Michael Li

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EDUCATION

Carnegie Mellon University, *B.S. in Computer Science, Statistics & Machine Learning* *Expected: May 2026*
Dean's List with High Honors, *Every semester*
Relevant Coursework: *Data Structures and Algorithms, Parallel Computing, Functional Programming, Machine Learning, Artificial Intelligence, Natural Language Processing, Deep Learning, Linear Algebra, Probability and Statistics, Statistical Computing, Human-Centered Software Design*

SKILLS

Languages: Python, C/C++, Java, SML, OCaml, C#, JavaScript, Go, SQL, R, HTML/CSS
Frameworks: React, Flask, TypeScript, TensorFlow, PyTorch, Keras, 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
- Created a modular drone swarm simulation in **Python** for 2D/3D rendering with **Matplotlib** and **OpenGL**, used by the mission modeling team for scenario visualizations.
- Built reinforcement learning agents using **Proximal Policy Optimization (PPO)** in **PyTorch**, achieving a **10x performance improvement** over baseline policies.

Full Stack Engineering Intern, Beaver Health Palo Alto, CA • May 2023 – August 2023
- Designed and developed a scalable **GPT-4** based dialogue framework utilizing **React** and **TypeScript**, effectively digitizing evidence-based health interventions.
- Deployed the application on **Google App Engine** using **Express.js**, optimizing the infrastructure to reduce latency by **30%**.
- Backed by the **National Institute on Aging** and **Harvard Innovation Labs**.

Researcher, University of Victoria Remote • July 2022 – May 2023
- Developed, trained, and evaluated **Temporal Convolutional Networks (TCN)**, **CNNs**, and **LSTM** models using **PyTorch** to predict **COVID-19** outcomes based on U.S. county demographic data.
- The TCN model outperformed the **CDC's ensemble model** by a statistically significant margin.
- Authored and published research findings as the **first author** in the *Journal of Global Health*.

Creator & Software Developer, COVIDCatcher Pleasanton, CA • December 2021 – May 2023
- Designed and implemented a multimodal **machine learning** web application to detect COVID-19 symptoms and coughs using **VGG-19** and **XGBoost** with **Keras** and **TensorFlow**.
- Achieved over **10,000 lifetime page visits**.

Software Developer, Amador Valley Robotics Pleasanton, CA • August 2018 – May 2022
- Developed real-time object detection pipelines using **OpenCV**/**C++** integrated with **ROS**, improving detection speed by **400%**.
- Automated image annotation workflows with **YOLOv5** and **DetNet**, leading to over **100 hours** of saved manual labor.

PROJECTS

CLaiM https://devpost.com/software/autoclaim-q8who1
Built an AI-powered tool using **Next.js**, **Flask**, **Meta's Segment Anything Model 2 (SAM 2)**, and **YOLOv8** to automate home insurance claims by cataloging household items with computer vision.

Ad Lunam https://devpost.com/software/ad-lunam
Created a VR space exploration game in **Unity** with procedurally generated planets and low-cost gyroscopic VR controls.

Shipworthy https://devpost.com/software/shipworthy
Developed a real-time ship simulator in **Unity** controlled via a physical steering wheel tracked using **OpenCV** and **XQuartz**.

Stance https://devpost.com/software/stance-taking-a-stand-against-hate-speech
Built a web app with **scikit-learn** and **Flask** to detect toxic comments and provide interpretable classifications using **LIME**.

ACCOMPLISHMENTS

Won 4 Hackathons: 1st Place – Cal Hacks 11.0, 1st Place – HackItShipIt, 3rd Place – To the Moon and Hack, Best Data Visualization – Data Day Grind
Science Fairs: 1st Place – Alameda County Science Fair (2021 & 2022); California Science Fair Presenter (2021 & 2022)
Music: Gold Medalist – United States Open Music Competition Showcase Senior (2021 & 2022)