

Seong Hyeon Kim

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Education

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| Ulsan National Institute of Science and Technology (UNIST) , M.S. in Artificial Intelligence | Mar 2024 – Present |
| • Advisor: Prof. Hyemin Ahn | |
| • Lab: Artificial Intelligence and Human-Robot Interaction Lab (AI-HRI Lab) | |
| Myongji University , B.S. in Mechanical Engineering | Mar 2018 – Feb 2024 |
| • Advisor: Prof. Dong-il Choi | |
| • Lab: Dynamic Robot Control Lab (DRCL) | |

Research Experience

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| Graduate Student Researcher , Artificial Intelligence and Human-Robot Interaction Lab (AI-HRI Lab) – UNIST | Mar 2024 – Present |
| • Focusing on Robotic Manipulation and World Models for intelligent robot control | |
| Undergraduate Intern , Dynamic Robot Control Lab (DRCL) – Myongji University | Mar 2019 – Feb 2024 |
| • Conducted research on mechanical design and control systems for robotics | |

Publications

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| Proprioception-conditioned Visual Scene Generation for Robot World Modeling via Contrastive Learning and Diffusion | 2025 |
| S. H. Kim , H. Ahn <i>Journal of Institute of Control, Robotics and Systems (ICROS)</i> | |
| Design of a Wheel-Legged Robot using Linear 2-DOF Parallel Mechanism | 2023 |
| S. H. Kim , D. Choi <i>Proceedings of the KSME Spring/Autumn Conference</i> | |
| Application of TDOA Algorithm for Sound Source Direction Tracking | 2023 |
| T. Kim, S. H. Kim , D. Choi <i>Proceedings of the KSME Spring/Autumn Conference</i> | |
| 2-DOF Parallel Mechanism for Linear Wheel-Legged Robot System | 2023 |
| S. H. Kim , T. Kim, S. Ryu, J. Han, D. Choi <i>Proceedings of the KSME Spring/Autumn Conference</i> | |
| Ball Tracking and Trajectory Measurement System for Tennis Robot | 2022 |
| Y. Yang, S. Ahn, S. H. Kim , D. Choi <i>Proceedings of the KSME Spring/Autumn Conference</i> | |
| Real-time Object Trajectory Prediction using AI and Stereo Vision | 2022 |
| Y. Yang, S. Ahn, S. H. Kim , D. Choi <i>Proceedings of the KSME Spring/Autumn Conference</i> | |

Honors & Awards

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| Bronze Award , School Capstone Design Project – Myongji Univ. <i>Project: Companion Robot for the Elderly</i> | Dec 2023 |
| Bronze Award , Hanium ICT Mentoring – KFII <i>Project: Companion Robot for the Elderly</i> | Dec 2023 |

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| Silver Award , SEP Convergence Festival – Myongji Univ. <i>Project: Companion Robot for the Elderly</i> | Dec 2023 |
| Encouragement Award , Capstone Design Competition – KSME <i>Paper: Application of TDOA Algorithm for Sound Source Direction Tracking</i> | Apr 2023 |
| Best Paper Award , Spring Conference – KSME <i>Paper: Ball Tracking and Trajectory Measurement System for Tennis Robot</i> | Apr 2023 |
| Bronze Award , Capstone Design Competition – Myongji Univ. <i>Project: Autonomous Desert Seeding Robot</i> | Dec 2019 |

Professional Service

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| Volunteer , LG Project-based Learning Program | Summer 2025 |
| Reviewer , IEEE International Conference on Robotics and Automation (ICRA) | 2025 |

Technical Skills

Programming: Python, C

Tools: ROS, ROS2, MuJoCo, Gazebo, PyTorch, MATLAB, Git, SolidWorks, KiCad

Robots: Unitree Go2, Unitree G1, Universal Robots (UR3, UR5), Franka Emika Panda