

Tianyu (Simon) Cao

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Education

University of California, Irvine

Bachelor of Science in Computer Science, Minor in Informatics

Expected June, 2025

Cumulative GPA: 3.81

Coursework: OOP, Database Management, Data Structures & Algorithms, Software Engineering, Web Development, Machine Learning & Data Mining, Artificial Intelligence, Computer Networks & Architecture, Information Retrieval, Operating Systems

Technical Skills

Languages: Python, Java, C/C++, JavaScript, SQL, PHP, TypeScript, Swift, C#, HTML/CSS, MIPS Assembly, Go

Frameworks: Express.js, React.js, React Native, Vue.js, Laravel, Git, Flask, Cypress, Angular, Django, Bootstrap, Passport.js

Technologies: MySQL, Kubernetes, Docker, GCP, AWS, Redis, Linux, MongoDB, SQLite, Figma, Azure, PostgreSQL

Work Experience

Full-Stack Software Engineer

Dec 2022 - Present

UC Irvine Office of Information Technology | Irvine, CA

- Maintained the UCI commencement website for **12k+ users annually** through **Agile** based development, managed version control with **Git** such as merging pull requests and processing code reviews for team collaboration.
- Incorporated features such as user registration, volunteer sign-ups, ceremony creation, and student reservation.
- Facilitated database migrations, schema changes, and refactored queries to improve response time by **~200ms** through **MySQL** to optimize application performance.
- Constructed responsive user interfaces utilizing **Vue.js**, resulting in a **30% increase** in user engagement along with building back-end services with **Laravel** and **PHP** to ensure efficient data retrieval and storage.
- Created **Cypress E2E** frontend tests and Laravel backend **unit tests**, ensuring complete testing coverage along with regression testing and receiving positive feedback from **500+ users**.

Jr. Full Stack Software Engineer Intern

Jun 2023 - Sep 2024

General Image Processing SAAS Platform | DigiTechIT Solutions | Remote

- Designed and launched an imaging compression, tagging, and application microservice leveraging OpenAI Vision API and Google Cloud API, streamlining image processing within a SaaS environment.
- Developed microservices architecture for a high-traffic SaaS platform, achieving a **40% reduction in response time** and enabling horizontal scaling for peak season demand.
- Employed React Hook Form to build tables and forms, enhancing application performance and validating user inputs through the Yup validation.
- Optimized database performance by fine-tuning SQL queries, pagination and implementing Redis caching mechanisms, resulting in a **30% reduction in overall database response time** and improved system scalability.

Personal Projects

FabFlix - Movie Archive | Docker, Kubernetes, MySQL, Tomcat, Java, Javascript, AWS, GCP

- Led a **2-member** team to create a cybercommerce movie catalog containing **30,000+ movies** and **100,000+ stars**.
- Developed and deployed a scalable architecture using MySQL master-slave replication to optimize database performance and ensure high availability.
- Implemented containerization with Docker and orchestrated load balancing with Kubernetes, enabling efficient management and scaling of services, overall **reducing server load by 60%**.

AnimeNinjas - Anime Platform | MongoDB, EJS, BootStrap, Express.js, Javascript, Passport.js, Python

- Created a fully responsive anime recommendation website, accumulating over **100 monthly users**.
- Programmed a Python scraper which retrieved and stored over **~25,000 anime** into **MongoDB** from MyAnimeList.
- Implemented user registration/login, user review functionality, and security features along with the optimization of the infinite scroll functionality through **REST APIs** to enhance user retention by **15%**.

Leksa - Food Social Media Platform | React Native, Express.js, PostgreSQL, AWS, Expo, Node.js

- Devised and integrated key features across the stack, optimizing communication between the user interface and backend services to deliver a seamless user experience.
- Designed and engineered a photo-sharing and restaurant discovery mobile application, featuring over **300+ restaurants** and **3,500+ items**, within a **7-member Agile** team as a full stack software engineer.