Seongsu Kim

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Research Interests

My research goal is to develop robots capable of interacting with humans and providing assistance in various tasks. I believe that effectively leveraging prior knowledge and data is essential for addressing diverse, complex and long-horizon tasks. Therefore, my research interests lie in **offline reinforcement learning**, **skill-based reinforcement learning**, **goal-conditioned reinforcement learning**, and **Sequence modeling**.

Education

Hanyang University Mar 2023 – Feb 2025
M.S. in Electrical Engineering (Advisor: Jun Moon) GPA: 4.33 / 4.5
Thesis: "*Model-based learning to achieve goals using offline data*"

Dongyang Mirae University Mar 2017 – Feb 2023
B.S. in Automation Engineering GPA: 4.29 / 4.5
Leave of absence for military service: Aug. 2017 - May. 2019

Experience

Research Intern Dec 2022 - Feb 2023
Hanyang University: Control & Optimization Lab (Advisor: Jun Moon)

- Constructed a framework for operating the Husky-Franka robot using Isaac-Sim and ROS

Publications

[C1] **Seongsu Kim** and Jun Moon. "Offline Goal-conditioned Model-based Reinforcement Learning in Pixel-based Environment" *International Conference on ICT Convergence*, 2024

Projects

Development of Autonomous Manipulation and Grasping Based on Visual-Tactile sensing Imitation Learning Jan 2024 - Dec 2024
Work with KETI

- Developed a human-hand teleoperation for training a Diffusion Policy using the Allegro hand.

Skills & Classes

Programming Language: Python, C, MATLAB

Tools: JAX/Flax, Pytorch, Tensorflow, MuJoCo, IsaacGym, Isaac-Sim, ROS, Git

Modeling: AutoCAD, SolidWorks

Robots: Husky, Franka Research 3, Allegro hand, Doosan manipulator

Language: Korean(Native), English(Conversational)

Classes: Deep Reinforcement Learning, Robotics, Artificial Intelligent, Control Engineering, Advanced Machine Learning, Optimization, Random Process, Robot Learning, Robot and Probabilistics, Autonomous Driving

Teaching Experience

Teaching Assistant Mar 2023 - Jun 2023
Optimization, Numerical Analysis (Instructors: Jun Moon)