

Joonmyung Choi

AI RESEARCHER

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Research Interest

Efficient Deep Learning, Token Compression, Video and Multi-Modal Understanding, Document Understanding

Education

Integrated M.S. & Ph. D. in Artificial Intelligence

KOREA UNIVERSITY

• Advisor: Prof. Hyunwoo J. Kim

Seoul, S.Korea

Mar. 2021 - current

B.S. in Computer Science

KOREA UNIVERSITY

Seoul, S.Korea

Mar. 2014 - Feb. 2021

Publications

CONFERENCE PAPERS

C1 **DOCPRUNE: Efficient Document Question Answering via Background, Question, and Comprehension-aware Token Pruning**

J. Choi, S. Lee, J. Kim, S. Kim, D. Ko, J. Kil, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), (CVPR), 2026, Denver, USA, Accepted

C2 **Representation Shift: Unifying Token Compression with FlashAttention**

J. Choi*, S. Lee*, B. Ko, E. Kim, J. Kil, and H.J. Kim.

IEEE Conference on International Conference on Computer Vision (ICCV), 2025, Honolulu, USA, Accepted

C3 **EfficientViM: Efficient Vision Mamba with Hidden State Mixer based State Space Duality**

S. Lee, J. Choi, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2025, Nashville, USA, Accepted

C4 **vid-TLDR: Training Free Token merging for Light-weight Video Transformer**

J. Choi*, S. Lee*, J. Chu, M. Choi, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, Seattle, USA, Accepted

C5 **Multi-criteria Token Fusion with One-step-ahead Attention for Efficient Vision Transformers**

S. Lee*, J. Choi*, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, Seattle, USA, Accepted

C6 **Read-only Prompt Optimization for Vision-Language Few-shot Learning**

H. Lee*, S. Song*, J. Suh, J. Choi, S. Lee, and H.J. Kim.

IEEE Conference on International Conference on Computer Vision (ICCV), 2023, Paris, France, Accepted

C7 Meltr: Meta loss transformer for learning to fine-tune video foundation models

D. Ko*, J. Choi*, H. Choi, K. On, B. Roh, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023, Vancouver, USA, Accepted

C8 Tokenmixup: Efficient attention-guided token-level data augmentation for transformers

H. Choi*, J. Choi*, and H.J. Kim.

Advances in Neural Information Processing Systems (NeurIPS), 2022, New Orleans, USA, Accepted

C9 Video-Text Representation Learning via Differentiable Weak Temporal Alignment

D. Ko, J. Choi, J. Ko, S. Noh, K. On, E. Kim, and H.J. Kim.

IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022, New Orleans, USA, Accepted

JOURNAL PAPERS

J1 Parameter-Efficient Fine-Tuning via Meta-Regularizer

J. Park, J. Ko, S. Lee, J. Choi, H.J. Kim.

International Journal of Computer Vision (IJCV), 2025, Accepted

J2 Robust auxiliary learning with weighting function for biased data

D. Hwang*, S. Lee*, J. Choi*, H.J. Kim.

Information Science, 2023, Accepted

WORKSHOP PAPERS

W1 Concept Bottleneck with Visual Concept Filtering for Explainable Medical Image Classification

I. Kim*, J. Kim*, J. Choi, and H.J. Kim.

MedAGI Workshop on International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2023, Vancouver, Canada, Accepted as Oral Presentation

UNDER REVIEWS

U1 SuperClip Pyramid with Positional Parameterization for Video Temporal Grounding

S. Lee, J. Ko, J. Choi, J. Kim, and H.J. Kim.

Work Experience

Machine Learning & Vision Lab (MLV Lab)

RESEARCHER

- Projects

Seoul, S.Korea

Mar. 2021 - Current

LG CnS

INTERN

- Proof of Concept (PoC) for Amazon ECS Fargate environment.

Seoul, S.Korea

Jul. 2019 - Aug. 2019

Data Marketing Korea

INTERN

- YouTube data analysis.

Seoul, S.Korea

Jan. 2019 - Feb. 2019

COSCOI

RESEARCHER

- website and mobile applications development.

Seoul, S.Korea

Aug. 2016 - Oct. 2018

Teaching Experience

TEACHING ASSISTANT

- [COSE361] **Artificial Intelligence**, Mar. 2022 - Jun. 2023.
- [COSE4051] **Computer Science Colloquium**, Sep. 2022 - Dec. 2023.

Skills

LANGUAGE

- Native in Korean.
- Intermediate in English.

PROGRAMMING LANGUAGE

- Fluent in deep learning frameworks, particularly on **Pytorch**.
- Fluent in Python.
- Intermediate in Java.
- Deep understanding in ML and Visualization libraries: OpenCV, Scikit-Learn, Matplotlib, and Seaborn.

References

Hyunwoo J. Kim

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Associate Professor

*Korea Advanced Institute of Science &
Technology (KAIST)*