

Joon Youl (Eric) Park

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EDUCATION

Yonsei University

B.S in Department of Computer Science

Seoul, Korea

Mar. 2020 - Present (Expected Graduate Year 2027)

WORK EXPERIENCE

Riiid

Software Engineer

Seoul, Korea

Apr 2023 - Jul 2025

- **Real Academy** - AI-powered English learning platform for elementary students
 - Designed and implemented a **backtracking algorithm** to generate random word-search boards in multiple directions (horizontal, vertical, diagonal, and reverse), saving countless hours of manual setup.
 - Seamlessly migrated from **Lottie-based Avatars to Rive-based Avatars**, reducing **CPU usage** by **62.5%** and cutting **app crashes** by **90%**.
 - Built an **endless 3D typing game** featuring falling letter blocks, with difficulty that scales according to score and combo streaks. Used **CSS perspective and preserve-3d** for immersion and **optimized performance** with translate transforms to minimize reflow.
 - Created a **global audio service** with preloaded background music, interaction sound effects, and dynamic volume controls (e.g., background music fade-outs, playback speed adjustments).
 - Developed a robust **global modal system** supporting nested and independently managed modals, **completely eliminating** priority-related conflicts when multiple modals are open.
 - Developed a universal, multi-step onboarding flow adaptable to various games, leveraging **TypeScript generics** to handle different configuration schemas with ease.
 - Devised a remote **force-update feature** to ensure users remain above the **minimum supported version**, maintaining product consistency and **preventing version skew**.
- **R.test** - AI-powered SAT test prep platform
 - Enhanced the Geolocation API for payments using Edge Functions, cutting **response times from 1200ms to 200ms (an 83% improvement)** and raising **uptime from <95% to 99.9%**.
 - Boosted page load speed by implementing **Incremental Static Regeneration** and eliminating unnecessary SSR, cutting product detail page load times from **5s to <1s** and increasing **monthly purchase conversion rates from 3.19% to 8.63% (a 270% jump)**.
 - Adopted Tanstack Query to streamline API calls, bringing average question load time down from **2s to <0.5s** and improving the exam-taking experience.
 - Implemented a highly accurate, **drift-compensating timer** for mock exams, combining **setInterval** and **recursive setTimeout** to maintain precise timing despite **JavaScript execution delays**.
 - Established a Query Key Factory to serve as a **Single Source of Truth** for Tanstack Query keys, improving consistency and **eliminating human error**.
 - Designed a **Delegate Router** leveraging **next/compat/router** to handle breaking changes during the migration from next/router to next/navigation, accelerating the **Pages Router to App Router transition** by **300%**.

OPEN-SOURCE CONTRIBUTION

Rive (rive-react) - Pull Request #310: "useStateMachineInputs" Hook

Dec 2024

- Developed and contributed the **useStateMachineInputs** hook, enhancing developer productivity and code maintainability by simplifying the retrieval and management of multiple state machine inputs.
- Collaborated with core maintainers to iterate on code architecture, implementing performance optimizations that reduced computational complexity from **$O(n*m)$ to $O(\max(n,m))$** .

ACTIVITIES

Nexters, IT Club for Engineers and Designers *President*

Jan 2024 - Present

Like Lion, Tech Entrepreneurship Community *Mentor Engineer*

Feb 2025 - Present

Morgorithm, Competitive Programming Club in Yonsei

Jan 2021 - Present

YCC, Yonsei Computer Club

Sep 2022 - Present

AWARDS

1st place, Korea University Hackathon

Aug 2022

9th place, ACM-ICPC Seoul Regional Preliminary Contest

Sep 2022

10th place, SUAPC Winter Contest (by ICPC rules)

Feb 2023

Skills

Programming Skills: JavaScript, TypeScript, C++, Python, Docker, AWS

Languages: Korean (Native), English (Near Native), Mandarin (Fluent)