Michael Li

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EDUCATION

Carnegie Mellon University *Expected: May 2026*
B.S. in Computer Science, Statistics & Machine Learning
Dean's List, High Honors (All Semesters)
Student Activities: Carnegie AI Safety Initiative, Tartan Rowing
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Data Structures and Algorithms, Intro to Computer Systems, Functional Programming, Linear Algebra, Probability and Statistics, Human-Centered Software Design

SKILLS

Languages: Python, C/C++, Java, SML, OCaml, C#, JavaScript, TypeScript, Go, SQL, R, HTML/CSS
Frameworks: TensorFlow, PyTorch, Keras, React, Flask, ROS 2, Django, Node.js, PostgreSQL, OpenGL
Development Tools: Git, VSCode, Docker, Unity
DevOps: Google Cloud Platform, Amazon Web Services

EXPERIENCE

Machine Learning Intern, Epirus Los Angeles, CA • June 2024 – August 2024
- Trained a reinforcement learning agent using Proximal Policy Optimization (PPO) with PointNet architecture in **PyTorch** to optimize engagement policies for unknown drone swarms
- Developed a real-time 2D/3D drone swarm simulation framework with multiple visualization backends (**PyGame**, **OpenGL**, **Matplotlib**)
- Engineered custom **multi-threaded training pipeline** achieving significant throughput speedup, enabling efficient training across complex scenarios

Full Stack Engineering Intern, Beaver Health Palo Alto, CA • May 2023 – August 2023
- Designed and developed a scalable **GPT-4** based dialogue framework using **React**, **TypeScript** and **Express.js**, effectively digitizing evidence-based health interventions
- Deployed the application on **Google App Engine**, optimizing the infrastructure to reduce latency
- Funded by the **NIH National Institute on Aging** and **Harvard Innovation Labs**

Researcher, University of Victoria Remote • July 2022 – May 2023
- Implemented TCN, CNN, and LSTM architectures in **PyTorch** for COVID-19 prediction, achieving statistically significant improvements over CDC ensemble models
- Developed robust data pipeline in **R** and **Python** for processing and integrating U.S. county-level demographic data
- Published as first author in *Journal of Global Health*: `https://pmc.ncbi.nlm.nih.gov/articles/PMC10208648/`

Creator & Developer, COVIDCatcher Pleasanton, CA • December 2021 – May 2023
- Built multimodal ML system using **VGG-19** and **XGBoost** for COVID-19 symptom detection
- Developed end-to-end ML pipeline in **TensorFlow** and **Keras**, processing audio spectrograms and symptom data

Software Engineer, Amador Valley Robotics Pleasanton, CA • Aug 2018 – May 2022
- Architected real-time object detection pipeline using OpenCV and ROS, optimizing for **400%** faster inference
- Implemented parallel image processing architecture with C++ multithreading, reducing latency by **75%**
- Automated image annotation workflow using YOLOv5 and DetNet models, saving **100+** hours of manual data labeling

PROJECTS

CLaiM https://devpost.com/software/autoclaim-q8who1
Implemented AI models using **Meta's SAM 2** and **YOLOv8** to automate and enhance home insurance claim processing

Ad Lunam https://devpost.com/software/ad-lunam
Developed a physics simulation in **Unity** for procedurally generated planets in a VR environment

Shipworthy https://devpost.com/software/shipworthy
Utilized **OpenCV** for real-time tracking of a DIY steering wheel, enabling dynamic control in a custom ship game

Stance https://devpost.com/software/stance-taking-a-stand-against-hate-speech
Used **scikit-learn** and **LIME** to build and interpret models for detecting toxic comments on the Internet

ACCOMPLISHMENTS

Hackathons: Cal Hacks 11.0 (1st), HackItShipIt (1st), To the Moon and Hack (3rd), Data Day Grind (Best Data Visualization)
Science Fairs: 1st Place – Alameda County (2021 & 2022), California Science Fair Presenter (2021 & 2022)
Music: Gold Medalist – U.S. Open Music Competition, Showcase Senior Division (2021 & 2022)