Sungjae Park

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Education

Seoul National University: Mar. 2017 – Aug. 2023

B.S. in Department of Mechanical Engineering (Double Major in Mathematics), **Total GPA: 4.23/4.3**
Graduated **1st place** in Mechanical Engineering Department, **2nd place** in Engineering Department among fall graduates.
* Leave of absence for military service: Apr. 2019 – Feb. 2021

Research Interests

My research goal is to develop robot with human-like abilities, including **physical capabilities** for manipulation tasks, and **cognitive capabilities** for intuitive understanding of the real world. Specifically, I am interested in:

- Complex manipulation tasks (e.g. dexterous, contact-rich, long-horizon tasks)
- Physical reasoning with interaction (e.g. inferring object properties with interaction)
- Physical reasoning for interaction (e.g. intuitive physics)

Research Experience

SNU Visual Computing Lab, Research Intern Feb. 2024 – Present
Advisor: Hanbyul Joo

• Developed a multi-view, real-time motion capture system which can reconstruct human hand and object motion.
• (In-Progress) Developing a dexterous robot manipulation algorithm with motion capture data.

Cognitive Learning for Vision and Robotics Lab, Research Intern Jul. 2022 – Dec. 2023
Advisor: Joseph J. Lim

DROID: A Large-Scale In-the-Wild Robot Manipulation Dataset
• Parcitipcated in a research collaboration for large, divsere, high-quality robot manipulation datasets as a lab lead.
• Accepted to **Robotics: Science and Systems (RSS) 2024**

SNU Robotics Lab, Undergraduate Thesis Intern Mar. 2022 – Jun. 2022, Sep. 2022 – Dec. 2022
Advisor: Frank C. Park

Efficient Cross-Embodiment Learning with Object-Centric Planner
• Developed cross-embodiment learning algorithm with object-centric motion planning.
• With an object-centric planner learned from offline demonstration data of another robot, the target robot can efficiently learn the same task.
• Co-advised by Joseph J. Lim
• Awarded **Outstanding BS Thesis Presentation Award**

Dynamic Robotics Systems Lab, Research Intern Jul. 2021 – Aug. 2021
Advisor: **Jaeheung Park**

Vision Guided Peg Insertion
• Developed vision-based peg-in-hole algorithm for dual robot arm with hole detection using hand-eye camera and YOLO.

Scholarships

Kwanjeong Overseas Fellowship | 2-year support for M.S. studies Present

Presidential Science Scholarship Mar. 2021 – Dec. 2022

Gangwon-do Future Talent Natural Science Field Selection Scholarship Jan. 2018 – Dec. 2022
Full-funded scholarship for academic excellence Mar. 2018 – Feb. 2019, Mar.2021

Awards and Honors

Outstanding BS Thesis Presentation Award Dec. 2022
2nd place, International Design Contest Robocon Aug. 2018

Services

Reviewer | NeurIPS 2023, ICLR 2024

Teaching Experience

Teaching Assistant | Introduction to Robotics Mar. 2022 – Jun. 2022
Undergraduate Tutoring | Linear Algebra 1 Mar. 2021 – Jun.2021
Undergraduate Tutoring | Physics 1,2 Mar. 2018 – Dec. 2018, Mar. 2021 – Dec.2021

Skills

Language: C++, Python, Java
Libraries/Frameworks: Pytorch, ROS, YOLO, SMACH
Modeling: SolidWorks

English Proficiency

GRE: Verbal Reasoning 160/170, Quantitative Reasoning 170/170, Analytical Writing 4.0/6.0
TOEFL: 114/120 (Reading 29/30, Listening 30/30, Speaking 27/30, Writing 28/30)