

Junmo Seong

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EDUCATION

Hanyang University

Mar. 2025 – Present

M.S. Computer Science

Seoul, Korea

- **Research Focus:** Storage Systems, SSD, ZNS SSD
- **Lab:** Software Platforms Lab

Hanyang University

Mar. 2021 – Feb. 2025

B.S. Computer Science | **GPA:** 4.1/4.5

Seoul, Korea

TECHNICAL SKILLS

Languages: C, C++, Python, Javascript, Typescript

Storage: FEMU, Linux kernel I/O stack (VFS, F2FS, block layer, NVMe driver), ZenFS, RocksDB, nvme-cli, f2fs-tools

Benchmark: fmark, dbbench, YCSB, Fio

Web: Node.js, React.js, Next.js, Tailwind CSS, eslint

Tools: Git, Figma

EXPERIENCE

Teaching Assistant

Operating Systems

Spring 2025

- Migrated xv6 teaching materials from x86 to **RISC-V architecture**, aligning with MIT's current version
- Developed new course materials and updated curriculum content for modern systems
- Created comprehensive programming assignments including **MLFQ scheduler, kernel-level thread, copy-on-write, and filesystem implementations**

Research Intern

Sep. 2023 – Feb. 2025

Software Platforms Lab, Hanyang University

Seoul, Korea

- Conducted research in **Multi-core Programming and Parallel Computing** with focus on Processing-in-Memory (PIM) architecture
- Contributed to research on highly parallel regular expression matching, developing multi-threaded CPU and CUDA implementations for performance analysis (published in IEEE Access 2025)
- Developed and analyzed **DBSCAN algorithm performance** using UPMEM PIM architecture, resulting in published research paper
- Developed expertise in **Storage Systems and SSD technology** through comprehensive study of FEMU and Linux kernel I/O stack, establishing groundwork for storage system research

PUBLICATIONS

A Real-time Monitoring Tool for Device-level Analysis in FEMU-based Storage Systems

Dec. 2025

- 성준모, 김도은, 한혁, 강수용. "FEMU 기반 스토리지 시스템의 디바이스 레벨 분석을 위한 실시간 모니터링 툴"
- Korean Institute of Information Scientists and Engineers, KSC2025

Performance Analysis of DBSCAN Algorithms Using PIM Architecture

Dec. 2024

- 성준모, 허건, 한혁, 강수용. "PIM 아키텍처를 활용한 DBSCAN 알고리즘 성능 분석"
- Korean Institute of Information Scientists and Engineers, KSC2024

OPEN SOURCE CONTRIBUTIONS

FEMU - Flash-based NVMe SSD Emulator

- Contributed to open source SSD emulator project with multiple pull requests (**#174**, **#172**, **#164**)
- Implement TRIM Support for Dataset Management Command in BBSSD