

# Hyeongjun Cho

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 [hj-leonardo-cho.github.io](https://hj-leonardo-cho.github.io)

## Research Interests

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- Heterogeneous Computing Systems for AI/ML Acceleration
  - Near-Data Processing (NDP) Architecture & Systems
    - PIM (Processing-In-Memory) architecture using DRAM/SRAM
    - Workload optimization for Large Language Models (LLMs)
    - Inter-device data movement optimization
  - System-level Integration & Programmability
    - Workload-aware scheduling for heterogeneous devices (GPU, NPU, PIM)
    - Unified software stack and programming models

## Education

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Sungkyunkwan University, Korea

M.S. in Semiconductor Convergence Engineering Feb, 2026

B.S. in Electronic and Computer Engineering Feb, 2023

## Professional Work Experience

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HW Researcher Jan 2023 – Jan2024

Vieworks, Machine Vision Camera department (Anyang, Korea)

- Developed power-efficient circuit designs to reduce signal noise and improve image sensor stability in machine vision cameras.

## Publication

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### 1st Author

- LibraPIM: Dynamic Load Rebalancing to Maximize Utilization in PIM-Assisted LLM Inference Systems  
**Hyeongjun Cho**, Yoonho Jang, Hyungi Kim, Seongwook Kim, Keewon Kwon, Gwngsun Kim and Seokin Hong  
The 34th International Conference on Parallel Architectures and Compilation Techniques (**PACT'25**)  
(Accepted)

### 2nd Author

- PIMPAL: Accelerating LLM Inference on Edge Devices via In-DRAM Arithmetic Lookup  
Yoonho Jang, **Hyeongjun Cho**, Yesin Ryu, Jung-rae Kim and Seokin Hong  
Design Automation Conference (**DAC2025**)
- Redefining PIM Architecture with Compact and Power-Efficient Microscaling  
Yoonho Jang, **Hyeongjun Cho** and Seokin Hong  
International Conference on Electronics, Information, and Communications

## Presentation & Poster

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### 1st Author

- Bank-Split PIM: Enabling Concurrent PIM and Memory Operations for LLM Inference in Heterogeneous Systems  
**Hyeongjun Cho**, Yoonho Jang and Seokin Hong  
Design Automation Conference (**DAC2025**) (Poster)

## Skills

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- **Programming Languages**
  - C/C++ (Proficient, for simulator development)
  - Python (Proficient, for data analysis & modeling)
  - Verilog (Intermediate)
- **Architecture & Simulation Tools**
  - **Memory Simulators:** Ramulator, DRAMSim3
  - **Full-System Simulators:** gem5, Firesim
  - **Performance Profiling:** NVIDIA Nsight, TensorBoard
- **Machine Learning Frameworks**
  - PyTorch (Intermediate, for model implementation and analysis)

## Teaching Assistant

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**Spring 2025:** Computer Architecture Design

**Fall 2025:** Data Structure and Algorithm

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