

Jose Falconi-Cavallini

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Full-Stack Software Engineer with a B.S. in Computer Science from UC San Diego and hands-on experience building and deploying production web applications for small and medium businesses. Proficient in React, Next.js, TypeScript, Python, C++, and Java with a strong foundation in data structures, algorithms, and system design. Experienced integrating AI tools and APIs into real-world business workflows and shipping full-stack applications with modern cloud infrastructure.

Core Competencies

Frontend Development: React, Next.js 14 (App Router, Server Components), TypeScript, JavaScript (ES6+), HTML5, CSS3, Tailwind CSS, responsive design, web performance optimization, code splitting, state management, component architecture

Backend & Infrastructure: Node.js, Express.js, Flask, Prisma ORM, RESTful APIs, WebSockets, SQL, PostgreSQL, database design, Azure Cloud, Railway, server-side rendering

Development Tools & Practices: Git/GitHub, Docker, CI/CD pipelines, Jest, PyTest, Chrome DevTools, React DevTools, Agile/Scrum, code review, TDD, debugging, performance profiling

Additional: Python, Java, C/C++, Linux/Unix, system architecture, UI/UX best practices, OpenAI API, business workflow automation

Professional Experience

Software & Full-Stack Development Tutor, Revolution Prep – Remote *April 2025 – Present*

- Mentor 40+ students weekly in React, TypeScript, JavaScript, Node.js, SQL, and full-stack architecture; debug production codebases and guide Azure deployments emphasizing clean code, component design, and testing methodologies

Lead Instructor / Full-Stack Curriculum Developer, Magikid Robotics Lab – San Diego, CA *Jun 2023 – Feb 2025*

- Developed comprehensive web development curriculum covering React, Node.js, Express, REST APIs, and database integration; created hands-on projects including responsive interfaces, real-time chat apps, and CRUD systems with authentication
- Introduced industry workflows: Git version control, Docker containerization, CI/CD pipelines, automated testing, and production deployment strategies

CSE Department Tutor / Teaching Assistant, UC San Diego – La Jolla, CA *Sep 2019 – May 2023*

- Tutored 100+ students in Data Structures, Algorithms, OOP, and Web Development (Python/Java/C++/JavaScript); provided code reviews focusing on modular design, Big-O analysis, edge cases, and unit testing

Featured Projects

[AIPrep.study – SAT Prep Platform](#) | Next.js 14, TypeScript, React Server Components, Prisma, PostgreSQL

- Architected full-stack SAT platform serving 13,000+ official College Board questions with daily diagnostics, analytics dashboards, and adaptive progression tracking; improved client performance 40% through App Router optimization, Server Components, and strategic code splitting
- Engineered scalable RESTful APIs with optimized queries, caching strategies, and SSR for sub-second load times; built real-time leaderboards with WebSocket integration and AI tutoring system with personalized recommendations

[Real Real Estate - Property Listing Platform](#) | Next.js, Typescript, Tailwind CSS, Prisma, PostgreSQL, Auth.js

- Built full-stack real estate platform with property listings, image uploads via Cloudinary, threaded comments, and real-time private messaging between users; deployed on Vercel with Neon serverless PostgreSQL
- Implemented JWT-based authentication with [Auth.js](#) credentials provider, designed relational data schema with Prisma ORM, and built responsive Zillow-inspired UI with server actions and App Router architecture

[Cryptocurrency Order Book Tracker](#) | Python, WebSockets, Coinbase API

- Maintained live in-memory BTC-USD order book consuming Coinbase WebSocket feeds with deterministic updates; implemented error handling, auto-reconnection, and out-of-order event reconciliation

UDP Packet Sniffer & Latency Logger | C++, Raw Sockets, Linux Systems Programming

- Built low-level network packet capture tool in C++ using raw sockets to intercept and parse UDP headers, extract payload metadata, and log per-packet latency with microsecond precision for performance analysis
- Demonstrated systems programming fundamentals including memory management, bitwise header parsing, and network protocol implementation relevant to low-latency and high-frequency trading infrastructure

Education

University of California, San Diego – Bachelor of Science in Computer Science *June 2023*

Coursework: Software Engineering, Advanced Data Structures & Algorithms, Web Development, Database Systems, Operating Systems, AI: Search and Reasoning, Client-Server Architecture