

Hyeongwoo Nam

Integrated M.S./Ph.D. Student, Mechanical Engineering, Yonsei University
Machine Learning & Control Systems Lab

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RESEARCH INTERESTS

Embodied AI, Robot Memory, Spatial Reasoning, Agentic AI, Robot Task Planning, Neuro-Symbolic AI

EDUCATION

Yonsei University, Seoul, Republic of Korea Sep 2023 – Present
Integrated M.S./Ph.D. in Mechanical Engineering · Advisor: Prof. Jongeun Choi

Yonsei University, Seoul, Republic of Korea Mar 2017 – Aug 2023
B.S. in Mechanical Engineering

RESEARCH EXPERIENCE

Project Manager, NRF Basic Research Laboratory (BRL) Project Jul 2026 – Present
Spatial Intelligence for Robotic Autonomy: From World Reasoning to Precision Control
National Research Foundation of Korea · Machine Learning & Control Systems Lab, Yonsei University

PUBLICATIONS

Conference Papers

[C1] OntoPlan: An Ontology-Grounded Scene Representation and Agentic Framework for Scalable Robot Task Planning
Hyeongwoo Nam, Woongje Cho*, Juwon Kim*, Jongeun Choi†
Conference on Neural Information Processing Systems (NeurIPS), 2026
[arXiv:2610.07649](https://arxiv.org/abs/2610.07649) · [Code: github.com/namhyeongwoo/OntoPlan](https://github.com/namhyeongwoo/OntoPlan)
* Equal contribution, † Corresponding author

Journal Articles

[J1] Data-Driven Driver Training via Counterfactual and Language-Based Guidance in Racing Scenarios
Jonghak Bae, **Hyeongwoo Nam**, Kunhee Ryu, Jihye Lee, Jinsung Kim, Hokyun Chun, Jongtaek Han, Jongeun Choi
IEEE Access, vol. 13, pp. 170181–170199, 2025
DOI: [10.1109/ACCESS.2025.3615128](https://doi.org/10.1109/ACCESS.2025.3615128)

[J2] Scale-Equivariant Object Perception for Autonomous Driving
Taekhyung Cho, **Hyeongwoo Nam**, Jongeun Choi
IEEE Transactions on Intelligent Vehicles, vol. 10, no. 9, pp. 4361–4370, 2025
DOI: [10.1109/TIV.2024.3382034](https://doi.org/10.1109/TIV.2024.3382034)

SKILLS

Programming	Python, C++
Frameworks	PyTorch, LangGraph
Planning & Knowledge	PDDL, Fast Downward, OWL / RDF, SPARQL
Tools	Linux, Git, Docker

HONORS & AWARDS

AI Seoul Tech Graduate Scholarship (Ph.D.), Seoul Future Foundation Fall 2025

1st Place, Oral Presentation, 5th Industry–Academia Project Showcase, Future Vehicle Core Technology R&D Workforce Program Jan 2025