# Spike O'Carroll

310-905-7323 | career@spike.codes | linkedin.com/in/spike-ocarroll | github.com/spikecodes | Irvine, CA

## EDUCATION

**University of California, Irvine** — GPA: 3.97

*B.S., Computer Science* — *Expected Dec 2025*

## EXPERIENCE

**Full Stack Software Intern** — Dec 2023 – Present

*Portal AI* — *Remote*

- Shipped 80+ features to a venture-backed startup's AI web browser and LLM interface serving 30,000 users/mo
- Built a high-performance vector database in Rust with SQL query support and cloud syncing with Postgres server
- Launched a conversational voice AI in Python with $< 600ms$ latency, web agent capabilities, and RAG
- Worked closely with fast-paced teams to develop Electron-based browser in Node, TypeScript, React, and Tailwind

**Freelance Web Developer** — Nov 2021 – Dec 2023

*Self-employed* — *Culver City, CA*

- Created high-converting websites for businesses and public figures using Webflow, Figma, and Framer
- Organically increased web traffic by 2-3x for more than 90% of clients through maximizing SEO and page speed
- Designed stunning landing pages and $0{\rightarrow}1$ web branding featured in 32 Behance and Dribbble collections

**Frontend and Webmaster Intern** — Mar 2023 – Nov 2023

*Maximize Athletic Performance* — *Los Angeles, CA*

- Designed and maintained website, Shopify store, and JotForm assessment form for private gym
- Architected automation pipelines saving 10 hours/week on client processing using webhooks and Zapier

## PROJECTS

**Web Page Search Engine** ⬀ | *Python, NLP* — Feb 2024 – Mar 2024

- Engineered a web page search engine in Python, implementing PageRank and cosine similarity for ranking
- Implemented zlib compression reducing index storage by 60% while maintaining search precision
- Created a Streamlit web interface enabling <2 second query response times for multi-word searches

**Full-Stack Stock Trading Simulator** ⬀ | *React, TypeScript, MongoDB, Express, Node* — Jul 2023 – Aug 2023

- Built a real-time stock trading simulator with a React + TypeScript frontend and a Node.js/Express backend
- Constructed an OpenAPI 3.0-compliant API with JWT auth to interface with MongoDB and third-party APIs
- Leveraged AWS to host the backend (EC2, CloudFormation, Cloudfront) and deploy the frontend on AWS Amplify

**Scholarship Management SaaS** | *Python, JavaScript, Cloudflare Workers, Retool, SQL* — Jun 2023 – Apr 2024

- Created an internal CRUD tool for Culver City Scholarship Fund with Python, JavaScript, and PostgreSQL
- Allowed for database management, AI data analysis, scoped user authentication, and form automation pipelines
- Designed a user-friendly system serving over 250 applicants, and saving $8000/year and 40 hours each cohort

**Libreddit: Full-Stack Web App** ⬀ | *Rust, Docker, HTML, CSS, JavaScript* — Jun 2020 – Jul 2023

- Developed a full-stack web app with Rust providing speedy and private Reddit access to 4,000,000 users/month
- Created a custom HTTP2 client/server, providing users a "Time to Interactive" of 2.8s (vs. Reddit's 12.4s)
- Formed a project network comprised of over 100 Libreddit instances hosted by volunteers worldwide

## AWARDS — $120K TOTAL WINNINGS

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|---|---|
| **1st place** \| **UC Berkeley AI Hackathon** \| Project: **DispatchAI** ⬀ | Jun 2024 |
| **1st place** \| **UCI Stella Zhang New Venture Competition** \| Project: **Sentinel** ⬀ | May 2024 |
| **1st place** \| **LAHacks Google Company Challenge** \| Project: **AdaptEd** ⬀ | Apr 2024 |
| **1st place** \| **UCI AI Innovation Challenge in Student Experience** \| Project: **Notive** ⬀ | Jan 2024 |

## TECHNICAL SKILLS

**Languages**: TypeScript, JavaScript, Python, C/C++, Java, Rust, HTML, CSS, SQL, C#, Go
**Frameworks**: React, NextJS, Node.js, Electron, Chakra UI, Tailwind CSS, Flask, Django
**Developer Tools**: Docker, AWS, Git, Firebase, GitHub, CI/CD, Linux, Azure, Shell Scripts, WordPress, CMS
**Skills**: Open Source, DevOps, UI/UX, Quality Assurance, Machine Learning, Artificial Intelligence, NLP, Excel