Mingyu **Park**

AI Researcher · Robotics Expert

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"True failure is what not trying to challenge, not what you couldn't overcome today."

Summary

My research goal is to build **real-world** robots that can perform control tasks with human-level abilities and generalize to unseen situations using **artificial general intelligence** (AGI). I'm especially interested in developing practical methods for sequential decision-making problems. My current mission toward this goal is to devise a general method that can recover an expert policy from **static datasets** under **high-dimensional** sensory input. Formally, my research interest interleaves between **offline reinforcement learning**, **self-supervised learning**, and **foundation models**.

Education

Kwangwoon University — *Seoul, S.Korea*

B.S. in School of Robotics — *Mar. 2017 - Feb. 2023*

- **Total GPA**: 4.18/4.50 **Major GPA**: 4.43/4.50

KAIST (Korea Advanced Institute of Science and Technology) — *Daejeon, S.Korea*

M.S. in Robotics Program — *Mar. 2023 - Now*

- Advised by *Prof. Dongwhan Lee*
- **Total GPA**: 3.94/4.30

Experience

KIST (Korea Institute of Science and Techonoloy) — *Seoul, S.Korea*

Undergraduate Research Assistant — *Jun. 2021 - Dec. 2021*

- Implemented an optimal control system of the fixed-base redundant dual-arm manipulators.
- Implemented a ROS framework to the manipulator system.
- Researched a method that can reduce the computational cost of the optimal controller for real-time control.

Seoul National University (DYROS, Dynamics Robotics Systems Lab) — *Seoul, S.Korea*

Undergraduate Research Intern — *Jan. 2022 - Oct. 2022*

- Researched a mobile robot navigation system using SLAM and extended Kalman filter.
- Researched an efficient map construction using multiple sensors on a single robot.
- Researched a whole-body controller using hierarchical quadratic programming for a mobile manipulator system.

KAIST (MDILRG, Machine Decision Intelligence and Learning Research Group) — *Daejeon, S.Korea*

Graduate student — *Mar. 2023 - Now*

- Researched a combination of the dueling architecture and alternative max operators.
- Researched a method that can leverage a pretrained model to enable better initialization for offline RL.

Publications

Journal

- **Park, M.**, Kim, D., Oh, Y., Lee, Y. (2022). Computational Cost Reduction Method for HQP-based Hierarchical Controller for Articulated Robot. *The Journal of Korea Robotics Society*, 17(1), 16-24.

Skills

Programming Languages	Python, C, C++, HTML, CSS, JavaScript
Frameworks	Robot Operating System (ROS) 1 & 2, Matlab, Docker, Tensorflow, PyTorch, Jax
Simulators	Gazebo, MuJoCo, CoppeliaSim, Raisim, IsaacSim
Languages	Korean, English, Japanese

Extracurricular Activity

BARAM (Robotics Academic Group in Kwangwoon University) *S.Korea*

Core Member *Mar. 2020 - Dec. 2022*

- Gained academic knowledge related to robotics such as computer vision and control engineering.
- Gained expertise in crafting a robot from scratch and insight to analyze complex systems.
- Obtained leadership and supervised group members serving as club director.

Scholarships & Awards

Scholarships

Feb. 2017 **Kwangwoon Dream**, Admission Scholarship *Seoul, S.Korea*

Oct. 2017 **Kwangwoon Dream**, Admission Scholarship *Seoul, S.Korea*

Oct. 2020 **Quarter tuition scholarship**, Academic Excellence Scholarship *Seoul, S.Korea*

Feb. 2021 **Full tuition scholarship**, Academic Excellence Scholarship *Seoul, S.Korea*

Oct. 2021 **Half tuition scholarship**, Academic Excellence Scholarship *Seoul, S.Korea*

Oct. 2022 **Half tuition scholarship**, Academic Excellence Scholarship *Seoul, S.Korea*

Awards

Feb. 2021 **Dean's List**, Academic Excellence Award *Seoul, S.Korea*

Oct. 2021 **Dean's List**, Academic Excellence Award *Seoul, S.Korea*

Oct. 2022 **Dean's List**, Academic Excellence Award *Seoul, S.Korea*