

Seonsoo Kim

✉ sunsoo3165@gmail.com | [🌐 seonsoo-p1.github.io/SeonsooKim.github.io/](https://seonsoo-p1.github.io/SeonsooKim.github.io/)

Working at Defense AI Center of Agency for Defense Development(ADD), South Korea, for military service (mandatory for South Korean)

I am planning to pursue a PhD in Robotics and AI, with the goal of beginning in Fall 2027, and I am currently exploring potential opportunities.

RESEARCH INTERESTS

My research interests lie in **representation and context for robot learning**. I study what information robots need, how that information should be represented, and why particular representations make robot learning more effective.

My recent work explores **disentangled task context** for adaptation and **temporal context** for revisable sequential prediction. Going forward, I am interested in in-context learning, representation learning, adaptation, and sequential prediction, as well as understanding why particular representations and learning mechanisms are effective for robotic tasks.

EDUCATION

2020 - 2023 Bachelor's Degree at **Gwangju Institute of Science and Techonology(GIST)**
Mechanical Engineering major, **Intelligent Robotics** sub major
GPA: 4.37/4.5, (1st/97)

PUBLICATIONS

1. **Seonsoo Kim**, Seongil Hong, and Jun-Gill Kang. "Diffusion ReRoll: Revisable Denoising for Robotic Sequential Prediction." *Under Review*, 2026.
[Project Page](#)
2. **Seonsoo Kim***, Jun-Gill Kang*, Taehong Kim, and Seongil Hong. "Disentangled Multi-Context Meta-Learning: Unlocking Robust and Generalized Task Learning." *Proceedings of the 9th Conference on Robot Learning (CoRL)*, 2025.
[Project Page](#) [arXiv](#)

*Equal contribution.

WORK EXPERIENCE

Agency for Defense Development (ADD), Defense AI Center Jun. 2024 – Present

- Research Officer for National Defense, working on robot learning and embodied AI.
- Developed learning methods for **quadruped locomotion, robotic manipulation, long-horizon planning, and autonomous driving**.
- Developed **Disentangled Multi-Context Meta-Learning (DMCM)** for robust adaptation and sim-to-real transfer of quadruped policies.
- Developed **Diffusion ReRoll**, a diffusion-based sequential prediction framework for long-horizon planning, manipulation policy learning, and unified video-action modeling.
- Conducted research on **vision-language-action models for autonomous driving** and previously developed multi-robot exploration methods for GPS-denied environments.

- Undergraduate Research Intern advised by Prof. Kyunghwan Choi.
- Studied **null-space control and reinforcement learning for a 7-DoF robotic manipulator**, with a focus on improving task-space impedance-control performance through redundant degrees of freedom.

SELECTED ROBOTICS EXPERIENCE

- **Legged Robotics:** Quadruped dynamics modeling, reinforcement learning, context-aware policy learning, and real-world sim-to-real deployment.
- **Manipulation:** Diffusion-based visuomotor policy learning and low level control of 7-DoF manipulator.
- **Navigation:** Long-horizon trajectory planning and multi-robot exploration in GPS-denied environments.
- **Autonomous Driving:** Vision-language(-action) modeling and learning from large-scale autonomous-driving data.

AWARDS AND HONORS

2023 GIST Future Talent Award

Selected as one of only two recipients among all graduates.

2022 Korea Navy Academy President's Award

2nd prize of MiliTECH Challenge hosted by KAIST.

Topic: Deep Learning-Powered System for Detecting and Countering Illegal Weapon Transportation

TECHNICAL SKILLS

Programming	Python, C++, MATLAB
Machine Learning	PyTorch, reinforcement learning, diffusion models, meta-learning, vision-language-action models
Robotics	ROS/ROS2, robot manipulation, quadruped locomotion, navigation, sim-to-real, autonomous driving
Simulation	Isaac Gym / Isaac Lab, MuJoCo

ACADEMIC SERVICE

2026 Reviewer, Conference on Robot Learning (CoRL)