

Jacky Li

jackydl95@gmail.com | (424) 367-8040 | [LinkedIn](#) | [GitHub](#) | [Portfolio](#) | U.S. Citizen

Professional Summary

Edge AI, embedded systems, and software engineer with experience spanning on-device ML, embedded firmware, real-time control, and mobile/full-stack product development. Built embedded-friendly perception pipelines for event cameras, firmware for microcontroller-based systems, and AI-enabled user-facing applications. Also brings teaching experience through technical instruction, office hours, and student mentorship in software engineering and cybersecurity.

Technical Skills

Languages: Python, C/C++, Swift, Objective-C, JavaScript, TypeScript, Kotlin, SQL

ML / AI: PyTorch, NumPy, CNNs, SNNs, RAG, LangChain, GPT-based APIs, VLM/LLM-integrated workflows

Embedded / Systems: STM32, ARM Cortex-M, Raspberry Pi 5, Jetson Nano, Zephyr RTOS, GPIO, PWM, interrupts, timers, UART, sensor fusion

Software / Platforms: React, Node.js, Firebase, REST APIs, OpenCV, UNIX/Linux, CI/CD, QA testing

Experience

California State Polytechnic University, Pomona

January 2026 – Present

Adjunct Lecturer, ECE 3301 / ECE 3301L Introduction to Microcontrollers

Pomona, CA

- Teach upper-division lecture and laboratory courses on PIC18F microcontrollers, embedded C/assembly, digital I/O, timers, interrupts, ADC, PWM, serial communication, and hardware interfacing.
- Design and grade quizzes, homework, lab demos, written exams, and practical midterm assessments; evaluate code quality, hardware bring-up, and debugging workflow.
- Hold office hours, mentor student projects, and explain embedded-systems concepts clearly through lectures, demos, and structured feedback.

Break Through Tech at Cornell Tech

May 2026 – August 2026

Incoming Course Support, Machine Learning Foundations

Remote

- Selected for a paid Summer 2026 instructional support role for a machine learning foundations program.
- Support weekly live labs, grading, office hours, and troubleshooting in Python, pandas, NumPy, Jupyter Notebooks, introductory machine learning, and basic statistics.
- Provide academic feedback and reinforce debugging, reproducibility, and Git/GitHub workflows for student projects.

Stay Positive

July 2024 – February 2026

Software Engineer

Remote

- Built iOS features in Swift and Objective-C and supported secure user flows with Firebase authentication and data storage.
- Developed full-stack product features using React, Node.js, and Kotlin for a mental health platform.
- Integrated AI-driven journaling, mood analysis, and real-time wellness feedback features across mobile and backend systems.

CodePath

February 2024 – February 2026

Tech Fellow

Remote

- Led technical sessions and office hours for Technical Interview Prep and Cybersecurity cohorts.
- Mentored students in Python, debugging, data structures, algorithms, Azure security fundamentals, and applied cryptography.
- Reviewed code and coached students through clear problem solving, implementation tradeoffs, and safe engineering practices.

SimFit.app

September 2022 – February 2023

Developer Intern

Seattle, WA

- Contributed to debugging, documentation, and QA testing for a fitness-tracking application across iOS and watchOS.
- Implemented features in Swift, Objective-C, and Unity, including a mini-game module, within a full-stack product workflow.
- Worked in Git-based sprint cycles, tracked bugs through issue logs and test reports, and supported release quality through regression testing.

PlayPart Inc.

June 2022 – August 2022

Mobile Engineer Intern

Remote

- Engineered and tested real-time data pipelines for personalized content delivery in a short-form video application.

- Built lightweight ML-based ranking components in PyTorch and connected outputs to the iOS front end through REST APIs.

Selected Projects

SNN-GNN Predictive Coding for MRI Representation Learning

Research

- Developed a semi-supervised MRI framework using SNN-GNN gating with a SpikeFormer backbone to fuse supervised and unsupervised objectives for label-efficient predictive coding.
- Improved representation learning under limited annotations and targeted edge-efficient inference; reduced compute / energy by **90%** relative to the dense baseline.

Self-Supervised Event-Camera Denoising with SNN-GNNs

Research

- Built a self-supervised denoising pipeline for raw 4-channel event-camera inputs using spiking and graph neural modules for edge-ready neuromorphic vision.
- Achieved **97%** denoising / reconstruction accuracy on held-out event streams while preserving temporal structure for low-power real-time perception.

Content-Adaptive Neuromorphic Semantic Communication

Research

- Developed SpikeAdapt-SC, an SNN-based semantic communication framework for aerial edge AI, achieving **32–48% estimated computation energy savings** via SynOps over MAC-based encoding.
- Reduced payload from **64 KB to 48 KB per image (25% bandwidth savings)** with zero accuracy penalty at $\rho = 0.75$, and achieved **96.2%** adaptive BSC accuracy versus **95.8%** fixed full-rate transmission.
- Maintained **96%+** accuracy across evaluated channel settings and **>93%** accuracy under severe conditions down to BER = 0.3 and SNR = -2 dB.

Open Source Contributions

PokeAgent Speedrun

Open Source / Agent Systems

- Contributed to an open-source Pokémon Emerald speedrunning agent with **4 agent scaffolds** (four-module, simple, ReAct, and ClaudePlays) and a multiprocess emulator / agent architecture for stable long-horizon execution.
- Worked on speedrunner-oriented and resource-constrained agent behavior; the documented lightweight **simple** pipeline runs **3–5× faster** and retains the **last 20 actions** for compact action history.
- Supported production-oriented execution paths including **no-ocr** mode to avoid dialogue stalls and automated gameplay recording at **30 FPS**.

Omi Smart Glasses

Open Source / AI Wearables

- Contributed to an open-source AI wearable / smart-glasses platform spanning embedded systems, multimodal AI, and always-on human-centered assistance.

Education

California State Polytechnic University, Pomona

Pomona, CA

M.S. in Electrical Engineering, In Progress

2025 – 2027

California State Polytechnic University, Pomona

Pomona, CA

B.S. in Computer Engineering

2020 – 2025

Leadership and Academic Engagement

- **CSU ChatGPT Ambassador, OpenAI EDU:** Supported AI literacy and adoption efforts focused on accessible, privacy-conscious, and practical classroom use.
- **Teaching and Mentorship:** Built a track record of technical instruction, office hours, and learner support that complements engineering work with communication and curriculum-facing experience.
- **Research Focus:** Neuromorphic vision, edge AI deployment, embedded perception, semantic communication, and AI-assisted human-computer interaction.

Optional Title Variants

- Edge AI Engineer | Embedded Systems Engineer | Software Engineer
- Embedded AI Engineer | Firmware Engineer | Technical Instructor
- Edge AI / Embedded Systems Engineer | Adjunct Lecturer