



Jiwoo Kim

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Research Interests

Generative models for physical AI, focusing on weight-space representations for robot policies and vision-language-action (VLA) models for autonomous driving.

Education

- Duke University, Ph.D.** Aug. 2024 – Present
Electrical and Computer Engineering NC, USA
 Advisor: Prof. Miroslav Pajic
- Yonsei University, B.S.** Mar. 2021 – Feb. 2024
Electrical and Electronic Engineering Seoul, Republic of Korea
 Advisor: Prof. Jongeun Choi
- Kwangwoon University** Mar. 2017 – Feb. 2021
Electrical Engineering Seoul, Republic of Korea
 · Leave of absence due to military service (Republic of Korea Air Force), 2018–2020
 · Transfer to Yonsei University

Publications

* : Equal Contribution [C] : Conference [W] : Workshop [J] : Journal

[C5] **Jiwoo Kim**, Swarajh Mehta, Hao-Lun Hsu, Hyunwoo Ryu, Yudong Liu, Miroslav Pajic. "NNiT: Width-Agnostic Neural Network Generation with Structurally Aligned Weight Spaces.", ICML, 2026.

[C4] Yudong Liu, Spencer Hallyburton, **Jiwoo Kim**, Yueqian Lin, Yiming Li, Qinsi Wang, Hui Ye, Jingwei Sun, Miroslav Pajic, Yiran Chen, Hai Li. "LLaViDA: A Large Language Vision Driving Assistant for Explicit Reasoning and Enhanced Trajectory Planning.", arXiv, 2025.

[C3] Ruiyang Wang, Hao-Lun Hsu, David Hunt, Shaocheng Luo, **Jiwoo Kim**, Miroslav Pajic. "LLM-MCoX: Large Language Model-based Multi-robot Coordinated Exploration and Search.", arXiv, 2025.

[C2] Tergel Molom-Ochir*, Naman Saxena*, **Jiwoo Kim**, Yiran Chen, Zhangyang Wang, Miroslav Pajic, Hai(Helen) Li. "Efficient Neuro-Symbolic Policy using In-Memory Computing.", NeuS, 2025.

[C1] Hyunwoo Ryu, **Jiwoo Kim**, Junwoo Chang, Hyun Seok Ahn, Joohwan Seo, Taehan Kim, Yubin Kim, Jongeun Choi, Roberto Horowitz. "Diffusion-EDFs: Bi-equivariant Denoising Generative Modeling on SE(3) for Visual Robotic Manipulation.", CVPR, 2024 (**Spotlight**).

[W2] Junwoo Chang*, Hyunwoo Ryu*, **Jiwoo Kim**, Soochul Yoo, Joohwan Seo, Nikhil Prakash, Jongeun Choi, Roberto Horowitz. "Denoising Heat-inspired Diffusion with Insulators for Collision Free Motion Planning.", NeurIPS Workshop on Diffusion Models, 2023.

[W1] **Jiwoo Kim***, Hyunwoo Ryu*, Jongeun Choi, Joohwan Seo, Nikhil Prakash, Ruolin Li, Roberto Horowitz. "Robotic Manipulation Learning with Equivariant Descriptor Fields: Generative Modeling, Bi-equivariance, Steerability, and Locality." R.S.S. Workshop on Symmetries in Robot Learning, 2023 (**Oral, Best Paper Award**).

[J1] Sarmad Idrees, **Jiwoo Kim**, Jongeun Choi, Soekman Son. "Human Motion Prediction: Assessing Direct and Geometry-Aware Approaches in 3D Space.", IEEE Access.

Awards & Scholarships

Best Academic Presentation Award, 5th Yonsei Univ. M.E. Graduate Student Academic Conference	Oct. 2023
Best Paper Award, <i>RSS Workshop on Symmetries in Robot Learning</i>	Jul. 2023
Jinri Scholarship (Excellent Academic Performance) by Yonsei Univ. (×2)	Jun., Dec. 2022
Samhwajibong Scholarship Foundation Scholarship	Jun. 2022

Research Experience

CPSL Lab, Duke Aug. 2024 – Present

Advisor: Prof. Miroslav Pajic

PhD Researcher

- Vision–Language–Action (VLA) models for autonomous driving
 - Design end-to-end VLA pipelines for vehicle trajectory planning in the CARLA simulator
 - Post-train and evaluate LLaVA-based models in closed-loop driving scenarios
- Reinforcement learning for Unitree Go2 EDU
 - Train RL policies in Isaac Gym and evaluate in simulation
 - Deploy sim-to-real policies on a physical Go2 EDU

Professional Service

Reviewer, *ICML 2026, NeurIPS 2026, CVPR 2026, ECCV 2026*

Co-organizer, *EAAI Workshop on Translating AI & Robotics Research into K-12 Outreach* Jan. 2026