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Jinsun Yoo

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EDUCATION

Georgia Institute of Technology — Atlanta, GA
Ph.D Student, School of Computer Science — *Expected Graduation: May 2026*
Current GPA: 4.0/4.0

- Concentrations: Edge Computing (Distributed Systems & Hardware Accelerators)
- Advisors: Umakishore Ramachandran, Tushar Krishna
- Relevant Courses: System Issues in Cloud Computing, Advanced Computer Architecture, Advanced Operating Systems

Seoul National University — Seoul, Korea
Bachelor of Business Administration — *Mar 2014 – Feb 2021*
Bachelor of Science in Computer Science and Engineering

- GPA: 3.99 / 4.3 (Summa Cum Laude)

RESEARCH EXPERIENCE

Georgia Institute of Technology
Graduate Research Assistant — Atlanta, GA
Exploring the design space for edge nodes in support of situation awareness applications — *Aug 2021 - Present*

- Designing an Edge datacenter with TPU multiplexing to maximize resource utilization in constrained Edge environments
- Used traces from Microsoft Azure Function (MAF) Trace to evaluate cluster wide performance

Seoul National University
Research Assistant — Seoul, Korea
Evaluated how a distributed Redis cluster shows improved performance over a single node configuration — *Sep 2020 – Dec 2020*

- Proposed improvements to redis-benchmark as a tool to measure the performance of cluster configurations

Seoul National University
Research Assistant — Seoul, Korea
Assessed the performance enhancement of Samsung SmartSSD, a Near Data Processing device which transfers data directly from SSD to on board FPGA — *Jul 2019 – Oct 2019*

- **Designed a framework** and verified it to estimate the difference with Near Data Processing, leading to a publication

WORK EXPERIENCE

MOLOCO — Seoul, Korea
Software Engineer — *Jan 2020 – Aug 2020, Jan 2021 – Jul 2021*
Maintained and expanded a **2.5 million QPS** system on GCP in the AdTech industry

- Saved **$150K/month** by leading the design, coordination, and deployment of a company-wide monitoring system reform
- Identified causes of **internal network congestion** by measuring the impact of heterogeneous requests on a single microservice
- Teambuilding: spread knowledge in **tech talks**, facilitated **inter-team product discussions**, and actively engaged in **code review**

PROJECTS

Implemented CAROUSEL, an **egress rate limiter** in SHENANGO, a system that reallocates CPU cores for **short latency based on ingress traffic**, and measured the combined performance and functionality — *Oct 2021*

Advanced OS Course Project: Implementing **virtual memory & CPU Scheduler**, **barrier,** RPC based server — *Fall 2021*

Weight Pruning BERT4REC: Used weight magnitude on BERT4REC, showing 5x compression and minimal accuracy loss — *Dec 2019*

OS Course Project: Implemented new system call based on ptree, **CPU Scheduler**, **kernel lock primitive** — *Fall 2019*

PUBLICATION

J.Yoo, Y.Kim, and J.Kim, ”An Assessment Model and its Usage for SmartSSD”, KSC, 2019.

SKILLS

Programming Languages: Go, **C/C++,** Python
Technologies: Linux Kernel, Docker, MS Azure, GCP**,** Git/Github, CI/CD(Jenkins, Travis), Datadog