Seongho Jo

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South Heaven, IN (Greater Chicago Area) | U.S. Green Card Holder

PROFESSIONAL EXPERIENCE

Software Engineer | Freelance | South Heaven, IN   *Sep 2023 ~ Current*

- Completed 20+ frontend and full-stack web applications using JavaScript, TypeScript, React, Next.js and Node.js with Git, collaborating cross-functionally with client development teams.
- Built an AI marketing content generation platform MVP using Next.js and Supabase, implementing async generation pipelines with Edge Functions and job queue schema, real-time state sync via Realtime subscriptions, and a timeout auto-recovery scheduler that detects unresponsive jobs and refunds credits automatically.
- Built a stock discussion platform using a Turborepo monorepo with Next.js, NestJS, Redis, and Supabase, implementing real-time dual-group chat using WebSockets with multi-tab detection, live market data integration with external APIs, and social features including follow/unfollow, user blocking, and profiles.
- Built an end-to-end type-safe SMS verification service with Next.js, TypeScript, tRPC, Drizzle ORM, and PostgreSQL, and implemented background workers using BullMQ and Redis to sync SMS number status with an external provider, achieving reliable retries and concurrency control.
- Developed an Electron-based HMI desktop application for real-time monitoring and control of a hydrogen electrolysis system, implementing an embedded MQTT broker/client architecture, multi-project database management with SQLite and Drizzle ORM, and a React frontend with real-time telemetry visualization.
- Architected AWS cloud infrastructure for APEC CEO Summit 2025 booking system, deploying a unified Express server (frontend + admin + API) on EC2 with CloudFront CDN for global users, CloudWatch monitoring, automated S3 database backups, and PM2 clustering for high availability.
- Integrated automated testing (Jest, React Testing Library) and code quality checks (ESLint, Prettier, Husky) into CI/CD pipelines with GitHub Actions, ensuring reliable and efficient deployment.
- Maintained B2B fulfillment website with Next.js and Strap CMS implementing new features like Pipedrive CRM integration, notice management and cookie-based dynamic strip banners.

Full Stack Developer | Terenz | Busan, South Korea   *Oct 2022 ~ Sep 2023*

- Collaborated on full-stack development for multiple outsourced projects using TypeScript, React, Angular, NestJS, Java, and Spring Boot, utilizing Jira for sprint planning, issue tracking, and Agile project management.
- Implemented secure JWT-based authentication and role-based authorization system using NestJS Guards, Passport.js, TypeORM, and MySQL on the backend, and integrated protected routes and user access control in the React frontend with React Router and Redux Toolkit.
- Revived and delivered an agricultural products distribution management platform using Angular 15, Spring Boot 3, and AWS (EC2, DynamoDB, S3) by troubleshooting critical issues such as RxJS subscription memory leaks, after an initial outsourcing failure.
- Optimized app performance with DFS-based SVG parsing, RegEx and Generators for text processing, Binary Search with Levenshtein Distance for typo detection and intelligent suggestions, and Redis for term dictionary caching in an automotive wiring diagram quality control tool.

Frontend Developer | Korea Future Energy | *Busan, South Korea*   *May 2021 ~ Oct 2022*

- Contributed to the frontend development in the Energy Management System Service for manufacturing facilities using HTML, CSS, JavaScript, React 16 and Redux.
- Implemented an automated frontend bundling system for legacy PHP projects using Gulp with Babel for ES6+ compatibility, SCSS compilation, minification, image optimization, and BrowserSync for live development, reducing build time by 60%.
- Built the company website using JAMstack architecture with Gatsby, Strapi (headless CMS), GraphQL and MariaDB, implementing Static Site Generation (SSG), responsive design, SEO optimization and Google Analytics for content management and user engagement.

EDUCATION

B.S., Electrical Engineering | Korea University | Seoul, South Korea   *Feb 2018*

SKILLS

- **Languages:** TypeScript, JavaScript, HTML, CSS, Java, SQL
- **Frontend:** React, Next.js, Angular, Gatsby, Electron, Redux, Zustand, RTK Query, TanStack Query, React Hook Form, Zod, Material UI, Tailwind CSS, Sass, Framer Motion, HTML5 Canvas, SVG, fabric.js
- **Backend:** Node.js, Express.js, NestJS, Spring Boot, PostgreSQL, MySQL, Redis, TypeORM, Prisma, Drizzle, tRPC, BullMQ, SSE, WebSocket, MQTT
- **Tooling/Testing:** Babel, Webpack, Vite, Gulp, Turborepo, ESLint, Prettier, Husky, Storybook, Jest, React Testing Library
- **Infrastructure:** AWS (EC2, S3, RDS, CloudFront, CloudWatch), Docker, nginx, CI/CD, GitHub Actions, Coolify, PM2
- **Others:** UI/UX Design, Figma, Git, Jira, Agile/Scrum, i18next