Jiwon **Choi**

WHO WANTS TO BE A ROBOT ENGINEER FOR HUMAN

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Education

Inha University   *Incheon, S.Korea*

M.S. - PH.D. INTEGRATED IN ELECTRICAL AND COMPUTER ENGINEERING   *Mar. 2024 - Current*

- Advisor: Younggun Cho

Inha University   *Incheon, S.Korea*

B.S. IN ELECTRICAL ENGINEERING   *Mar. 2020 - Feb. 2024*

Work Experience

Spatial Ai and Robotics Lab   *Incheon, S.Korea*

UNDERGRADUATE RESEARCHER (INTERNSHIP)   *Dec. 2022 - Feb. 2024*

- Advisor: Younggun Cho

Autonomous Navigation Lab   *Incheon, S.Korea*

UNDERGRADUATE RESEARCHER (INTERNSHIP)   *Oct. 2021 - Oct. 2022*

- Advisor: Jonghun Won

Research Interest

Resilient SLAM Systems with Self-supervised Inertial learning

ROBUST SLAM

- Self-supervised Inertial Learning using Exteroceptive Odometry, Cross-Modal Supervision, Field Robotics

Publications

INTERNATIONAL JOURNAL

Narrowing your FOV with SOLiD: Spatially Organized and Lightweight Global Descriptor for FOV-constrained LiDAR Place Recognition   *Atlanta, USA*

IEEE ROBOTICS AND AUTOMATION LETTERS **(RA-L) WITH ICRA**   *Aug. 2024*

- Hogyun Kim, **Jiwon Choi**, Taehu Sim, Giseop Kim, and Younggun Cho

INTERNATIONAL CONFERENCE

KISS-IMU: Self-supervised Inertial Odometry with Motion-balanced Learning and Uncertainty-aware Inference   *Vienna, Austria*

IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION **(ICRA)**   *2026*

- **Jiwon Choi**, Hogyun Kim, Geonmo Yang, Juhui Lee, and Younggun Cho

PoLaRIS Dataset: A Maritime Object Detection and Tracking Dataset in Pohang Canal   *Atlanta, USA*

IEEE INTERNATIONAL CONFERENCE ON ROBOTICS AND AUTOMATION **(ICRA)**   *2025*

- **Jiwon Choi (*)**, Dongjin Cho **(*)**, Gihyeon Lee, Hogyun Kim, Geonmo Yang, Joowan Kim, and Younggun Cho
- (*) Equally contributed.

PREPRINT

SKiD-SLAM: Robust, Lightweight, and Distributed Multi-Robot LiDAR SLAM in Resource-Constrained Field Environments

ARXIV, PREPRINT (ICRA WORKSHOP ON FIELD ROBOTICS)   *May. 2024*

- Hogyun Kim, **Jiwon Choi**, Juwon Kim, GeonmoYang, Dongjin Cho, Hyungtae Lim ([†]), and Younggun Cho ([†])
- ([†]) Corresponding authors.

DOMESTIC JOURNAL

Study on Efficient Multi-floor Navigation Using a Visual Marker and Floor Plan Map

Journal of Institute of Control, Robotics and Systems   *Jan. 2024*

- **Jiwon Choi**, Taehu Sim, Gihyeon Lee, Jaeyong Lee, Gilhwan Kang, Hogyun Kim, Younggun Cho

Honors & Awards

International

2025	**spotlight**, Spotlight talk on ICRA 2025 3rd Workshop on Field Robotics	*Atlanta, USA*

Domestic

2026	**Samsung HumanTech Paper Award (SilverPrize)**, Samsung Electronics	*Seoul, S.Korea*
2026	**Graduate Research Award**, Inha University	*Incheon, S.Korea*
2025	**Excellent Research Award**, Korea Institute of ITS Conference	*Jeju, S.Korea*
2023	**Excellent Research Award (Undergraduate Division)**, Institute of Control, Robotics and System	*Samcheok, S.Korea*
2022	**Alpha Project Competition (Grand Prize)**, Inha University	*Incheon, S.Korea*
2022	**Excellent Research Award**, Korea Institute of ITS Conference	*Jeju, S.Korea*
2021	**Address-Based Industry Creation Idea Contest (Grand Prize)**, Ministry of the Interior and Safety	*Sejong, S.Korea*

Projects

Multi-Floor navigation   *Seoul, S.Korea*

Ponylink

Patents

GRANTED

2025	**Domestic**, Method and System for Self-Driving Car-based Road Management System	*Incheon, S.Korea*
2024	**Domestic**, Method and system for fire response based on smart unmanned self-driving platform	*Incheon, S.Korea*

APPLICATION

2025	**International**, Lightweight Robot Localization for LiDARs with Limited FOV	*Incheon, S.Korea*
2024	**Domestic**, Lightweight Robot Localization for LiDARs with Limited FOV	*Incheon, S.Korea*
2023	**Domestic**, A Method on the Efficient Multi-Floor Navigation Using Visual Marker and Floor Plan Map	*Incheon, S.Korea*

Academic Activities

Reviewer

- IEEE Robotics and Automation Letters **(RA-L)**
- IEEE International Conference on Robotics and Automation **(ICRA)**

Skills

Python, C/C++, Matlab, ROS, Latex