

RESEARCH INTERESTS

Optimal Control and Robot Learning. I am interested in developing scalable learning and control methods and their theoretical foundations for robotics.

EDUCATION

University of Seoul <i>B.S. in Electrical and Computer Engineering, Minor in Mathematics</i>	Mar 2022 - Aug 2027 Seoul, South Korea
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EXPERIENCE

Robotics and Physical AI Lab, Yonsei University <i>Intern</i> (Advisor: Yonghyeon Lee); Dexterous Manipulation	Aug 2026 - Present Seoul, South Korea
PDE and AI Lab, Yonsei University <i>Intern</i> (Advisor: Dohyun Kwon); Trilevel Optimization	Sep 2024 - Present Seoul, South Korea
InBody AI Scale Team, InBody <i>Computer Vision Engineer</i> ; InBody AI Scale [P4][C1]	Jan 2024 - Jan 2025 Seoul, South Korea
Control and Dynamic System Lab, University of Seoul <i>Intern</i> (Advisor: Gyunghoon Park); F1TENTH [P2]	Mar 2023 - Dec 2024 Seoul, South Korea

PROJECTS

[P1] NAMUH X A1: Autonomous Air Purification Agent <i>4th Place (/200) (\$2,200) — SK NAMUHX A1: Autonomous Navigation and Path Optimization</i> ; Independently design and implemented full-stack autonomous air purification agent in NumPy from scratch, covering Monte Carlo localization, MPPI, and traveling salesman problem.	Aug 2025 - Sep 2025
[P2] F1TENTH: Autonomous Racing with MPPI <i>5th Place (/12) — 22nd F1tenth Autonomous Grand Prix at CDC Milan 2024</i> ; Built full-stack physical autonomous navigation system for racing, covering SLAM, MCL, Raceline Opt, MPPI. Led the project with 2 undergrads.	Mar 2024 - Dec 2024
[P3] Cart Pole System Design and Control with NMPC <i>3rd Place (/25) (\$220) — UOS ECE Innovation Fair</i> ; Independently developed a physical Cart-Pole system with \$272, covering modeling, motor control, sensor integration, state estimation, embedded systems, and MPC.	Jul 2024 – Sep 2024
[P4] InBody AI Scale <i>Consumer Electronic Show 2025</i> ; Developed height estimation model (acc 99.4%) and face recognition system of "InBody AI Scale", automated body composition analyzer that reduces measurement time from 120s to 40s.	Jan 2024 - Jan 2025
[P5] ECG data-driven cardiovascular diagnosis device <i>3rd Place (/12) (\$1450) — InBody Hackathon 2023</i> ; Developed a fast prototype.	Jul 2023 - Jul 2023
[P6] Autonomous mission mobile robot <i>3rd Place (/20) (\$220) — Object Detection-Based Solar Tracking Robot Challenge, Korea University</i>	Jul 2023 - Jul 2023
[P7] Sidaeting <i>1,700 User</i> ; Implemented a matching algorithm that combinatorially optimizes collective happiness from	Mar 2022 - Jun 2022

users’ ideal type data and developed the frontend for “Sidaeting”, a dating service launched by UOSLIFE.

PATENTS

[C1] Kichul Cha, Jaeho Kim, Seungseo Park, Suhyun Ga, Wonjun Lee, and Sewon Kim, ”Electronic Device for Determining Body Composition of User and Method for Operating the Same,” KR Patent Application No. 10-2024-0125030 (Publication No. 10-2026-0038628), filed Sep. 12, 2024.

SKILLS

- Languages: Korean, English
- Programming Languages: C, Cpp, Java, JavaScript, Julia, Python, SQL, HTML, CSS
- Frameworks: Isaac Sim/Lab, ROS 1/2 (Melodic, Noetic, Foxy, Humble, Jazzy), MuJoCo, PyTorch

SERVICES

Institute of Innovation for Future Army, Republic of Korea Army <i>Drone Researcher; Autonomous Drone for Indoor Mapping in CQB</i>	Jan 2025 - Jul 2026 Daejeon, South Korea
AI Robotics KR <i>Management Team; hosted "Robotalk", "Human and AI Robotics Together"</i>	Sep 2023 - Sep 2024 Seoul, South Korea
Let's Play Software, NAVER Connect Foundation <i>Elementary School Software Instructor</i>	Apr 2022 - Jan 2023 Seoul, South Korea