Jongyun Hur

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Research Interests

My primary research interest lies in computer architecture and hardware-software co-design for emerging computing systems. I enjoy exploring how hardware and software work together to create next-generation architectures and hardware accelerators. My goal is to enhance system efficiency and minimize energy consumption through effective hardware-software optimization.

Education

Soongsil University *Seoul, South Korea*
B.S. in Artificial Intelligence Convergence *Mar. 2022 – Feb. 2028 (Expected)*

- **Specialization Track:** Circuit Systems Engineering (Dept. of Next-Generation Semiconductor)

Internship

Potatonet *Seoul, South Korea*
Machine Learning Engineer Intern *Aug. 2025 – Nov. 2025*

- Developing VLM-based CCTV monitoring system on Jetson Orin Nano for real-time fire detection and escalator safety monitoring.
- Optimized an end-to-end YOLO logo detection pipeline utilizing Redis/Celery parallel workers, with a focus on maximizing GPU utilization and memory efficiency.

Project Experience

Multi-threaded Lock Implementation and Performance Analysis *Seoul, South Korea*
TEAM MEMBER *Oct. 2023 – Dec. 2023*

- Implemented spinlock and ticket lock using ARMv8 LDAXR/STLXR atomics and validated correctness under multi-threaded contention via shared-array tests.
- Built Pthreads benchmarks to measure runtime and throughput across multiple thread configurations.
- Analyzed performance trade-offs, comparing the fairness and scalability of both lock implementations under varying thread counts.

Awards

2nd Place, Soongsil University AI Convergence Competition *Soongsil University*

Skills

- Programming: C++, C, Python, SQL, Verilog
- Deep Learning: Scikit-learn, PyTorch, Keras, TensorFlow

Other

- **Languages:** Korean (Native), English (Intermediate Proficiency)
- **Certifications:** Information Processing Industrial Engineer (2025.06), TOPCIT Level 3 (2025.05), ADSP (2024.06), SQLD (2024.06)