

Yoon-Sung Kim

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[Google Scholar](#) | [Linkedin](#) | [Personal Site](#)

EDUCATION

KAIST Daejeon, South Korea

Ph.D. Program in Computer Science, Advisor: Jongse Park

Mar. 2023 – Date

KAIST Daejeon, South Korea

M.S. in Computer Science, Advisor: Jongse Park

Feb. 2023

Sungkyunkwan University Suwon, South Korea

B.S. in Computer Science & Engineering

Feb. 2021

RESEARCH INTERESTS

- Computer Architecture and Systems
- Hardware-Software Co-Design in AI Acceleration
- Adaptive AI for On-Device Autonomous Systems
- Low-Precision Quantization Techniques for AI

PUBLICATIONS

1. **Y. Kim**, C. Oh, J. Hwang, W. Kim, S. Oh, Y. Lee, H. Sharma, A. Yazdanbakhsh, J. Park, “DaCapo: Accelerating Continuous Learning in Autonomous Systems for Video Analytics,” in *International Symposium on Computer Architecture (ISCA)*, June 2024.
2. S. Ghodrati, S. Kinzer, H. Xu, R. Mahapatra, **Y. Kim**, B. Ahn, D. Wang, L. Karthikeyan, A. Yazdanbakhsh, J. Park, N. Kim, H. Esmaeilzadeh, “Tandem Processor: Grappling with Emerging Operators in Neural Networks,” in *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2024.
3. J. Hwang, M. Kim, D. Kim, S. Nam, **Y. Kim**, D. Kim, H. Sharma, J. Park, “CoVA: Exploiting Compressed-Domain Analysis to Accelerate Video Analytics,” in *USENIX Annual Technical Conference (ATC)*, July 2022.

HONORS AND AWARDS

Distinguished Artifact Award.

2024

ISCA, “DaCapo: Accelerating Continuous Learning in Autonomous Systems for Video Analytics”

Scholarship for Academic Excellence.

Spring 2015, Fall 2016, Fall 2017

Sungkyunkwan University, Suwon, South Korea

College of Software Dean’s List.

Fall 2016, Fall 2017

Sungkyunkwan University, Suwon, South Korea

ACADEMIC SERVICES

Artifact Evaluation Committee.

ASPLOS 2024.

September 2024

1 of 2

EXPERIENCE

Engineering Intern. Software Engineering Team Jan. 2019 – Feb. 2020
Hyprsense, Burlingame, CA

- Integrated a facial landmark tracker into a real-time facial motion capture SDK using ONNX Runtime.
- Developed an iOS application to map 3D character morphs onto faces using the iPhone TrueDepth camera.

Undergraduate Research Assistant. I-SURF Program Jun. 2018 – Dec. 2018
University of California, Irvine, CA

- Implemented GEMM computation on a FPGA device using OpenCL via Xilinx SDAccel.

TEACHING

Teaching Assistant.

KAIST, Daejeon, South Korea

- CS311: Computer Organization Spring 2022, Spring 2024
- CS230: System Programming Fall 2021, Fall 2024

SKILLS

Programming Languages: C/C++, Python, CUDA, Swift

Technologies and Environments: Linux, PyTorch, ONNX, OpenCL, iOS

REFERENCES

Jongse Park. Associate Professor, KAIST jspark@casys.kaist.ac.kr