

Songyan Zhao

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SUMMARY

Seeking Software Engineer roles starting Nov 2025. 7+ years of full-stack experience. Skilled in Java (Spring Boot) and Python (Flask) for scalable distributed systems, RESTful APIs, and AWS services (Lambda, RDS, Bedrock). Experienced with PostgreSQL, Redis, and modern cloud architectures, with frontend expertise in React/React Native, Vue.js, and TypeScript.

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[Google Scholar](https://scholar.google.com/citations?user=QWzgkxwAAAAJ&hl=en)

EDUCATION

•University of California, Los Angeles

Sept. 2023 - June. 2025

M.S. Computer Science, advisor: Prof. Nanyun Peng, GPA: 3.88/4.0

Los Angeles, CA

•Carleton College

Sept. 2019 - Jun. 2023

B.A. Computer Science and Mathematics (double-majors); GPA: 3.86/4.0, Cum laude

Northfield, MN

TECHNICAL SKILLS

Languages: Python, Java, C, C++/STL, SQL, HTML, CSS, JavaScript, Go, Scheme, TypeScript

Frameworks: Spring Boot, Flask, Node.js, Vue.js, Pytorch, React Native, Node.js, .Net, JQuery, TensorFlow, Amazon AWS

Databases/Tools: MySQL, PostgreSQL, MongoDB, Core Data, Redis, Docker, Dplar, Gradle, Maven, gdb

Knowledge: OOP/OOD, Design patterns (MVC, Factory), Large language model, Machine learning, Distributed System, Relational databases, RAG.

WORK EXPERIENCE

•Xpower Inc.: Spring Boot Based ChatRoom with AI-assistant

Apr. 2025 - Aug. 2025

Software Developer Intern

Los Angeles

- Built a Spring Boot chat backend (WebSocket/STOMP, Redis/Postgres) with Twilio fallbacks, S3 uploads, and AI-assistant JSON card messages.
- Designed the Project → Item → Room domain model and implemented role-scoped REST APIs with Redis-backed delay/archival jobs to maintain unread counts, SLAs, and AI-triggered workflows.
- Delivered an Expo/React Native client with per-role project/item/chat flows and inline AI-assistant activity.
- Improved mobile reliability via typed OpenAPI clients, Zustand chat state, and a resilient SockJS/STOMP bridge.

•Research Assistant: AI-Lyric generation, code generation, music generation, and HCI

Sept. 2023 - Present

UCLA PlusLab, Los Angeles, US / C4DM, Queen Mary University of London, remote

Los Angeles

- Led the design of REFFLY, the first melody-constrained lyric revision model based on Llama 2, improving fluency and musicality by 25% over strong baselines. First-author paper accepted at NAACL 2025 (oral presentation).
- Co-developed VDebugger, a critic-refiner system for visual program debugging. Improved error localization and correction accuracy by 3.2% across six visual reasoning benchmarks. Published at EMNLP Findings 2024.
- Built an AI-assisted lyric writing interface based on REFFLY, with FastAPI (backend) and Vue.js + Vite (frontend); paper under submission to UIST 2025, a top-tier HCI venue.
- Built a Variational Autoencoder (VAE) using PyTorch for symbolic music generation with interpretable latent control by regularizing latent vectors, published in Machine Intelligence Research (Impact Factor: 6.4).

•Baidu: Spring Boot based E-commerce Service Mobile APP

June 2021 - Sept. 2021

Software Developer Intern at Baidu International Department (Do-global)

Beijing, China

- Implemented Rest API via Spring MVC including user registration/login, product listing and search, cart management, order placement, payment processing, and user profile updates.
- Utilized Spring Data JDBC for PostgreSQL database integration, managing products, users, carts, and orders.
- Implemented Spring Security for session-based authentication and authorization.
- Used the Spring framework core technologies to loosely decouple all the components in the application.
- Developed the client side using ReactJS and Ant Design, enabling users to seamlessly add items to their shopping carts and place orders.

PROJECTS

•MiniSpotify

- Designed a Kotlin Spotify favorite app by fully leveraging Android Jetpack Library and Hilt Dependency Injection.
- Implemented the BottomBar and app navigation using the Jetpack Navigation component.
- Created a mock RESTful API with json-server and handled requests using Retrofit.
- Built the feed/album/favorite UI in Jetpack Compose following MVVM architecture.
- Enabled local cache for favorite features with Room Database, and integrated Google ExoPlayer for global music playback.

•SocialAI: an AI-based social network

- Designed and implemented a social network web application using React JS.
- Integrated OpenAI's DALL-E 3 to assist users in creating and updating posts.
- Improved authentication with token-based registration, login, and logout via React Router v4 and server-side JWT.
- Developed and deployed a scalable web service in Go for post management on Google Cloud (Google App Engine).
- Deployed ElasticSearch on GCE to enable search for recent and personal posts.