Sungjin Park

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Research Interests

My research focuses on developing intelligent robotic systems for human-robot collaboration. I am interested in **multi-robot motion planning algorithms** that optimize coordination and collision avoidance in shared workspaces, with applications to manufacturing and service robotics.

In **Human-Robot Interaction (HRI)**, I explore intuitive interface design for teleoperation systems using extended reality (XR) technologies for remote robot manipulation. My work investigates how interface realism affects operator performance in complex manipulation tasks.

I am also interested in **AI and robotics integration**, particularly learning-based approaches for adaptive robot behavior and computer vision for robust perception. My goal is to bridge theoretical AI advances with practical robotic implementations.

Education

M.S., Sogang University, Seoul, South Korea — Sep 2025 – Aug 2027 (Exp)

Artificial Intelligence
Advisor: Changjoo Nam

B.S., Sogang University, Seoul, South Korea — Mar 2019 – Aug 2025

Computer Science and Engineering
Magna Cum Laude

Experience

Research Assistant, AI Robotics Lab, Sogang University — Mar 2025 – Aug 2025

- VR Development
- Motiong Planning for Robot Scan

Research Assistant, Center for Humanoid, AI and Robotics Institute, Korea Institute of Science and Technology (KIST) — June 2024 – Feb 2025

- Human-Robot Interaction (HRI) research in the field of AI and robotics

Publications

Prompt Engineering Strategies for Large Language Model-Driven Korean Essay Evaluation — May 2025

Jahong Koo, ***Sungjin Park***, Seonwoo Lee, Myungwan Koo

Korea Computer Congress, 2025

An XR-Based Interface for Human-Robot Remote Control — Mar 2025

Cho Su Been, ***Park Sungjin***, You Bum-Jae, Park Jung-Min

The Transactions of the Korea Information Processing Society, 2025

Projects

Robot as a Service — github.com/name/repo

- Consider the missioners current capacity in the task allocation algorithm
- Using VR to measure the eye trakcing and blinking data
- Tools Used: VR(Meta Quest), Unity, Websocket

Object scan with robot manipulator June 2025 – Nov 2025

- Generationg the manipulator's motion for scanning the object
- Tools Used: Isaac Sim, Curobo, OpenCV

Digital Twin for Harmful Factory 2002

- Create the Digital Twin for the harmful factory to check the status and control the robot
- Implement real-time monitoring and simulation of factory processes
- Tools Used: Unty, VR, ROS, Websocket

Technologies

Languages: C, C++, C#, Java, Python

Technologies: Unity, Isaac Sim, ROS, PyTorch, Docker, Git