Ming Liu

Software Engineer with expertise in Machine Learning, Data Science, AI, and Electrical Engineering with over 2 years of experience in industry and academia and a Master's Degree.

530-848-2623 • mingliu232@gmail.com • www.linkedin.com/in/mingliu232 • Based in California

EDUCATION

Columbia University Aug 2022 – Dec 2023
M.S Electrical Engineering (Data Driven Computation, Analysis and AI) New York City, NY
GPA: 3.79 • Dean's Academic Excellence Fellowship • Columbia Tesla Scholar

University of California, San Diego Aug 2018 – May 2022
B.S Electrical Engineering, Minor Cognitive Science San Diego, CA
GPA: 3.83 • Cum Laude • Provost's Honors

EXPERIENCE

Software Engineer
AIRO Inc. Aug 2023 – Jan 2024

Spearheaded software development on an AI-powered webcam using Python and C++ to implement onboard computer vision models on embedded hardware

Developed LLM chat backend integrating AWS Sagemaker, Lambda, and DynamoDB

Attracted media and investor attention by showcasing product prototype at CES 2024

Graduate Researcher
Intelligent and Connected Systems Lab at Columbia Jan 2023 – Dec 2023

Conducted ML research primarily focused on embedded and low-power systems

Engineered a real-time ML pipeline for cadence estimation from acoustic data with 97% accuracy using self-collected data for training

Published paper as first author at 2nd ACM International Acoustic Systems Workshop

Software Engineer Intern
FormFactor Inc. Jun 2022 – Sep 2022

Refactored MATLAB validation software suite used internally to find defects in the product, resulting in a 10% performance boost overall with SQL optimizations

Enhanced engineering reports by streamlining data generation and documentation

Achieved an 80% reduction in upload time for generated reports to SQL database

Teaching Assistant
University of California, San Diego Aug 2020 - Apr 2021

Taught engaging statistics and physics seminars for multiple sections, employing peer-to-peer educational techniques and tailoring lesson plans for student needs

Undergraduate Researcher
Qualcomm Institute at UCSD Aug 2020 – Jun 2021

Analyzed and organized historical meteorological, health, and socioeconomic data from California using R to train a model that estimates the regional risk of heat waves

Selected Projects

- GPU implementation of Image Unsharp Masking using CUDA
- Computer Vision Photographic Error Detection Model using PyTorch
- Depth finding Deep Learning model using TensorFlow
- SQL database CLI from scratch using C++

Project Reports: https://tinyurl.com/MLprojectreports

LANGUAGES

C++
Python
R
SQL
MATLAB
CUDA
SystemVerilog

SKILLS

GCP
AWS
PyTorch
Linux
TensorFlow
NumPy
Scikit
GIT
Hadoop
Spark
Tableau
Jupyter Notebook

COURSEWORK

Deep Learning

Large Language Models (LLM)

Generative AI

Audio and Signal Processing

Algorithms and Data Structures

Reinforcement Learning

Computer Vision