

JACK CHANG

SOFTWARE ENGINEER

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<https://jackchang.dev>

EDUCATION

University of California, Irvine
B.S. Computer Science
Class of June 2026

RELEVANT COURSEWORK

Computer Vision, Intro to AI
Machine Learning & Data Mining,
Graph Algorithms,
Systems Programming,
Linear Algebra, Diff. Equations

PROFESSIONAL DEVELOPMENT

NVIDIA Developer Courses
Intro to Deep Learning,
Intro to Graph Neural Networks,
Accelerated Computing Python,
GPU Acceleration with C++

SKILLS

Languages & Frameworks:
Python, C++, PyTorch, TensorFlow,
NumPy, OpenCV, Node.js, OpenAI

Systems & Tools:
Git, Windows, MacOS,
Linux, Supabase

Technical Foundations:
Algorithms, Multithreading,
Optimization, Backend Systems,
Cross-platform Applications

HONORS/AWARDS

Eagle Scout
C++ Professional Certification
CompTIA A+ Certification
USA Computing Olympiad Gold

HOBBIES

Chess; rated 2200 on chess.com
Jazz guitar player
Hiking

WORK EXPERIENCE

Software Engineer | C++, Python, Node.js, Electron.js, Supabase

AI Tech Knowledge (June 2023 - September 2024)

- Built a cross-platform **Node.js** desktop service (Windows + macOS) to queue and execute **AI model inference** tasks for a scheduling platform
- Developed backend optimization modules in **C++** & **Python** using **Google OR-Tools**, with **multithreading** to reduce solver runtime
- Designed an **Electron.js** authenticator app integrated with Supabase, improving login flow and reducing authentication errors
- Implemented automated **CI/CD pipelines** using **GitHub Actions** for multi-OS build distribution (macOS + Windows)

Research Scientist | Python, OpenAI

MetaGuru (June 2023 - November 2023)

- Investigated capabilities of **large language models**, including prompt design, fine-tuning feasibility, and cross-language behavior
- Developed a question-answering system in Python using **OpenAI's GPT-4 API** that is capable of answering internal company questions and reducing manual HR load

Intern Game Programmer | C#, Unity

Good Trouble (October 2022 - March 2023)

- Implemented gameplay systems in **C#** & **Unity**, focusing on real-time input handling, object pooling, and performance-aware design
- Designed and built a weapon aiming system and UI menu for a cross-platform PC/Xbox combat racing game

Curriculum Developer & Instructor | Python

NexStream Technical Education (May 2022 - May 2023)

- Designed and taught **Python**-based programming courses covering game development fundamentals and algorithmic problem solving
- Developed curriculum for and taught a course on **USA Computing Olympiad** Bronze-level logic and algorithms, emphasizing **data structures** and reasoning skills

PROJECTS

Geometric Computer Vision Pipeline | PyTorch, NumPy, OpenCV

- Built an end-to-end computer vision pipeline for image alignment and panorama construction using **feature detection**, **homography estimation**, inverse warping, and blending
- Implemented robust feature matching with **ORB** and **RANSAC**, visualizing correspondences, inliers, and intermediate warping stages to validate alignment quality

Monte Carlo Tree Search Demo App | React, TailwindCSS

- Implemented a **Monte Carlo Tree Search** algorithm and built an interactive web demo to visualize tree expansion + rollout statistics
- Designed UI components to clearly display node values, visit counts, and decision paths