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 the heavy Presenter was addressed. This made the scope of changes more manageable and significantly reduces 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 low coupling and high 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 with 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 FCP speed 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 backend engineer 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 from various branches of the group to promote best practices for React within the organization
- In a coffee label printing web project, optimized the performance of displaying a list of 5,000+ label images using a virtual list, solving the page lag issue
- Designed and developed a live-stream comment feature that supports over 100,000 concurrent users. Ensured the safety of counting concurrent comments using atomic counters. Used throttling to limit the frequency of comment refreshes to maintain performance. Employed Python scripts to simulate a large number of concurrent requests and tested whether the comment feature could support 100,000 concurrent users
- Led the development and maintenance of components for the design system of a large-scale stock trading web project

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.