

Jiho Kim

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RESEARCH INTERESTS

I have a lot of interest in modern computer systems. In particular, my research interests are in computer architecture, interconnection networks, storage, and GPUs. More importantly, I focused on improving performance and efficiency through new architectural designs on storage, and I am working on scale-out system, which includes a large-scale interconnection network and storage nodes to accelerate emerging applications. I also have a few research experiences on GPU architecture and hardware security.

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)

Pursuing ph.d degree in Electrical Engineering

Advisor: Prof. John Kim

Daejeon, South Korea

Aug. 2018 – Present

Hongik University

B.S and M.S in Electrical and Electronics Engineering

Advisor: Prof. Yongjun Park

Co-advisor: Prof. Seowon Heo

Seoul, South Korea

Mar. 2009 – Jul. 2017

PUBLICATIONS

Networked SSD: The Flash Memory Interconnection Network for high-bandwidth SSD

Jiho Kim, Seokwon Kang, Yongjun Park, and John Kim

International Symposium on Microarchitecture (MICRO) 2022 (to appear)

Decoupled SSD: Reducing Data Movement on NAND-Based Flash SSD

Jiho Kim, Myoungsoo Jung and John Kim

IEEE Computer Architecture Letter (CAL) 2021

Network-on-Chip Microarchitecture-based Covert Channel in GPUs

Jaeguk Ahn, **Jiho Kim**, Hans Kasan, Leila Delshadtehrani, Wonjun Song, Ajay Joshi, John Kim

International Symposium on Microarchitecture (MICRO) 2021

Trident: A Hybrid Correlation-Collision GPU Cache Timing Attack for AES Key Recovery

Jaeguk Ahn, Cheolgyu Jin, **Jiho Kim**, Minsoo Rhu; Yunsu Fei, David Kaeli; John Kim

International Symposium on High Performance Computer Architecture (HPCA) 2021

Bandwidth Bottleneck in Network-on-Chip for High-Throughput Processors (POSTER)

Jiho Kim, Sanghun Cho, Minsoo Rhu, Ali Bakhoda, Tor M Aamodt and John Kim

Parallel Architectures and Compilation Techniques (PACT) 2020

Navigator: dynamic multi-kernel scheduling to improve GPU performance

Jiho Kim, John Kim and Yongjun Park

Design Automation Conference (DAC) 2020

GATE: A Generalized Dataflow-level Approximation Tuning Engine For Data Parallel Architectures

Seokwon Kang, Yongseung Yu, **Jiho Kim** and Yongjun Park

Design Automation Conference (DAC) 2019

Improving GPU multitasking efficiency using dynamic resource sharing

Jiho Kim, Jason Jong Kyu Park, Dongsuk Jeon and Yongjun Park

IEEE Computer Architecture Letter (CAL) 2018

Efficient GPU multitasking with latency minimization and cache boosting

Jiho Kim, Minsung Chu and Yongjun Park

IEICE Electronics Express 2017

EXPERIENCE

Hanyang University

Researcher at department of Computer Science

- Research Topic: GPU Multitasking and GPU on-chip network analysis on HBM

Seoul, South Korea

Aug. 2017 – Jul 2018

TEACHING

Teaching Assistant

KAIST EE595 Hardware Security

Spring 2022

KAIST EE595 Parallel Computer Architecture

Fall 2021

KAIST EE312 Introduction to Computer Architecture

Spring 2021

KAIST EE209 Programming Structures for Electrical Engineering

Fall 2020

KAIST EE209 Programming Structures for Electrical Engineering

Spring 2020

KAIST EE312 Introduction to Computer Architecture

Fall 2019

KAIST EE209 Programming Structures for Electrical Engineering

Spring 2019

KAIST EE305 Introduction to Electronics Design Lab

Fall 2018

Others

2020 SK Hynix ASK program

Winter 2019

2019 SK Hynix ASK program

Winter 2018

RELEVANT COURSES

EE511 - Computer Architecture

EE817 - Advanced Parallel Architecture

EE878 - Hardware Accelerators for Machine Learning

IS593 - Hardware Security Techniques

EE790 - Memory and its SoC Technology

EE477 - Database and Big Data Systems

AI506 - Data Mining and Search

CS530 - Operating System

SKILLS

Strong C/C++, CUDA, OpenCL, Python, R, Verilog, MySQL, Simulators

LANGUAGES

English - Intermediate level, Korean - Native

MISCELLANEOUS

I love swimming, cooking, drinking, eating, watching, reading and thinking.