

Research Interests

Semantic SLAM Spatial AI

Object-based SLAM, Scene Graph Registration
Semantic Scene Understanding, Graph-based VLN

Education

Inha University

Master's degree program

Thesis: Multi-Label Likelihood-based Semantic Graph Matching for Object-Level Global Localization
advisor: Younggun Cho

Inha University

Mar 2024 – Feb 2026

Inha University

Bachelor's degree program

Major: Mechanical engineering

Total GPA: 4.36/4.5, Major GPA: 4.39/4.5

Final grade: 2/260

Thesis: Study of Deep Learning Based Specific Person Following Mobility Control for Logistics Transportation

Inha University

Mar 2018 – Feb 2024

Publication

MSG-Loc: Multi-Label Likelihood-based Semantic Graph Matching for Object-Level Global Localization

IEEE Robotics and Automation Letters

2025

Gihyeon Lee, Jungwoo Lee, Juwon Kim, Young-Sik Shin and Younggun Cho

Polaris dataset: A maritime object detection and tracking dataset in pohang canal

IEEE International Conference on Robotics and Automation (ICRA)

2024

Jiwon Choi, Dongjin Cho, **Gihyeon Lee**, Hogyun Kim, Geonmo Yang, Joowan Kim and Younggun Cho

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

Journal of Institute of Control, Robotics and Systems

2024

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

Study of Deep Learning Based Specific Person Following Mobility Control for Logistics Transportation

Journal of Drive and Control

2023

Yeong Jun Yu, SeongHoon Kang, JuHwan Kim, SeongIn No, **Gihyeon Lee**, Seung Yong Lee, Chul-hee Lee

Workshop

MUST-Loc: Multi-view Uncertainty-aware Semantic Token Association for Object-level Global Localization

IROS 2025 Workshop: Open World Navigation in Human-centric Environments

2025

Gihyeon Lee, Young-Sik Shin and Younggun Cho

Awards

Best Award (Minister of Trade, Industry and Energy Award)	Embedded Software Competition (Industry-Academic Project)	2024
Excellence Award (2024 Aero Future Tech & Business)	Hanwha Aerospace	2024
Best Paper Award (ICROS 2024)	Institute of Control, Robotics and Systems	2024
The Best Engineer Award (Dean’s List)	Inha University College of Engineering	2023
Hanium ICT Mentoring Contest 3rd place	The Federation of Korean Information Industries (FKII)	2023
Outstanding U-grad Paper Award (ICROS 2023)	Institute of Control, Robotics and Systems	2023
Outstanding U-grad Paper Award (ACK 2022)	Korea Information Processing Society	2022
Hanium ICT Mentoring Contest Honorable Mention	The Federation of Korean Information Industries (FKII)	2022
Inha Comprehensive Design Competition 3rd place	Inha Engineering Education Innovation Center	2022

Scholarship

The National Scholarship for Science and Engineering Excellence Scholarship	Korea Student Aid Foundation	2022-23
	Inha University	2018-21

Skills

Programming Languages	C++, Python
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