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Kyungseo Park

Research Interests

I am broadly interested in control and planning of dynamic systems, particularly in the field of robotics. My research objective is to enable robots to perform complex behaviors and exhibit physical intelligence through learning. Given that robotics inherently involves physical embodiment and real-world interaction, I focus on robotics-aware learning rather than purely data-driven approaches. I am particularly interested in achieving physical intelligence through the tight integration of high-fidelity simulation, hardware-aware policy learning, and sim-to-real transfer — closing the loop from robot design to real-world deployment. Applications of particular interest include those where physics-aware policies are critical, such as humanoid whole-body control, precision assembly, and surgical robotics.

Education

2020/03 – **B.Sc. Mechanical Engineering**, *Seoul National University*
2021/09 – **B.Sc. Electrical and Computer Engineering (Double Major)**, *Seoul National University*
Total GPA **4.14/4.3** (138 credits completed)

Research Experience

2025/12 – Present **Manuscript in preparation (First author)**, *Robotics Lab, SNU (Prof. Frank Chongwoo Park)*
Manipulation of Articulated Objects by Geometric Impedance Control with Constraint Distillation from Generated Trajectory Ensemble

2025/11 – Present **Manuscript in preparation (Co-first author)**, *Rosota*
Surgical Trocar-Adaptive, RCM-aware Diffusion Policy with Human Demonstration

2025/07 – 2025/12 **ME Bachelor's Thesis Project**, *Robotics Lab, SNU (Prof. Frank Chongwoo Park)*
Screw-Wrench informed Impedance Variable Learning for Bimanual Manipulation of an Articulated Object

2025/03 – 2025/10 **Hyundai Motor Group Research Project**, *Robotics Lab, SNU (Prof. Frank Chongwoo Park)*
Developing SE(3) Adaptive Compliance Policy for Manipulation

2025/01 – 2025/06 **ECE Bachelor's Thesis Project**, *CORE Lab, SNU (Prof. Insoon Yang)*
Integrating VLM-based Reward in Model-based Reinforcement Learning

2024/06 – 2024/08 **Undergraduate Research Intern**, *Rai Lab, KAIST (Prof. Jemin Hwangbo)*
Robust Recovery Policy for Raibo2 Quadruped Robot

Work Experience

2025/06 – 2025/10 **AI Robot Dynamics Engineer Intern**, *Sequor Robotics*
Developing RL policy & Sim2Real pipeline of quadruped and humanoid.

2023/01 – 2023/12 **Technical Leader**, *Aegis AI (K-Startup Challenge)*
Development of detection program of AI-generated images.

Extracurricular Activities

2025/03 – Present **AI Engineer Member**, *Rosota*
Research on autonomous surgical assistant robots and autonomous medical procedure assistance robots.

2025/09 **Student Volunteer**, *CoRL 2025*
Selected as a student volunteer to support the Conference on Robot Learning

Honors & Awards

2021 – Present **Imgwang Scholarship**, *Full-tuition merit scholarship in Seoul National University*

2023/06 **Best Award**, *Air Force Startup Competition*
2023/09 **Grand Award**, *Ministry of National Defense Startup Competition*
2023/12 **Minister of Startup & Entrepreneurship Award**, *K-Startup Challenge*
2024/06 **Best Award**, *Material and Manufacturing Process Contest*

Skills

Programming	Python, C++, MATLAB
Robotics & AI	PyTorch, Isaac Sim/Lab, Raisim, ROS2
Robot Platforms	Unitree G1, Unitree Go2, Franka FR3, Fairino FR5, AgileX Piper
Military service	Completed Military service in ROKAF (2022/05 – 2024/02)