

# Zhumei Song

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## Technical Skills

TypeScript, React, GraphQL, NestJS, Node.js, Git, Docker, AWS, GitHub Actions, clean code, clean architecture

## Engineering Experience

### Software Engineer @[Atrae](#) (2021.12 ~ . 3 yrs+)

React/Next.js/TailwindCSS/Jotai/Valtio/Immer/Nx Monorepo/TypeScript/NestJS/NodeJS/GraphQL/Restful API/Axios/Urql/Docker/AWS/GitHub Actions

- By separating the Domain and Application layers from the Presenter, the issue of an overly heavy Presenter was addressed. This made the scope of changes more manageable and significantly reduced the number of mock methods required during testing.
- Manually implemented a Dependency Injection (DI) framework in React, achieving complete separation between interface definitions and implementations. This improved the decoupling and flexibility of the modules.
- Limited the use of React to the Interface-Adapter layer and UI layer, reducing the system's dependency on React and specific state management libraries.
- Refactored and migrated the survey answer application, which has over 500,000 monthly visits, to a Monorepo. The modular design supports independent development and debugging of different components of the application, improving development efficiency and future maintainability. By implementing on-demand loading of components, the page's First Contentful Paint (FCP) was improved by 50% (from 1.8 seconds to 0.9 seconds).
- Used semantic-release for version management of both internal private packages and shared open-source packages, implementing semantic versioning and automating the release process.
- Collaborated with back-end engineers to implement a unified front-end and back-end error-handling design through a shared package (including input validation and error handling). Provided a documented error-handling solution based on Error Codes.
- Adopted a GraphQL Federation architecture in a new project, designing subgraphs based on aggregate roots, successfully avoiding circular dependency issues.
- Developed GraphQL-based findAllWorkflowActions and findAllWorkflowTemplates APIs using NestJS, optimizing the performance of these queries.
- Used Persisted Queries to reduce request size, decreasing bandwidth consumption and eliminating the performance overhead of having the server parse and validate query content on every request.
- Applied Gzip compression to large JS files exceeding 10 MB, significantly reducing initial page load time.
- Collaborated with designers to develop and maintain a reusable UI component library based on Material UI (including components such as LoadingButton, Steps, Rate, Spin, Selectable Table, etc.), enhancing team development efficiency and code consistency.

### Front-End Lead @[Monstarlab Japan](#) (2018.12 ~ 2021.11 · 3 yrs)

React/Redux/Redux-Saga/Immer/Sass/styled-components/axios/Docker/AWS/GitHub Actions

- Collaborated with frontend engineers across different branches of the organization to promote React best practices internally.
- In a coffee label printing web project, optimized the performance of displaying a list of over 5,000 label images by using a virtual list, resolving page lag issues.
- Designed and developed a live-stream comment feature capable of handling over 100,000 concurrent users. Ensured the safety of counting concurrent comments by utilizing atomic counters. Employed throttling to control comment refresh frequency and maintain performance. Used Python scripts to simulate a high volume of concurrent requests and tested the feature's ability to handle 100,000 simultaneous users.
- Led the development and maintenance of components for the design system in a large-scale stock trading web project.
- Trained junior engineers and through code reviews to improve code quality and knowledge transfer.

### Front-End Lead @[Monstarlab China](#) (2016.03 ~ 2018.11 · 2 yrs 9 mos)

React/Redux/Redux-Saga/Immer/Sass/styled-components/axios/Docker/AWS/GitHub Actions

- Collaborated with the CTO office to promote a front-end and back-end separation development model across all company web projects, enabling simultaneous development and improving overall efficiency.

- Wrote test code for shared components across projects, achieving unit test coverage and enabling easier refactoring.
- Led the formulation and implementation of front-end code review standards for the company's web projects, enabling knowledge transfer and code quality.improvement among front-end team members through mutual code reviews.
- Designed and developed the WebView for a large-scale ticket booking hybrid application, utilizing a shared WebView for iOS and Android native systems, which significantly enhanced development efficiency.

### Front-End Engineer @[Monstarlab China](#) (2014.10 ~ 2016.02 · 1 yrs 5 mos)

Html5/CSS3/SASS/JavaScript/jQuery/React/React Router/gulp/rollup

- Designed and developed interactive, responsive web pages based on jQuery, ensuring optimal user experience across various terminal devices.
- Self-taught React and successfully implemented a front-end and back-end separation in a video streaming website project.

### Freelancer (2009.07 ~ 2014.09 · 5 yrs 3 mos)

Html5/CSS3/SASS/JavaScript/jQuery/PHP/WordPress

- Self-learned web development skills during college. Worked as a landscape architect after graduation but pursued a passion for web development through side projects.
- Served over 20 companies, including architecture design firms, landscape design firms, IT companies, game companies, and watch sales company. Delivered successful digital marketing and promotion projects for more than 30 brands.

## Independent Projects

Working on doing the AI-powered application, the foundations of the projects development are: [Multiple Projects Development Workspace](#) / [GraphQL Federation Workspace](#) / [Shared Github Actions Library](#) / [Semantic Release Config](#) / [Git CZ Config](#) / [Common Error Exception](#)

## Languages

- **Japanese:** Professional working proficiency (N2)
- **English:** Full professional proficiency
- **Chinese:** Native

## Education

[Chengdu University of Technology](#) - B.S. Landscape Architecture - Chengdu, China (2008.09 - 2012.06)

## Personal

I love traveling, gardening, and writing [blogs](#) to share my learning and experience.