Dohwan Ko

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EDUCATION	**Korea University**	Seoul, Republic of Korea
	M.S. & Ph.D. integrated in Computer Science and Engineering	Mar. 2021 - Current
	Advisor: Hyunwoo J. Kim	
	Korea University	Seoul, Republic of Korea
	B.S. in Computer Science and Engineering	Mar. 2017 - Feb. 2021

RESEARCH
INTERESTS

- Computer Vision
- Video and Multi-Modal Understanding
- Foundation Models
- Large Language Models and Vision-Language Models
- Self-Supervised Learning and Representation Learning

WORKING
EXPERIENCE

Meta — Menlo Park, CA
- Research Scientist Intern in Smart Glasses Team — Mar. 2025 - Current

NEC Labs America — San Jose, CA
- Research Scientist Intern in Media Analytics Team — June 2024 - Aug. 2024

NAVER — Seongnam, Republic of Korea
- Internship at User Feedback Platform — Jul. 2020 - Aug. 2020
- Detecting Malicious Comments

PUBLICATIONS

[1] **ST-VLM: Kinematic Instruction Tuning for Spatio-Temporal Reasoning in Vision-Language Models**
Dohwan Ko*, Sihyeon Kim*, Yumin Suh, Vijay Kumar B G, Minseo Yoon, Manmohan Chandraker, Hyunwoo J. Kim
[*under review*]

[2] **Bidirectional Likelihood Estimation with Multi-Modal Large Language Models for Text-Video Retrieval**
Dohwan Ko*, Ji Soo Lee*, Minhyuk Choi, Zihang Meng, Hyunwoo J. Kim.
[*under review*]

[3] **LLaMo: Large Language Model-based Molecular Graph Assistant**
Jinyoung Park, Minseong Bae, Dohwan Ko, Hyunwoo J. Kim.
Advances in Neural Information Processing Systems *(NeurIPS)*, 2024. [paper]

[4] **Large Language Models are Temporal and Causal Reasoners for Video Question Answering**
Dohwan Ko*, Ji Soo Lee*, Wooyoung Kang, Byungseok Roh, Hyunwoo J. Kim.
Empirical Methods in Natural Language Processing *(EMNLP)*, 2023. [paper]

[5] **Open-Vocabulary Video Question Answering: A New Benchmark for Evaluating the Generalizability of Video Question Answering Models**
Dohwan Ko, Ji Soo Lee, Miso Choi, Jaewon Chu, Jihwan Park, Hyunwoo J. Kim.
International Conference on Computer Vision *(ICCV)*, 2023. [paper]

[6] **MELTR: Meta Loss Transformer for Learning to Fine-tune Video Foundation Models**
Dohwan Ko*, Joonmyung Choi*, Hyeong Kyu Choi, Kyoung-Woon On, Byungseok Roh, Hyunwoo J. Kim.

Computer Vision and Pattern Recognition *(CVPR)*, 2023. [paper]

[7] **Randomly Shuffled Convolution for Self-Supervised Representation Learning**
Youngjin Oh*, Minkyu Jeon*, <u>Dohwan Ko</u>, Hyunwoo J. Kim.
Information Sciences, 2022. [paper]

[8] **Video-Text Representation Learning via Differentiable Weak Temporal Alignment**
<u>Dohwan Ko</u>, Joonmyung Choi, Juyeon Ko, Shinyeong Noh, Kyoung-Woon On, Eun-Sol Kim, Hyunwoo J. Kim.
Computer Vision and Pattern Recognition *(CVPR)*, 2022. [paper]

[9] **Search-and-Attack: Temporally Sparse Adversarial Perturbations on Videos**
Hwan Heo*, <u>Dohwan Ko</u>*, Jaewon Lee*, Youngjoon Hong, Hyunwoo J. Kim.
IEEE ACCESS, 2021. [paper]

TALKS AND SEMINARS	**Transformer and Visual Question Answering** Korea University	Nov. 2023
TEACHING EXPERIENCE	**Deep Learning** (COSE474) Teaching Assistant at Korea University	Seoul, Republic of Korea Sep. 2022 - Dec. 2022
	Artificial Intelligence (COSE361) Teaching Assistant at Korea University	Seoul, Republic of Korea Mar. 2022 - Jun. 2022
HONORS & AWARDS	**Outstanding Paper Award**, Korea University	2024
	Semester High Honors, Korea University	2020
	Veritas Program Scholarship, Korea University	2017
ACADEMIC SERVICES	Reviewer of **CVPR** (Computer Vision and Pattern Recognition)	2024-2025
	Reviewer of **ECCV** (European Conference on Computer Vision)	2024
	Reviewer of **ACL** (Association for Computational Linguistics)	2024-2025
	Reviewer of **NAACL** (Association for Computational Linguistics)	2024
	Reviewer of **EMNLP** (Empirical Methods in Natural Language Processing)	2024

SKILLS

Language
- Korean (*native*)
- English (*intermediate*)

Programming C, Python, PyTorch, git, LaTeX