Donghyun Lee

CONTACT INFORMATION

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EDUCATION

Seoul National University Mar. 2022 - Present
M.S./Ph.D. *Student in Computer Science and Engineering* Seoul, Korea

- Advisor: Professor Jae W. Lee

Yonsei University Mar. 2018 - Feb. 2022
Bachelor of Science *in Electrical and Electronic Engineering* Seoul, Korea

- *Awarded Highest Honors at Graduation* (GPA: 4.14 / 4.30)

RESEARCH INTERESTS

Efficient 3D Vision, Systems for Machine Learning, SW/HW Co-Design, GPU kernel optimization

PUBLICATIONS

QUESO: Storage-Assisted Quantization Error Compensation for On-Device LLM Inference
Seong Hoon Seo, **Donghyun Lee**, Geonha Lee, Hojoon Kim, Yeonhong Park, and Jae W. Lee
Ninth Conference on Machine Learning and Systems **(MLSys)**, 2026 (Under review)

GS-Scale: Unlocking Large-Scale 3D Gaussian Splatting Training via Host Offloading
Donghyun Lee, Dawoon Jeong, Jae W. Lee, and Hongil Yoon
The 31st ACM International Conference on Architectural Support for Programming Languages and Operating Systems **(ASPLOS)**, Pittsburgh, PA, 2026

FastPoint: Accelerating 3D Point Cloud Model Inference via Sample Point Distance Prediction
Donghyun Lee, Dawoon Jeong, Jae W. Lee, and Hongil Yoon
IEEE/CVF International Conference on Computer Vision **(ICCV)**, Honolulu, Hawaii, October 2025

FACIL: Flexible DRAM Address Mapping for SoC-PIM Cooperative On-device LLM Inference
Seong Hoon Seo, Junghoon Kim, **Donghyun Lee**, Seonah Yoo, Seokwon Moon, Yeonhong Park, and Jae W. Lee
The 31st IEEE International Symposium on High Performance Computer Architecture **(HPCA)**, Las Vegas, NV, March 2025.

Frugal 3D Point Cloud Model Training via Progressive Near Point Filtering and Fused Aggregation
Donghyun Lee, Yejin Lee, Jae W. Lee, and Hongil Yoon
European Conference on Computer Vision **(ECCV)**, Milan, Italy, September 2024.

Liquid: Mix-and-Match Multiple Image Formats to Balance DNN Training Pipeline
Woohyeon Baek*, Jonghyun Bae*, **Donghyun Lee**, Hyunwoong Bae, Yeonhong Park, and Jae W. Lee
14th ACM SIGOPS Asia-Pacific Workshop on Systems (**APSys**), Seoul, South Korea, August 2023.

Not All Neighbors Matter: Point Distribution-Aware Pruning for 3D Point Cloud
Yejin Lee, **Donghyun Lee**, JungUk Hong, Jae W. Lee, and Hongil Yoon
37th AAAI Conference on Artificial Intelligence (**AAAI**), Washington, DC, February 2023.

TEACHING EXPERIENCE

Computer Architecture (Instructor: Prof. Jae W. Lee)
Seoul National University, Sep. - Dec. 2023 Teaching Assistant
- Undergraduate course taught in English

COMMUNITY SERVICE

***Student Volunteer**, International Symposium on Code Generation and Optimization 2022*

INTERNSHIPS

Google Feb. 2026 - Present
Google Student Researcher (Collaborator: Hongil Yoon) Seoul, Korea

Architecture and Code Optimization Lab (ARC Lab) Jul. - Aug. 2021
Undergraduate Student Intern Seoul, Korea
- Implement block-sparse GEMM CUDA kernel for sparse DNN training

Compiler Research Laboratory (Corelab) Apr. 2020 - Jun. 2021
Undergraduate Student Intern Seoul, Korea
- Contributed to FlexC graph compiler project

HONORS AND AWARDS

The 31st Samsung Humantech Paper Award: Encouragement Prize, Samsung Electronics Co., Ltd.

***2024 Accelerator Programming Winter School**, CUDA competition*, 1^{st} place, SNU THUNDER Research Group & Manycoresoft

Highest Honors at Graduation (Top 1% of class), Yonsei University

COMPUTER SKILLS

Launguages: C/C++, CUDA, Verilog, Python
Applications/Frameworks: Pytorch, Tensorflow, MLX