

Justin Chan

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Summary

Computer Science candidate (Cal Poly SLO, B.S. June 2026) with hands-on AI/ML and full-stack experience across enterprise and nonprofit settings. Comfortable gathering requirements directly from non-technical stakeholders, translating them into product requirements and working cloud-based software, and speaking on technical tradeoffs to both engineers and clients. Currently pursuing a Masters in Applied Data Intelligence and the AWS Certified Solutions Architect – Associate (SAA-C03) certification. Dual United States and United Kingdom citizen willing to relocate.

Work Experience

Altera (FPGA Chip Design) | AI/Machine Learning Intern *July 2025 - Sept 2025*

Engineering teams were losing time to manual, repetitive knowledge lookup tasks. To address this, I evaluated commercial AI platforms against in-house options, then designed and prototyped organizational tooling using LLMs, embeddings, and agentic retrieval-augmented generation (RAG), weighing security and performance tradeoffs in each platform decision. I also built and deployed a full-stack JavaScript time-keeping application on Vercel. By time I had left, the tooling was adopted for 53 engineers.

Intel | HW/SW Intern (FPGA) *July 2023 - Sept 2023*

Developed and documented the end-to-end hardware/software development flow for the Nios V (RISC-V) soft-processor IP for FPGAs, giving downstream engineers a reusable reference. Contributed to hardware development for the DARPA PIPES co-packaged optics demonstration at the DARPA ERI Summit — work subsequently selected for American Possibilities: A White House Demo Day in Washington, D.C. (2023).

Hack4Impact (Full Stack Design for Non-Profits) | Full Stack Developer + Technical Lead *Sept 2024 - Present*

As Technical Lead, I interface directly with nonprofit clients to gather requirements, distill them into clear technical specifications, and run Scrum and standup meetings across year-long delivery cycles. For the Land Conservancy of San Luis Obispo, I led the build of a client booking platform (Next.js, Tailwind CSS, MongoDB) that streamlined document uploads and event scheduling, serving all new clients. I also implemented RESTful API routes and automated email workflows with Resend to reduce manual client communication.

Projects

Cáritas Valencia Participant Tracking App (Software Engineering): *Sept 2025 - June 2026*

A nonprofit serving unhoused individuals needed a reliable way to manage appointments, store participant documents, and track program enrollment. Participating in and leading Scrum across a year-long Agile cycle, I built a MERN-stack application that consolidates these workflows into one system for 6 caseworkers and dozens of volunteers improving appointment reliability and participant safety.

Kids First Initiative (Software Engineering + Technical Lead): *Jan 2026 - June 2026*

Translating client learning goals into a technical roadmap, I led a team building a web platform of Unity-based games that teachers and parents use to teach foundational science and physics concepts to children. As Technical Lead I scoped and assigned tasks from client requirements, integrated the games into the web platform, and guided my team when they needed help.

Golf Swing Key Frame Detection (Deep Learning + Transformer): *Jan 2025 - Mar 2025*

Designed and implemented an end-to-end computer vision pipeline in PyTorch to analyze golf swing videos using transformer-based models. Processed and trained on 31,428 labeled images, converting YOLOv8

annotations into custom training datasets and evaluation workflows. Achieved 84.5% test Percentage of Correct Events (PCE) of key-frame detection while owning data preprocessing and model training.

Automated Classic Snake Game (Reinforcement Learning):

Dec 2025 - Present

Implemented a Deep Q-Network (DQN) agent in Python and the Pygame library that learned to play Snake through reinforcement learning, tuning reward functions for survival and food collection; achieved an 8 times higher average score than a random action baseline across 200 evaluation games.

Education

California Polytechnic State University, San Luis Obispo
Bachelor of Science, *Computer Science*

Sept 2022 - Present
Exp Grad: June 2026

San Jose State University, San Jose
Master of Science, *Applied Data Intelligence*

Starting August 2026

Certifications

- AWS Certified Solutions Architect - Associate (SAA-C03) In Progress, Expected Aug 2026

Skills

- **Cloud & AI/ML:** AWS Bedrock, DynamoDB, LangChain, PyTorch, TensorFlow, NumPy, Deep Learning, Claude Code, Codex, Kiro
- **Languages:** Python, TypeScript, C++, C, Java, SQL
- **Frontend:** Next.js, React, Tailwind CSS
- **Backend & Data:** Node.js, Next.js API Routes, RESTful APIs, MongoDB, MySQL, DynamoDB, Firebase