Jiaqi Duan

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EDUCATION

UC Santa Cruz

Master of Science in Computer Science and Engineering — *Expected Dec 2025*

Bachelor of Science in Computer Science and Engineering; Bachelor of Art in Psychology — *Dec 2022*

EXPERIENCE

Tech4Good Lab — Santa Cruz, CA

Full Stack Developer & AI Research Lead — *June 2023 – Present*

- Led a team of 10 to build the Pathways application, an AI-driven platform for self-directed learning.
- Conducted user research and literature reviews to improve AI models and refine the product based on feedback.
- Integrated vector embeddings with **Pinecone** to deliver recommendations via retrieval-augmented generation.
- Built prompt solutions and automated workflows with **OpenAI APIs** to deliver a personalized learning experience.
- Architected the platform with **Solid.js**, **Express.js**, **Vite**, **Firebase (Firestore)**, and **RxJS** for real-time sync, optimizing performance and scalability.

WayOps — Remote

Backend Developer Intern — *July 2021 - August 2021*

- Collaborated with the development team to align project objectives with WayOps' long-term business goals.
- Optimized SQL queries through strategic **indexing**, **query restructuring**, and **caching mechanisms**, reducing latency and enhancing overall data retrieval performance.
- Redesigned the database schema using advanced **normalization** techniques, minimizing data redundancy and improving the efficiency of read/write operations across multiple tables.

Code For Fun — Sunnyvale, CA

Coding Instructor — *Feb 2023 - Feb 2024*

- Instructed students in programming across small (1-7 students) and large (10-200 students) group settings.
- Created personalized learning plans leveraging adaptive technologies to address the diverse needs of students.
- Developed a curriculum applying coding principles to real-world projects, such as building responsive websites, creating data-driven apps, and automating tasks with scripts.

PROJECTS

Yi — Next.js, Django REST Framework, PostgreSQL

A SaaS application for comprehensive financial and business management

- Integrated **Chart.js** for dynamic data visualization, enhancing financial analysis and decision-making.
- Implemented secure file uploads for transaction documents, ensuring accurate verification and record-keeping.
- Developed **Ant Design** table for real-time financial insights, streamlining account, balance, and deadline tracking.
- Built **CRUD** functionality for bank statement management, utilizing modals to streamline the user experience for managing financial data.

NoteGrid — Next.js, Django REST Framework, PostgreSQL

A note-taking web app with task management and time tracking features

- Developed a customizable calendar component for organizing tasks and linking notes to boost productivity.
- Integrated **Monaco Editor** for in-browser code editing with real-time execution support using the **Piston API**, and syntax highlighting for multiple programming languages.
- Utilized **Redux Toolkit** and **RTK Query** for global state management and seamless API integration, optimizing data fetching with caching to improve performance and reduce load times.

SKILLS

- **Programming Languages:** JavaScript/TypeScript, Python, Java, C/C++
- **Web Development:** React, Next.js, Node.js, SolidJS, Tailwind CSS
- **APIs and Libraries:** OpenAI APIs, LangChain, Pinecone
- **Databases:** PostgreSQL, Firebase, MongoDB
- **Frameworks:** Django, Express.js, Vite
- **Backend Development:** Django REST Framework, Express.js
- **Languages:** English, Mandarin, Cantonese