

Hyoungho Park

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Education

UNIST , Department of Mechanical Engineering Advisor: Hyondong oh GPA: 4.2/4.3	Ulsan, South Korea Mar 2024 - Present
Hanyang University ERICA , Department of Robot Engineering B.S. in Robot Engineering GPA: 3.9/4.5 Major GPA: 4.06 / 4.5	Ansan, South Korea Feb 2024

Skills and Techniques

Software	ROS1, 2, Gazebo, Docker, RL(PPO, SAC, DDPG), VLM(CLIP, Grounding DINO) System Architecture
Hardware	Mobile robots, UAVs, Arduino, SolidWorks
Programming Languages	Python, C++, C, C#, Matlab

Research Experience

Field AI and Robotics Laboratory, KAIST - Researcher Project: Active perception for source term estimation in unknown environments	Aug 2025 - Present
Autonomous Systems Laboratory, UNIST – Research Assistant Project: Collision avoidance and Motion Planning for UAVs using RL	Jun 2023 - Aug 2023

Projects

Undergraduate Researcher, CAILAB(Hanyang Univ) Project: Mobile service robot for seniors – MetatwinBot (CES 2023 Honoree) <ul style="list-style-type: none">- Human following via LiDAR-camera fusion (YOLOv5)- Unity simulation and metaverse for remote companionship- ROS1 based navigation stack and E2E system architecture design	May 2022 – Dec 2024
Autonomous Robotics Startup Team “CAPTAIN” – Team Leader Project: Industrial cleaning robot - hairD <ul style="list-style-type: none">- Mobile robot by end to end system using ROS1, ROS2- point cloud clustering and object detection using 2D LiDAR- Development of cleaning system using a hierarchical architecture	Aug 2023 – Dec 2024
Project: Mobile robot for indoor delivery - GiftyBot <ul style="list-style-type: none">- Map domain adaptation and correction with cycleGAN/Pix2Pix to improve navigation robustness- AMCL localization and TEB-based navigation in indoor environment- BLDC motor PID control on embed controller, tuned for accurate tracking	Jun 2023 - Aug 2023

Publications

H. Park , S. Kim, H. Jang, J. Lee, J. Kim. “ Semantic-GSL: Semantically Guided Gas Source Localization with Vision-Language Models ”, <i>IEEE Robotics and Automation Letters</i> .	Presenting
H. Park , H. Jang, J. Kim, S. Kim, H. Oh. “ EV-Infotaxis: Extended Vision-Language Model-Based Infotaxis for Efficient Gas Source Term Estimation and Search ”, <i>Journal of Institute of Control, Robotics and Systems</i> , 31(6):643–653.	Mar 2025

H. Park, H. Jang, J. Seo, H. Oh. **“B-MCTS for Information-Theoretic Source Search in Urban Environments”**, *Proceedings of the 12th International Conference on Robot Intelligence Technology and Applications (RiTA 2024)*.

Dec 2024

Awards and Honors

2nd Place – IEEE ICASSP 2025 Grand Challenge, Hyderabad, India	Jan 2025
Robotics Honoree - CES (CES 2023), Las Vegas, USA	Jan 2023
Third Prize - Army Drone Bot Challenge (Autonomous Division), Army Headquarters, Korea	Nov 2021