Hojoon Kim

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Education

KAIST	**Daejeon, Republic of Korea**
B.S. in Computer Science and Electrical Engineering	*Mar. 2021 – Current*

- **GPA**: 4.14/4.30

EPFL	**Lausanne, Switzerland**
Exchange Student in Computer Science	*Feb. 2024 – Jul.2024*

- **Coursework:** Intro to Machine Learning, Computer Vision, Advanced Compiler Construction, Undergrad Research

Research Interest

My research interests lie at the intersection of system architecture and complex challenges. I am passionate about applying core principles of computer systems to optimize high-level problems in areas like computer vision.

Research Experience

Parallel Systems Architecture Lab (PARSA)	**Lausanne, Switzerland**
Visiting Researcher; Advisor: Babak Falsafi	*Mar. 2024 – Jun. 2024*

- Contributed to the Midgard project, a novel virtual memory design that divides address translation into two parts.
- Proposed a lazy invalidation technique for translations in the Midgard virtual memory system, reducing unnecessary cache flushes and enhancing memory management efficiency.
- Designed experiments using the Linux kernel to evaluate the effectiveness of the proposed method.

Computer Architecture and Systems Lab (CASYS)	**Daejeon, Republic of Korea**
Undergraduate Researcher; Advisor: Jongse Park	*Jun. 2023 – Jan. 2024*

- Contributed to a Video Understanding project aimed at leveraging temporal redundancy between frames to enhance training and inference performance.
- Calculated computational ratios of ViT and non-ViT components within the Video Language Model to evaluate our method's effectiveness.
- Conducted comprehensive literature reviews, summarizing relevant research papers for the project.

Technical Skills

Languages: Python, C/C++
Technologies / Environments: PyTorch, Git, Docker
Concepts: Microarchitecture, Operating System, Virtual Memory, Cache Memory, Compiler, Artificial Intelligence, Machine Learning, Computer Vision

Teaching/Mentoring

Teaching Assistant: KAIST CS101 Introduction to Programming	*Sep. 2023 – Dec. 2023*
Mentor: KAIST CS101 Introduction to Programming	*Sep. 2023 – Dec. 2023*

Services

Team Leader: of Director at KAIST Broadcasting System
Association Member: at KAIST Freshman Student Council & KAIST School of Computing Student Council