Dohwan Ko

ikodoh@korea.ac.kr
https://github.com/ikodoh
https://ikodoh.github.io

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

- Multi-Modal Agent AI and Reasoning
- Video Large Language Models and Foundation Models
- Efficient Multi-Modal Video Understanding

WORKING EXPERIENCE		
	Meta	Menlo Park, CA
	• Research Scientist Intern at Meta Reality Labs	Mar. 2025 - Jun. 2025
	NEC Labs America	San Jose, CA
	• Research Scientist Intern at Media Analytics Team	Jun. 2024 - Aug. 2024
	NAVER	Seongnam, Republic of Korea
	• Intern at User Feedback Platform	Jul. 2020 - Aug. 2020

PUBLICATIONS

[1] **MoE-GRPO: Optimizing Mixture-of-Experts via Reinforcement Learning in Vision-Language Models**
Dohwan Ko, Jinyoung Park, Seoung Choi, Sanghyeok Lee, Seohyun Lee, Hyunwoo J. Kim
under review.

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

[3] **DocPrune: Efficient Document Question Answering via Background, Question, and Comprehension-aware Token Pruning**
Joonmyung Choi, Sanghyeok Lee, Jongha Kim, Sehyung Kim, Dohwan Ko, Jihyung Kil, Hyunwoo J. Kim
under review.

[4] **SuperClip Pyramid for Video Temporal Grounding**
Sanghyeok Lee, Juyeon Ko, Joonmyung Choi, Jongha Kim, Dohwan Ko, Ji Soo Lee, Hyunwoo J. Kim
under review.

[5] **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.
International Conference on Computer Vision *(ICCV)* **Highlight** (top 9.7%), 2025. [paper]

[6] **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]

[7] **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]

[8] **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]

[9] **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]

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

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

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

| TALKS AND SEMINARS | **Transformer and Visual Question Answering** | Nov. 2023 |
| | Korea University | |

TEACHING EXPERIENCE	**Deep Learning** (COSE474)	Seoul, Republic of Korea
	Teaching Assistant at Korea University	Sep. 2022 - Dec. 2022
	Artificial Intelligence (COSE361)	Seoul, Republic of Korea
	Teaching Assistant at Korea University	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 **ICLR** (International Conference on Learning Representations)	2026
	Reviewer of **NeurIPS** (Advances in Neural Information Processing Systems)	2025
	Reviewer of **ICCV** (International Conference on Computer Vision)	2025
	Reviewer of **CVPR** (Computer Vision and Pattern Recognition)	2024-2025
	Reviewer of **ECCV** (European Conference on Computer Vision)	2024
	Reviewer of **ACL ARR** (Association for Computational Linguistics Rolling Review)	2024-2025

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

Programming C, Python, PyTorch, git, LaTeX