

Minuk Hwang

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Summary

Frontend Engineer specializing in React.js, Next.js, and TypeScript, leveraging a product design background at KREAM to align engineering decisions with user experience and business impact. Focused on building scalable frontend systems, from design system architecture to commerce flows, with deep investment in performance optimization.

English (OPic AL) · Japanese (JLPT N2)

Work Experience

LOTTE Innovate Co., Ltd. | Frontend Engineer | Aug 2024 – Present | [Live Service](#)

IT subsidiary of Lotte Group, building fan engagement platforms for Korean sports and entertainment IPs.

- Delivered **end-to-end fan commerce and rewards flows**, from product purchase and digital card registration to point redemption, for major sports IPs (FC Seoul, FC Anyang, Suwon Samsung) using Next.js and TypeScript.
- Introduced a **declarative UI architecture with Builder Pattern** for complex collectible digital cards, reducing implementation time from one day to under one hour (**87%**) while improving designer collaboration.
- Optimized **sprite-based effects** for digital cards with a 2-stage compression pipeline, reducing asset size by **75% (8MB to 2MB)**.
- Architected a **unified payment module** by formalizing 5-stage payment flow and 10 error types across PC (iframe) and Mobile (redirect) flows, reducing per-brand integration code by **over 98%** and implementation effort from **3 days to 1 hour**.
- Established a **4-Layer CSS Token architecture** with Headless (Radix) + CVA + Tailwind for a 10+ brand platform, reducing codebase by **over 83%** and cutting new brand onboarding from **1 man-day to under 1 hour**.
- Identified workflow inefficiencies and introduced **Feature Flag system** with AI-assisted Git automation, cutting hotfix rate from **15.4% to 0%** and standardizing team conventions without manual enforcement.

KREAM Corp. | Product / Contents Designer | Jun 2021 – Mar 2022

C2C trading platform for limited-edition products under Naver Group.

- Spearheaded **service UX planning** for the pre-owned luxury market by analyzing competitors and mapping user pain points.
- Revamped **Instagram content strategy** by shifting to a single-focus feed layout and minimizing design noise, resulting in **20,000+ follower increase**.
- Redesigned **Style Challenge rewards mechanics** from targeted to universal micro-rewards, growing unique participation by **50%** (2,000 to 3,000).

Projects

Zero Gravity (Solo) | Next.js 15, React.js 19, TypeScript, Three.js, Jest, Playwright | [GitHub](#) | [Live Demo](#)

Personal wellness platform for tracking emotions through 3D visualization, AI-powered prediction, and period-based analysis.

- Improved framerate from **29fps to 61fps** by removing redundant GLSL shader noise calls by **92%** and reducing triangle count by **88%** via LOD subdivision.
- Resolved a **barrel export issue** that caused 712KB Three.js to load on non-3D pages by restructuring domains into Entity/Component barrels, reducing **First Load JS by 58%** and boosting Lighthouse score from **66 to 97**.
- Structured a **pnpm monorepo** sharing 3D components between Next.js web app and Chrome extension (Vite + Manifest V3), securing cross-context auth via **OAuth 2.0 + JWT** (15-min access / 30-day refresh).
- Reduced E2E test run time from **22min to 9min** (59% reduction) by isolating WebGL tests into a sequential project to prevent GPU contention across **246 tests**.

Skills

Languages: JavaScript, TypeScript, HTML, CSS

Frontend: React.js, Next.js, Three.js, Node.js | **Styling:** Tailwind CSS, Styled Components | **State:** Redux Toolkit, TanStack Query

Testing: Jest (Unit), Playwright (E2E, Integration) | **Tools:** Git, ESLint | **DevOps:** Docker, GitHub Actions (CI/CD), Nginx

Additional Experience

YOGIDAM | Co-founder & Product Manager | Mar 2022 – Feb 2024 | Scaled to **1,000+ MAU** from zero.

A smoking zone navigation platform addressing illegal cigarette disposal, selected for 10+ social venture programs.

Education & Awards

Yonsei University — B.A. Human Environment & Design | 2024 | GPA: 4.14/4.5

Samsung Software Academy For Youth (SSAFY) — Web Development | 2024

SSAFY Project Excellence Award (2024) | GDSC Solution Challenge Top 100 (2023) | Korea International Design Award (2022)