

SOFTWARE ENGINEER · FRONTEND ENGINEER

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## Summary\_

Frontend Engineer specializing in scalable UI architecture, performance engineering, and Core Web Vitals optimization. Experienced in designing maintainable systems (Feature-Sliced Design) and solving complex interaction problems. Strong CS fundamentals proven through competitive programming and published research.

# Work Experience \_\_\_\_\_

AwareLab Inc. Seoul, S.Korea

FRONTEND ENGINEER Apr. 2025 - Present

#### Aware Membership Platform & Internal CRM Development

- Achieved a 46% improvement in initial load performance (Bundle Size: 253KB → 136KB) by implementing priority-based Webpack chunking and dynamic imports for Stripe modules.
- Dominated the top search result (Rank 3 → 1) for brand keywords by conducting rigorous SEO auditing with SEMRush and optimizing Core
  Web Vitals.
- Re-architected the platform using **Next.js 16 (App Router)** and **Feature-Sliced Design (FSD)**, establishing a scalable layer structure (entities/features/widgets) to decouple business logic.
- Built a secure membership system and internal CRM integrating Stripe and Directus CMS, ensuring type safety via automated schema generation.
- Resolved critical rendering instability in financial charts via visibility-event handling and engineered a Promise-based caching hook to eliminate GSAP duplicate execution errors.

**DAQDA Co.** Seoul, S.Korea

FRONTEND ENGINEER Jun. 2024 - Mar. 2025

**Project: The Prestige** (Cemetery Visualization Service)

- Migrated legacy ASP.NET service to Next.js, optimizing LCP via Image CDN and Lazy Loading to enhance rendering speed.
- Integrated Kakao Map API with Recoil for global state management, refactoring page-reload filtering into seamless in-page tab switching.
- Established a CI/CD pipeline using **Vercel** to automate deployments for the SSR-based architecture.

**Project: Gift Mall** (Return Gift E-commerce Platform)

- Selected Vite and React (with Tailwind CSS) to maximize development velocity for an SEO-agnostic internal service.
- Architected robust state management using **Zustand** and **Immer**, ensuring immutability and efficient updates for complex order forms.
- · Implemented data persistence using Local Storage, preventing loss of contact information during page drop-offs.

# **Key Projects & Research**

#### Software Maestro 14th | Ministry of Science and ICT

Seoul, S.Korea

LEAD FRONTEND DEVELOPER (TRAINEE)

Apr. 2023 - Nov. 2023

Project: Kumo Factory (No-code Cloud Architecture Builder SaaS)

- Architected a highly interactive cloud visualization engine using complex SVG DOM manipulation and infinite-zoom algorithms.
- $\bullet \ \ \text{Implemented Server-Sent Events (SSE) to visualize real-time deployment logs, ensuring immediate feedback loops for users.}$
- Optimized Server-Side Rendering (SSR) logic to enhance SEO indexability and initial loading performance.

### Computer Graphics Lab | SeoulTech

Seoul, S.Korea

Undergraduate Researcher

Mar. 2021 - Feb. 2023

#### **Research: Deep Learning Style Transfer** (Computer Vision)

- · Developed a CNN-based model to modify environmental attributes (e.g., season, time) of photos, improving rendering quality.
- First Author: "Image Relighting Based on Normal and Albedo Maps Prediction" (CIA 2022 International Workshop).

#### Research: VR User Tracking Framework (HCI & Virtual Reality)

- Engineered a redirection algorithm in CAVE environments to prevent physical collisions and guide user orientation.
- First Author: "Towards Interactive Group Experiences in Virtual Reality" (CIA 2023 International Workshop).

<sup>&</sup>quot;Building robust, data-intensive frontend architectures with algorithmic precision."



**Languages** TypeScript, JavaScript (ES6+), Python, C++

Frontend React, Next.js, HTML5/CSS3, Recoil, Zustand, React Query, Tailwind CSS, GSAP

**Backend & DevOps** Node.js, AWS (S3, CloudFront), Docker, GitHub Actions, Vercel

**Data & Al** PyTorch, Pandas, NumPy, OpenCV, Computer Vision

### **Honors & Awards**

Nov. 2018 Honorable Mention, ACM-ICPC Seoul Regional Contest (Programming Contest)

Apr. 2022 **2nd Prize Winner**, GBDCON Data Analysis Hackathon

Seoul, S.Korea Seoul, S.Korea

# Community & Leadership\_

#### Google Developer Student Clubs (GDSC) SeoulTech

Seoul, S.Korea

CORE MEMBER / FRONTEND ENGINEER

Sep. 2022 - Apr. 2023

**Project: Shared Refrigerator** (Geolocation-based Community Platform)

- Maximized perceived performance by implementing Optimistic Updates with React Query, ensuring a responsive user experience during data mutations.
- · Designed and integrated a map-based landing page, optimizing data synchronization logic for location-based services.

## **Education**

#### **Seoul National University of Science and Technology**

Seoul, S.Korea

B.S. IN COMPUTER SCIENCE AND ENGINEERING

Mar. 2018 - Feb. 2024