Junyeol Ryu

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Education

Seoul National University   Seoul, Korea

M.S. in Computer Science   Sep, 2022 — Present

- Advisors: Prof. Jaejin Lee

B.S. in Computer Science / B.B.A. in Business   Mar, 2016 — Aug, 2022
                                                                      (including military service)

- Summa cum laude

Research interests

- Programming systems of heterogeneous machines (GPUs)
- Parallelization and optimization of deep learning models (e.g., GPT-3) and softwares (e.g., PyTorch, NCCL)

Publications

Conference and Workshop Proceedings

1. Heehoon Kim, **Junyeol Ryu**, Jaejin Lee. TCCL: Discovering Better Communication Paths for PCIe GPU Clusters. ASPLOS 2024.
2. **Junyeol Ryu**, Jeongyoon Eo. Network Contention-Aware Cluster Scheduling with Reinforcement Learning. IEEE ICPADS 2023.

Domestic Proceedings

1. **Junyeol Ryu**, Jinpyo Kim, Jaejin Lee. A Fast and Scalable Generative Model Inference on Distributed Multi-GPU Environment. KCC 2023.
2. **Junyeol Ryu**, Byung-gon Chun. Investigating Contention Sensitivity of DL Training Workloads in Shared GPU Cluster. KSC 2022. **Best paper award.**

Honors & Awards

Awards

Grand Prize (1st Place), Samsung Computer Engineering Challenge ([link](#))   Nov 2023

Scholarship

(Feb 2023) Merit-based scholarship (20%), $600   Seoul National University

(Sep 2022) Lecture & Research scholarship, $5,000   Seoul National University

(Apr 2021) Outstanding student scholarship, $10,000 over two years   IMM Hope Foundation

(Mar 2020) Outstanding student scholarship, $2,000   Changkang Foundation

(Aug 2019) Merit-based scholarship (50%), $1,000   Seoul National University

Teaching experiences

Seoul National University

Principles and Practices of Software Development ([link](#))   Sep, 2022 — Dec, 2022

- Instructed FE, BE, deployment of web service using React, Django, AWS EC2, Nginx, uWSGI

Technical skills

- Languages: C, C++, Python, CUDA, OpenCL, OpenMP, MPI
- Frameworks: PyTorch, Slurm, HDFS, Linux