Zhengshu Zhang

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SUMMARY

Software engineer with experience in **full-stack development**, cloud deployment, and data-intensive applications. Skilled in Java, Spring Boot, and modern web technologies with expertise in building scalable systems and responsive user interfaces. Combines strong backend engineering with practical frontend development to deliver robust and efficient software solutions.

EDUCATION

University of Southern California — Los Angeles, CA
Master of Science in Spatial Data Science — *Jan 2025-Dec 2026(Expected)*

Sichuan Agricultural University — Ya'an, SiChuan
Bachelor of Engineering in Food Quality and Safety — *Sept 2015-June 2019*

PROJECTS

Twitch Game Web App — May 2025-June 2025
- Created a **full-stack** game streaming web, allowing users to browse 1000+ Twitch streams, videos, and clips using integrated Twitch APIs
- Implemented secure authentication flows using Spring Security and **MySQL-backed user storage**, supporting role-based access for creators and viewers
- Wrote 50+ unit and integration tests with **JUnit**, reaching 90%+ coverage across **RESTful** services and preventing regressions during updates
- Deployed backend on **AWS App Runner** with Aurora **RDS** and **ECR**, configuring **CloudWatch** monitoring and **IAM** roles for secure operations

Food Management & Ordering Web App — July 2024-August 2024
- Designed merchant-facing order management **backend** using **Spring Boot** with **authentication**, role-based access control, and real-time order status updates
- Developed the admin **frontend** using **Vue.js** and defined clear API contracts, improving integration speed and reducing change-related bugs
- Implemented **Redis** caching for frequently accessed queries alongside **MySQL** persistence, reducing average database load by 40% and improving API response times from 800ms to 480ms
- Refactored service and repository layers with **MyBatis-Plus** across 15+ entities to simplify feature additions, reduce duplicate logic, and improve maintainability

BookingHouse Web App — July 2025- August 2025
- Architected Spring Boot **backend** for property listings and bookings using **PostgreSQL** and **Hibernate** Spatial to support radius-based geospatial search across 10,000+ records with sub-200ms response times
- Built responsive, user-friendly **frontend** interfaces with **React** and **Ant Design**, employing form validation and async/await patterns to handle user registration, login, and property management, with efficient **RESTful** API communication via **Fetch**.
- Designed stateless **JWT**-based authentication and role-specific authorization using Spring Security to support multi-tenant hosts and guests
- Implemented booking conflict checks, availability validation, and **transaction-safe** updates to prevent double-booking and data inconsistencies

EasyAI Web App — June 2025-July 2025
- Built an AI-powered document assistant **backend** using **Java** and **LangChain** for retrieval-augmented generation on PDFs up to 50MB
- Engineered a vector indexing pipeline with semantic **chunking** and embeddings, keeping 90% of query responses under 2 seconds while maintaining context relevance
- Optimized routing and caching strategies that reduced average API latency by 40% during peak usage and stabilized performance under bursty workloads
- Designed clear **REST** endpoints and error-handling contracts to support frontends with features like voice-driven querying and conversation history

TECHNICAL SKILLS

- Languages: Java, JavaScript, Python, Kotlin, TypeScript, SQL, HTML, CSS, C
- Frameworks & Libraries: Spring Boot, Spring Security, Spring Data JPA, React, Vue.js, Node.js, Express.js, MyBatis
- Databases & Caching: PostgreSQL, MySQL, Redis, Room, Hibernate Spatial
- Cloud & DevOps: AWS (EC2, RDS, Amplify, App Runner, ECR), Google Cloud Platform, Docker, CloudWatch
- Tools & Testing: Git, JUnit, Retrofit, REST APIs, JWT, Hilt, AJAX