Hongsun Jang

Accelerated Intelligent Systems Lab (AISys) | Seoul National University
hongsun.jang@snu.ac.kr | github.com/hongsunjang | Google Scholar

Research Interests

Offloading-based DNN Training and Inference (DRAM/SSD), Near-Data Processing (NDP), Distributed Training, FPGA

Education

Seoul National University — Seoul, South Korea
Integrated M.S./Ph.D. in Electrical & Computer Engineering (Advisor: Prof. Jinho Lee) — *Mar. 2023 – Present*
Yonsei University — Seoul, South Korea
B.S. in Computer Science — *Mar. 2017 – Aug. 2022*

Publications

GriNNder: Breaking the Memory Capacity Wall in Full-Graph GNN Training with Storage Offloading
Jaeyong Song, Seongyeon Park, **Hongsun Jang**, Jaewon Jung, Hunseong Lim, Junguk Hong, Jinho Lee
MLSys 2026 (To appear)

A Cost-Effective Near-Storage Processing Solution for Offline Inference of Long-Context LLMs
Hongsun Jang, Jaeyong Song, Changmin Shin, Siung Noh, Jaewon Jung, Jisung Park, Jinho Lee
ASPLOS 2026 – Acceptance Rate: 10.59% [Link]

FALA: Locality-Aware PIM-Host Cooperation for Graph Processing with Fine-Grained Column Access
Changmin Shin, Jaeyong Song, Seongmin Na, Jun Sung, **Hongsun Jang**, Jinho Lee
MICRO 2025 [Link]

Piccolo: Large-Scale Graph Processing with Fine-Grained In-Memory Scatter-Gather
Changmin Shin, Jaeyong Song, **Hongsun Jang**, Dogeun Kim, Jun Sung, Taehee Kwon, Jae Hyung Ju, Frank Liu, Yeonkyu Choi, Jinho Lee
HPCA 2025 [Link]

GraNNDis: Efficient Unified Distributed Training Framework for Deep GNNs on Large Clusters
Jaeyong Song, **Hongsun Jang**, Jaewon Jung, Youngsok Kim, Jinho Lee
PACT 2024 [Link]

PeerAiD: Improving Adversarial Distillation from a Specialized Peer Tutor
Jaewon Jung, **Hongsun Jang**, Jaeyong Song, Jinho Lee
CVPR 2024 [Link]

Smart-Infinity: Fast Large Language Model Training using Near-Storage Processing on a Real System
Hongsun Jang, Jaeyong Song, Jaewon Jung, Jaeyoung Park, Youngsok Kim, Jinho Lee
HPCA 2024 – Acceptance Rate: 18% **(Best Paper Honorable Mention)** [Link]

Pipette: Automatic Fine-Grained Large Language Model Training Configurator for Real-World Clusters
Jinkyu Yim[1], Jaeyong Song[1], Yerim Choi, Jaebeen Lee, Jaewon Jung, **Hongsun Jang**, Jinho Lee
DATE 2024 [Link]

Fast Adversarial Training with Dynamic Batch-level Attack Control
Jaewon Jung, Jaeyong Song, **Hongsun Jang**, Hyeyoon Lee, Kanghyun Choi, Noseong Park, Jinho Lee
DAC 2023 [Link]

Pipe-BD: Pipelined Parallel Blockwise Distillation
Hongsun Jang, Jaewon Jung, Jaeyong Song, Joonsang Yu, Youngsok Kim, Jinho Lee
DATE 2023 – Acceptance Rate: 25% [Link]

Optimus-CC: Efficient Large NLP Model Training with 3D Parallelism Aware Communication Compression
Jaeyong Song[1], Jinkyu Yim[1], Jaewon Jung, **Hongsun Jang**, Hyung-jin Kim, Youngsok Kim, Jinho Lee
ASPLOS 2023 [Link]

Note: 1 indicates equal contribution.

Honors and Awards

Samsung Humantech Paper Award, Silver Prize (Top 30 / 3,172) Feb. 2026
Samsung Electronics

Best Paper Award – Honorable Mention (Top 3 / 410) HPCA 2024
The 30th IEEE Int'l Symp. on High-Performance Computer Architecture *Edinburgh, UK*

1st Graduate School Presidential Science Scholarship (Top 120 / 2,980) 2023 – Present
Government of the Republic of Korea

Samsung Humantech Paper Award, Encouragement Prize (Top 115 / 1,189) Feb. 2024
Samsung Electronics

Academic Excellence Award, Seoul National University Spring 2023

Academic Excellence Award, Yonsei University Fall 2022

Industrial Experience

Samsung Electronics, Memory Solutions Team Hwaseong, South Korea
Engineering Intern (Mentor: Gitae Na) *Mar. 2021 – Jun. 2021*

Eugene Investment & Futures, IT Team Seoul, South Korea
Field Practice Intern *Jan. 2021 – Feb. 2021*

Academic Service & Teaching

- **Reviewing Activities:**
  - **2026:** MLSys (ERC), IEEE TC (Invited), CVPR, ECCV
  - **2025:** IEEE TETC (Invited)
  - **2024:** ACM TACO (Invited), PACT SRC
- **Teaching Assistant (Seoul National University):**
  - Digital System Design and Practices (Fall 2025)
  - Embedded System Design (Fall 2024)
  - Digital System Design and Practices (Fall 2023)
  - Programming Methodology (Spring 2023)

Skills

Languages: C/C++, Python, OpenCL, CUDA, Verilog
Frameworks & Tools: PyTorch, Vitis, Xilinx Runtime (XRT), Linux
Spoken Languages: Korean (Native), English (Fluent)

Projects

Co-design Framework for DNN and SSD/NPU Systems 2024
Industry-Academic Project with Samsung Electronics *[Code]*

Fast Distributed Graph Neural Network Training Framework 2024
Unified Distributed Training Framework for Deep GNNs *[Code]*

Distributed NLP Training Acceleration with Gradient Compression 2023
Optimized Communication for Large-scale NLP Training *[Code]*

Parallel Algorithm for NAS with Blockwise Knowledge Distillation 2022
Undergraduate Research *[Code] [Video]*

Korean Sentence Relationship Classification Competition (NLI) 2022
Dacon Competition (Ranked 33rd of 1,353) – Finetuning NLP models *[Site]*

Network-aware Resource Scheduling in Edge Computing using Kubernetes 2021
Undergraduate Project *[Video]*

Military Service

Republic of Korea Army South Korea
Sergeant (Honorably Discharged) *Aug. 2018 – Mar. 2020*