Younghyo Park

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Education

Seoul National University **Mar. 2016 – Aug. 2022***

Department of Mechanical Engineering, Total GPA 4.25/4.3 (Major GPA 4.26/4.3) *Seoul, South Korea*

Graduated Summa cum laude, 1st place in Mechanical Engineering Department.

** Served mandatory military service between 2018-2019*

Research Interests

- Robotic Manipulation / Grasping
- Robot Perception, Computer Vision
- Unsupervised RL (Skill Discovery)
- Learning from Demonstrations
- Learning from Human Videos
- Real-world Robot Learning

Publications

- Sunin Kim*, Jaewoon Kwon*, Taeyoon Lee*, **Younghyo Park*** and Julien Perez. *Safety-Aware Unsupervised Skill Discovery*, International Conference on Robotics and Automation (ICRA), 2023 * Equal Contribution, listed in alphabetical order.
- **Younghyo Park***, Seunghoon Jeon* and Taeyoon Lee. *Robot Learning to Paint from Demonstrations*, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2022 * Equal Contribution
  (Best Paper Winner: Best Entertainment and Aumsement Paper)
- **Younghyo Park**, Joonwoo Ahn and Jeaheung Park. *Deep Learning based Parking Slot Detection and Tracking: PSDT-Net*, IEEE International Conference on Robot Intelligence Technology and Applications (RITA), 2021
- Kyumin Park, **Younghyo Park**, Sangwoong Yoon and Frank C. Park. *Collision Detection for Robot Manipulators Using Unsupervised Anomaly Detection Algorithms*, IEEE/ASME Transactions on Mechatronics, 2021
- **Younghyo Park**, Jaehyeok Bae and Jinwoo Lee. *Design of a Perforated Panel for Transmission Noise Reduction*, Transactions of the Korean Society of Mechanical Engineers, 2015

Work Experience

NAVER LABS Full-time Machine Learning Engineer - Robot Manipulation **Mar. 2022 - Present**

- Researched and developed unsupervised skill discovery algorithms for various manipulation tasks.

Saige Research Machine Learning Research Intern **Jun. 2020 - Feb. 2021**

- Researched and developed out-of-distribution detection algorithm for industrial defect images. (e.g. PCB, battery)
- Reproduced/tested various state-of-the-art out-of-distribution detection algorithms.

Research Experience

NAVER LABS Robot Dynamics and Control Team Research Intern **Sep. 2021 - Feb. 2022**

- Developed a robot that can learn how to paint from human demonstrations.
- The robot, named ARTO-1, is being exhibited in NAVER HQ located in South Korea.

Dynamic Robotics Systems Lab AI Research Intern **Jul. 2021 - Aug. 2021**

- Developed parking spot detection algorithm for autonomous vehicle parking system that accurately estimates the position and orientation of parking spots before and during the parking.
- Funded Summar Internship Program by [Artificial Intelligence Instutitue SNU (AIIS)]

SNU Robotics Laboratory Research Intern **Sep. 2020 - Jan. 2021**

- Developed unsupervised robot collision detection algorithm using deep autoencoder network.
- Compared to existing robot collision detection works which mostly rely on supervised learning, our unsupervised algorithm achieved high detection performance with less computation.

Skills

Programming Languages: Python, MATLAB
Libraries/Frameworks: PyTorch, NVIDIA Isaac Gym/Sim, MuJoCo, ROS2
Languages: Korean (native), English

English Proficiency

TOEFL: 114/120 (Reading 30/30, Listening 30/30, Speaking 26/30, Writing 28/30)
GRE: Verbal Reasoing 164/170, Quantitative Reasoning 170/170, Analytical Writing 4.0/5.0

Teaching Experience

Introduction to Robotics, Dynamics, Fluid Dynamics | *Undergraduate Tutoring* **Sep. 2020 - Feb. 2021**
Solid Mechanics | *Undergraduate Tutoring* **Mar. 2020 - Jul. 2020**

Scholarship

National Science & Technology Scholarship **Mar 2016 – Aug 2022**
4-year Full Tuition