

Wonjun Jo

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[Website](#) | [Scholar](#) | [Github](#) | [LinkedIn](#)

RESEARCH INTERESTS

Self-Supervised and Multi-Modal Learning for World Models in Embodied AI:

Preserving and improving World Model generalization through self-supervised and multi-modal learning toward robust Embodied AI, with recent focus on VLA/WAM for robotics and sound/tactile/force sensor signals for holistic world understanding.

PUBLICATIONS

- [1] **Wonjun Jo**, Nam Hyeon-Woo, Yohan Park, Hyunwoo Ha, Tae-Hyun Oh, “When Fine-Tuning Drifts: Mitigating Policy Drift with Base Action-Field Regularization,” *Under review*, 2026.
 - Mitigating policy drift for robust few-shot fine-tuning of pretrained robot policies.
- [2] **Wonjun Jo**, Hyunwoo Ha, Kim Ji-Yeon, Hawook Jeong, Tae-Hyun Oh, “LiDAR-Anchored Collaborative Distillation for Robust 2D Representations,” *IEEE Robotics and Automation Letters (RA-L)*, 2026.
 - Improving the robustness and generalization of self-supervised visual representations with LiDAR guidance.
- [3] Yohan Park, Hyunwoo Ha, **Wonjun Jo**, Tae-Hyun Oh, “DarkQA: Benchmarking Vision-Language Models on Visual-Primitive Question Answering in Low-Light Indoor Scenes,” *IEEE Robotics and Automation Letters (RA-L)*, 2026.
 - Benchmarking the robustness of embodied vision-language models under low-light conditions.
- [4] **Wonjun Jo**, Hyunwoo Ha, Kim Ji-Yeon, Hawook Jeong, Tae-Hyun Oh, “Self-Supervised Collaborative Distillation: Enhancing Lighting Robustness and 3D Awareness,” Workshop on Wild3D, *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2025.
 - Improving pretrained visual representations for lighting robustness and 3D-aware generalization.
- [5] **Wonjun Jo**, Kwon Byung-Ki, Kim Ji-Yeon, Hawook Jeong, Kyungdon Joo, Tae-Hyun Oh, “The Devil is in the Details: Simple Remedies for Image-to-LiDAR Representation Learning,” *Asian Conference on Computer Vision (ACCV)*, 2024.
 - Improving self-supervised image-to-LiDAR representation learning for robust 3D perception.

PROJECTS

Self-Supervised Learning Method Utilizing Camera-LiDAR Correlation for Autonomous Driving

Jan. 2023 – Dec. 2024

- Proposed a novel self-supervised learning method for improving 2D representation using LiDAR.
- Proposed remedies for improving self-supervised image-to-LiDAR distillation method.
- Funded by the RideFlux Inc., South Korea.

Deformable Object Recognition Technology Research

Mar. 2022 – Dec. 2022

- Developed deformable object recognition algorithm on multi-spectral images.
- Developed motion vector estimation algorithm for deformable objects using LiDAR.
- Funded by the Agency for Defense Development (ADD), South Korea.

PATENTS

Self-Supervised Learning Method, Computing Device, and Computer Program Using Synchronized Sensor Data and Unsynchronized Sensor Data

2023

- Republic of Korea. 10-2023-0146900

ACADEMIC SERVICES

Journal Reviewer

- The Visual Computer: International Journal of Computer Graphics (**TVCGJ**), 2023

Conference Reviewer

- Conference on Robot Learning (**CoRL**), 2026
- International Conference on Robotics and Automation (**ICRA**), 2023

EDUCATION

POSTECH

Joint M.S & Ph.D. in Electrical Engineering (Advisor: Tae-Hyun Oh)

Pohang, South Korea

Mar. 2022 –

Inha University

B.S. in Computer Engineering

Incheon, South Korea

Mar. 2018 – Feb. 2022

EXPERIENCE

KIST Physical AI Research Scientist Internship

Korea Institute of Science and Technology (Advisor: In So Kweon)

Seoul, South Korea

Jul. 2026 – Present

- World models for physical robot AI agents.

POSTECH Student Internship

Pohang University of Science and Technology (Advisor: Tae-Hyun Oh)

Pohang, South Korea

Jun. 2021 – Aug. 2021

- Knowledge distillation for human mesh reconstruction.

EXTRA

Deep Learning Seminar

- POSTECH AMILab seminar [YouTube]
- POSTECH EE-group deep learning seminar
- Attending POSTECH PAIR (CVLab, CGLab, MLLab, AMILab) seminar

Teaching Experiences

- [EECE454] Introduction to Machine Learning, POSTECH