Michael Li

Pleasanton, CA • bearseascape@gmail.com • (408) 219-3978 • ml5885.github.io • github.com/ml5885

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: *Machine Learning, Artificial Intelligence, Natural Language Processing, Deep Learning, Linear Algebra, Data Structures and Algorithms, Parallel Computing, Functional Programming, 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: TensorFlow, PyTorch, Keras, React, Flask, TypeScript, 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
- Implemented Proximal Policy Optimization (PPO) algorithm with PointNet-based architecture in **PyTorch**
- Engineered custom **multi-threaded training pipeline** achieving 18x throughput speedup, enabling efficient hyperparameter optimization across 1M+ training episodes
- Built modular **drone swarm simulation framework** with custom physics engine and multiple visualization backends (**OpenGL**, **Matplotlib**), supporting 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 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
- 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*

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 • August 2018 – May 2022
- Developed 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 with gravity effects 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 simulation.

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

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)