

EDUCATION

KAIST (Korea Advanced Institute of Science and Technology)

Ph.D. in Artificial Intelligence

Advisor: [Prof. Jinwoo Shin](#)

Sep 2024 – Present

Daejeon, South Korea

KAIST (Korea Advanced Institute of Science and Technology)

B.S. in Computer Science (School of Computing)

Advisor: [Prof. Sung-Eui Yoon](#)

Mar 2020 – Aug 2024

Daejeon, South Korea

RESEARCH INTERESTS

My goal is to build generally intelligent robots that can understand the real world and adapt to diverse situations. To achieve this, my research focuses on Vision-Language-Action (VLA) models, specifically on enhancing their world understanding and strengthening embodied reasoning. To this end, I have conducted research on aligning VLMs and LLMs through reinforcement learning, improving the spatiotemporal understanding of vision models, and optimizing policies with RL.

Keywords: VLA, LLM, VLM, RL, Robotics

PUBLICATIONS (* denotes equal contribution)

- [C6] [Robot-R1: Reinforcement Learning for Enhanced Embodied Reasoning in Robotics](#)
Dongyoung Kim, Sumin Park, [Huiwon Jang](#), [Jinwoo Shin](#), [Jaehyung Kim*](#), [Younggyo Seo*](#)
Neural Information Processing Systems (NeurIPS), 2025
- [C5] [Debiasing Online Preference Learning via Preference Feature Preservation](#)
Dongyoung Kim, Jinsung Yoon, [Jinwoo Shin](#), [Jaehyung Kim](#)
Annual Meeting of the Association for Computational Linguistics (ACL), 2025 (Findings)
- [C4] [Spread Preference Annotation: Direct Preference Judgment for Efficient LLM Alignment](#)
Dongyoung Kim, Kimin Lee, [Jinwoo Shin](#), [Jaehyung Kim](#)
International Conference on Learning Representations (ICLR), 2025
Oral Presentation (207/11672=1.77%)
- [C3] [Learning to Correct for QA Reasoning with Black-box LLMs](#)
[Jaehyung Kim](#), **Dongyoung Kim**, Yiming Yang
Conference on Empirical Methods in Natural Language Processing (EMNLP), 2024 (Main)
- [C2] [Visual Representation Learning with Stochastic Frame Prediction](#)
[Huiwon Jang](#), **Dongyoung Kim**, [Junsu Kim](#), [Jinwoo Shin](#), [Pieter Abbeel](#), [Younggyo Seo](#)
International Conference on Machine Learning (ICML), 2024
- [C1] [Accelerating Reinforcement Learning with Value-Conditional State Entropy Exploration](#)
Dongyoung Kim, [Jinwoo Shin](#), [Pieter Abbeel](#), [Younggyo Seo](#)
Neural Information Processing Systems (NeurIPS), 2023
- [W1] [Training-free LLM Verification via Recycling Few-shot Examples](#)
[Dongseok Lee](#), [Jimyung Hong](#), **Dongyoung Kim**, [Jaehyung Kim](#)
International Conference on Machine Learning (ICML) Workshop ES-FoMo-III, 2025

- [P7] RoboAlign: Reinforcement Learning for Action-Aligned Multimodal Large Language Models
Dongyoung Kim, Sumin Park, Woomin Song, Seungku Kim, Taeyoung Kim, [Huiwon Jang](#), [Jaehyung Kim](#),
[Younggyo Seo](#), [Jinwoo Shin](#)
 Preprint, 2025
- [P6] INFUSER: Injecting Synthetic Failures for Self-Correcting Embodied Agents
 Byungjun Yoon, **Dongyoung Kim**, Jaehyun Nam, Wook Jung, [Jinwoo Shin](#)
 Preprint, 2025
- [P5] Contrastive Representation Regularization for Vision-Language-Action Models
 Taeyoung Kim, Jimin Lee, Myungkyu Koo, **Dongyoung Kim**, Kyungmin Lee, Changyeon Kim, [Younggyo Seo](#), [Jinwoo Shin](#)
 Preprint, 2025
- [P4] Dual-Stream Diffusion for World-Model Augmented Vision-Language-Action Model
 John Won, Kyungmin Lee, [Huiwon Jang](#), **Dongyoung Kim**, [Jinwoo Shin](#)
 Preprint, 2025
- [P3] Verifier-free Test-Time Sampling for Vision Language Action Models
 Suhyeok Jang, **Dongyoung Kim**, Changyeon Kim, Youngsuk Kim, [Jinwoo Shin](#)
 Preprint, 2025
- [P2] [Collaborative LLM Inference via Planning for Efficient Reasoning](#)
 Byeongchan Lee, Jonghoon Lee, **Dongyoung Kim**, [Jaehyung Kim](#), [Jinwoo Shin](#)
 Preprint, 2025
- [P1] SpatialBoost: Enhancing Visual Representation through Language-Guided Reasoning
 Byoungwooo Jeon*, **Dongyoung Kim***, [Huiwon Jang](#), [Jinwoo Shin](#)
 Preprint, 2025

HONORS AND AWARDS

- Recipient, Google Conference Scholarships (APAC), May 2025
- Travel Award, Conference on Neural Information Processing Systems (NeurIPS), 2023
- Recipient, KAIST Presidential Fellowship, 2020 – 2024

WORK EXPERIENCE

RLWRLD Inc.

June 2025 – Present

Seoul, South Korea

Research Intern (Advisor: [Jinwoo Shin](#))

SERVICES

Reviewer

- NeurIPS
- ICLR