

## Research Interests

**SLAM** Lifelong SLAM, Map management, LiDAR-Inertial-Visual SLAM  
**Spatial AI** 3D scene understanding, Embodied AI, Visual-Language Navigation

## Education

**Inha University** Sep. 2022 – Present  
M.S. in Electrical and Computer Engineering Incheon, S.Korea

- Advisor : Younggun Cho
- GPA: 4.39
- Thesis: Unified Mapping Framework for Multi-modal LiDARs in Complex and Dynamic Environments

**Inha University** Mar. 2017 – Aug. 2022  
B.S. in Electrical Engineering Incheon, S.Korea

- Total GPA: 4.27 / 4.5, Major GPA: 4.43 / 4.5

## Publication

**Joint-ID: Transformer-based Joint Image Enhancement and Depth Estimation for Underwater Environments**  
IEEE Sensors Journal 2023

- Geonmo Yang, **Gilhwan Kang**, Juhui Lee and Younggun Cho

**Robust Imaging Sonar-based Place Recognition and Localization in Underwater Environments**  
IEEE International Conference on Robotics and Automation (ICRA) 2023

- Hogyun Kim, **Gilhwan Kang**, Seokhwan Jeong, Seungjun Ma and Younggun Cho

## Workshop and Poster

**Unified Mapping Framework for Multi-modal LiDARs in Complex and Dynamic Environments**  
ICRA Workshop on Future of Construction 2024

- **Gilhwan Kang**, Hogyun Kim, Byunghee Choi, Seokhwan Jeong, Young-Sik Shin and Younggun Cho

**Detail-guided Image Enhancement for Underwater Robot Vision**  
IROS Late Breaking 2022

- **Gilhwan Kang**, Geonmo Yang, Juhui Lee and Younggun Cho

## Awards and Honors

**Best Paper Award 3rd prize** 2024  
Workshop on Future of Construction ICRA

**Excellence Prize (Top 20 out of 489 teams)** 2023  
Industry-Academic Project Challenge Ministry of Trade, Industry and Energy

**Excellence Prize** 2022  
Embedded Software Competition Ministry of Trade, Industry and Energy

**Full scholarship** 2022-24  
Scholarship for the highest academic results Inha University

## Schoarship

Scholarship for recruitment condition

2022-24

Hyundai Motors Group

## Skills

---

### Programming

C++, Python, Matlab