ZHIYUAN SONG

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EDUCATION

University of California, Santa Cruz   **Sep. 2022 – June 2026**
Bachelor of Science in Computer Science   *GPA: 3.60/4.00*

EXPERIENCE

Web Developer Intern   **Dec 2024 – March 2025**
Laboratory of AI & Biomedical Science, Columbia University   *New York, NY (Remote)*
- Contributed to the development of the **MEDICINE public knowledge portal**, supporting internal data collection, visualization, and information access for research.
- Built an interactive **SVG-based** body map with real-time animations and navigation across **15+ organs.**
- Developed a global visitor analytics map using **D3.js** and **TopoJSON** to visualize traffic from **250+** countries.
- Built download system by refactoring **200+** pages into a reusable component, achieving **98%** code reuse.
- Built a lightweight backend with **Netlify Functions + MongoDB** for downloads and visitor tracking.
- Credited as **co-author** in a **Nature Aging** submission, with **contributions** included in the platform description.
- **Collaborated** via GitHub, Slack, and email; participated in remote meetings for feature planning and issue resolution.

Full-Stack Developer Intern & Technical Lead   **Jan 2025 – Present**
3CCA Church   *Remote*
- **Led** the redesign of the 3CCA Church website to support its **transition to an online platform**.
- Spearheaded **system architecture** and tech stack decisions (**React.js, Node.js, MongoDB**) for scalability.
- Built the **admin system** and key modules (event/audio/article), enabling non-technical staff to manage site content.
- Designed a **flexible MongoDB schema** based on project needs to support diverse and scalable content types.
- **Led team meetings**, assigned tasks, and managed GitHub-based **code reviews** and merges.

PROJECTS

AI Resume Analyzer | *MERN + OpenAI API + PDF Parsing*   **Feb 2025 – Present**
- Designed and built an **AI-powered platform** to tackle resume-job mismatch and inefficient application analysis.
- Extracted resume text via **pdf-parse**, combining **regex** and **GPT analysis** to reach **100%** identification accuracy.
- Integrated **OpenAI API** for match scoring, tailored resume feedback, and interview question generation.
- Built a **session-based engine** with **multi-threaded context control**, reducing redundancy and saving **70% tokens**.
- Enabled one-click **JD pasting** with **token-optimized preprocessing** for faster, cheaper analysis.
- Used **Google OAuth** and **MongoDB** for user login, history tracking, and resume/job reuse.

AnimeHub | *Full-Stack · MERN (MongoDB, Express.js, React, Node.js)*   **June 2024 – Nov 2024**
- Developed a **full-stack** anime forum website for anime enthusiasts, featuring ratings, rankings, and user discussions.
- Implemented a **decoupled architecture** with separate deployments on Netlify and **Heroku**, ensuring scalability.
- Built **RESTful APIs** with Express.js for ratings, filtering, and user management, enhancing backend efficiency.
- Optimized **MongoDB** by embedding ID arrays to simplify data access and reduce query overhead.
- Implemented **JWT authentication** with an Axios interceptor for token refresh and seamless API retries.
- Added multi-language support using **i18n**, storing language preferences in user accounts for persistent customization.
- Enhanced the user interface using Ant Design and **Material-UI**, improving usability and visual appeal.

Personal Portfolio Website | *Frontend · Next.js + Typescript + Tailwind CSS*   **Oct 2024 – Jan 2025**
- Developed and deployed a minimalist portfolio site with **Next.js**, **Tailwind CSS**, and **Framer Motion**.
- **Open-sourced** as a reusable **template** with system-synced dark/light mode and **CI/CD** via **Vercel**.

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, Python, C++, Java, C
Frameworks & Libraries: React.js, Next.js, Redux, Tailwind CSS, Node.js, Express.js
Databases, DevOps & Tools: MongoDB, Redis, SQL, Git, Docker, AWS, Linux, Nginx, GitHub Actions

WORKING PAPER

Z. Song, M. Duggan, et al. "*Multi-organ MRI Charts Biological Aging of Seven Organs and Tissues.*" *Nature Aging* (in preparation), 2025.