Rachel (Younwoo) Park

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Work Authorization: U.S. Permanent Resident; authorized to work in the U.S. without sponsorship.

Education

Sungkyunkwan University
Bachelor of Science and Engineering, Computer Science & Engineering   GPA 3.97 / 4.0
Relevant Coursework: Distributed Systems, Operating Systems, Data Structures, Algorithms, Compiler Design
Study Abroad: University of California, Santa Cruz   **Santa Cruz, CA**

Experiences

Software Engineering Intern   **Jun. 2025 - Aug. 2025**
Google | Pixel Camera Image Signal Processor Optimization, Android, C++, Assembly, Python   Seoul, Korea

- Engineered an automated performance profiling tool, integrating simpleperf and omnilab to generate accessible HTML reports, streamlining bottleneck analysis for software developers.
- Optimized two key System-on-Chip (SoC) **image processing translators by 61.3% and 20%** respectively by identifying and resolving code bottlenecks, contributing **21 merged changelists and 5k+ lines of code**.

Research Intern, Data Intensive Computing Lab   **Mar. 2025 - Jun. 2025**
Sungkyunkwan University | LSM-Tree, Distributed Database Systems   Suwon, Korea

- Analyzed and validated the performance of Nova-LSM by replicating key experiments to benchmark its compaction methods against other distributed databases like LevelDB.

Software Engineering Intern   **Dec. 2024 - Jun. 2025**
Passes | Typescript, NestJS, React, React-Native, MySQL, Docker, AWS, Git   Remote

- Developed **over 30 user-facing features** (e.g., creator leaderboard, smart pricing) across web, iOS, and Android platforms, **merging more than 85 pull requests**.
- Implemented a pricing context bandit model that drove a **67% increase in creator profit growth**.
- Enhanced operational efficiency by deploying AWS Lambda functions and building internal tools, such as admin logs.

Software Engineering Intern   **Jan. 2025 - Mar. 2025**
Lablup | Python, Rust, aiohttp, PostgreSQL, Docker, VM, Git   Seoul, Korea

- Improved the reliability of Backend.AI, an open-source GPU virtualization system, by replacing etcd with a custom Raft-based wrapper to enhance distributed consensus.
- **Achieved 99.9% service uptime and 43% faster message processing** by migrating the Redis queue to Kafka, resolving critical memory leak and overflow issues.

Awards & Certifications

Korean Ministry of Science and ICT Award, KISIA Information Security Developer Hackathon, 1st Place   **Aug. 2024**
Seoul Business Agency Excellence Award, SeSAC Hackathon (Seoul x Google Korea), 6 out of 96 teams   **Aug. 2024**

Projects

xv6 OS, Course: Operating Systems | C, xv6   **Mar. 2024 - Jun. 2024**
- Enhanced process management by implementing system calls for process priority adjustment, and developed a **Completely Fair Scheduler (CFS)** that led to a **40% improvement** in process virtual runtime fairness
- Added support for **virtual memory management and a page fault handler** to manage memory access
- Implemented a page replacement mechanism using the **Least Recently Used (LRU) and clock algorithms**

Technical Skills

C/C++, Python, Java, Kotlin, SQL, TypeScript, JavaScript, Assembly, HTML/CSS, React, React Native, Next.js, NestJS, Tailwind, MySQL, PostgreSQL, AWS, Docker, Git, Linux, REST API, Android Studio, Scikit-Learn, Pandas, NumPy