Haneul Park

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Research Interests

- High Performance, Energy-Efficient Cloud Systems
- System Modeling and Simulation
- Domain-Specific Hardware

Education

Seoul National University   *Seoul, Korea*
B.S. in Electrical and Computer Engineering   *Mar 2018 - Current*
- GPA: 4.16/4.3 (overall), 3.96/4.0 (4.0-base), 4.21/4.3 (major), 4.25/4.3 (upper division)

Experience

Architecture and Code Optimization Lab   *Seoul National University, Korea*
Undergraduate Intern, Advised by Professor Jae W. Lee   *Jul 2022 - Current*
- Involved in project proposing operating system transparent DRAM power management for disaggregated memory
- Conducted experiment on scheduling virtual machines running Cloudsuite 4.0 and STREAM benchmark based on Microsoft Azure VM Trace
- Analyzed Bandwidth utilization and DRAM power consumption for aggressive rank-level power down by using PCM for measurement and Quartz for emulating remote DRAM latency
- **Being prepared for submission** to Proceedings of the 28th ACM International Conference on Architectural Support for Programming Languages and Operating Systems **(ASPLOS)**, 2023

High Performance Computer System Lab   *Seoul National University, Korea*
Senior Project, Advised by Professor Jangwoo Kim   *Jan 2022 - Jul 2022*
- Enabled multi-GPU performance modeling in system emulated gem5 single-GPU simulator
- Extended existing gem5 GPU model by duplicating GPUs and rearranging Ruby memory interface
- Modified emulated kernel driver to distinguish GPU ID and doorbell region of each GPU from others

2022 Deep Learning Hardware Design Competition   *Polaris, Korea*
2nd Place, Nationwide Competition   *Feb 2022 - Jul 2022*
- Designed and implemented high performance and power efficient FPGA implementation of YOLO CNN inference
- **Organized presentation**, IEEE International Conference on Artificial Intelligence Circuits and Systems **(AICAS)**, 2022

Honors & Awards

2022	**2/111**, 2022 Deep Learning Hardware Design Competition, won $2,000	*Polaris*
2019	**OK Bae & Jung Scholarship**, $20,000 over two years	*OK Foundation*
2018	**Presidential Science Scholarship**, $40,000 for undergraduate course	*Korea Student Aid Foundation*
2017	**Bronze Medalist**, 2017 Korean Young Physicists' Tournament	*Korean Physical Society*
2015, 2016	**Completion**, Winter Program for Korea Physics Olympiad	*Korean Physical Society*

Teaching Experience

Calculus 1 & Calculus 2	Peer tutor, Provided 30 hours of lecture for freshman (Spring 2019, Fall 2022)
Engineering Mathematics 1	Peer tutor, Provided 30 hours of lecture for sophomore/junior (Fall 2019)

Extracurricular Activities

Auxiliary Police
Served as Network Maintenance Engineer in Seoul Mobile Police Headquarters (Feb 2019 - Aug 2021)
Completed South Korea's mandatory military service taking leave of absence from university

Volunteer Activity
Total 338 hours, consists mostly of teaching activities

Skills

Language & Tool
C/C++, Python, Linux, Verilog, HTML/CSS/JavaScript, LaTex, Docker, MATLAB, R

English Proficiency
TOEFL (105/120), TOEIC (985/990)