours, and taught supplementary recitations for 100+ students
- Authored course notes, held review sessions on Q-learning, MDP's, decision trees, perceptrons, logistic regression, and KNN

Quantedge Capital

May 2022 – Aug 2022

Software Engineering Intern | Authentication & Authorization

Singapore, Singapore

- QAuth Team: built an authentication & authorization service for a \$3bn+ hedge fund, for use in all internal applications
- Developed custom permission syntax and authorization algorithms, wrote Python library for integration into codebases
- Engineered an algorithmic trading client, collaborated with quantitative researchers to design and implement VWAP and arrival price trading strategies; achieved 100% success rate of trading completion across 400+ trading day runs
- Wrote a Python Websocket stock exchange supporting 20+ algorithmic agents trading simultaneously and 13x-speed trading day simulations for up to 50,000 actions/hour; drafted system architecture for parallel runs and log collection

LearningClues

Jun 2021 – Jan 2023

Full-Stack Software Engineer, Team Lead | LTI Integration and Studyguide

Ann Arbor, MI

- Spearheaded product discovery, prototyping, and ideation efforts for Studyguide, which is the new company direction
- Implemented Learning Tools Interoperability (LTI) endpoints, enabling integration with popular learning platforms
- Added security checks to a Flask API endpoint used for 600+ classes, restricting users to current course content

PROJECTS

ClickShare

- Created screen-sharing application that projects clicks onto browser windows, facilitating non-invasive collaboration
- TartanHacks 2022 Best Use of Google Cloud Award

BioInf-PHP

- Built an end-to-end bioinformatics pipeline web application to automate various gene analysis tasks
- Published 1st-Author Research Paper [↗](#), presented at CLOUD 2020 International Conference on Cloud Computing

ScottyRank [↗](#)

- Implemented a PageRank library in Julia with 1000+ lines of code, authored paper on PageRank's mathematical theory