

Hojune Kim

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RESEARCH INTERESTS

SLAM, Robot Perception, Optimization, 3D Vision

EDUCATION

Seoul National University

B.S. in Aerospace Engineering

- GPA: 4.21/4.30(Major), 4.07/4.30(Overall)

Mar. 2019 – Aug. 2025(Expected)

Seoul, South Korea

ETH Zürich

Exchange Student in Mechanical Engineering

Feb. 2024 – Aug. 2024

Zürich, Switzerland

RESEARCH EXPERIENCE

DLR German Aerospace Center

Guest Researcher, Advisor: Prof. Jinoh Lee

- Topic : Real-time Perception for Humanoid Robot

Sept. 2024 – Feb. 2025(Expected)

München, Germany

Vision for Robotics Lab

Research Intern, Advisor: Prof. Margarita Chli

- Topic : Continuous-Time SLAM via Gaussian Belief Propagation

Feb. 2024 – Aug. 2024

ETH Zürich

Robust Perception and Mobile Robotics Lab

Research Intern, Advisor: Prof. Ayoungh Kim

- Topic : Robust mmWave Radar Odometry / Direct SLAM with Infrared camera and LiDAR

Jan. 2023 – Mar. 2024

Seoul National University

Satellite Geophysics Lab

Research Intern, Advisor: Prof. Duk-jin Kim

- Topic : Real-time flood monitoring system via segmentation using satellite SAR image

Aug. 2020 – May. 2021

Seoul National University

PUBLICATION

International Conference

- (Oral) H. Kim, H. Jang and A. Kim. 2D Ego-Motion with Yaw Estimation using Only mmWave Radars via Two-Way weighted ICP. **ICRA2024 Workshop on Radar in Robotics**, Yokohama, Japan, 2024.

TECHNICAL EXPERIENCE

J.MARPLE, Autonomous Flight Drone Company

Project Intern

- Compared Lidar-Inertial Odometry algorithms for embedded drone system

Sept. 2023 – Dec. 2023

Seoul, South Korea

AI Tech Play(KAIT Foundation), Non-Profit Organization for AI education

Tech/Assembly Team Leader

- served as Organizer : AI RC-car competition for children nationwide(over 200 students participated)
- served as Developer : Modeled and manufactured AI RC-car system

Feb. 2021 – Aug. 2021

Seoul, South Korea

AWARDS & SCHOLARSHIPS

Awards:

Gold Prize, International Student Car Competition Autonomous Driving Sector

Ministry of Land, Infrastructure and Transport, Republic of Korea

Oct. 2021

Minister of National Defense Award, Minister of Defense Startup Competition

Ministry of National Defense, Republic of Korea

Dec. 2022

Final Selected, Star-Exploration Startup Support Project

Korea Aerospace Research Institute(KARI)

Feb. 2021

Certificate of Appreciation(AI Tech Play) <i>Dean, College of Engineering in Seoul National University</i>	Jun. 2021
Bronze Prize, Human Tech Paper Award <i>Samsung Electronics</i>	Aug. 2018

Scholarships:

Korea-Germany Junior Research Fellowship Support , Max Planck POSTECH • Full coverage of expenses during in DLR as a guest researcher	Sept. 2024
Kwanjeong Undergraduate Scholarship , Kwanjeong Educational Foundation • Full coverage of junior and senior tuition & stipend	Mar. 2021
Global Leadership Program Scholarship , Seoul National University	Spring 2024
Undergraduate Research Internship Scholarship , Seoul National University	Mar. 2020
Merit-based Scholarship , Seoul National University	Fall 2019, Spring & Fall 2020

GRADUATE COURSE PROJECTS

Perception and Learning for Robotics(5.5/6.0) <i>Topic: Crowd Navigation with LiDAR via Reinforcement Learning</i> • Trained End-to-end model by teacher-student policies in Orbit(built on Isaac Sim)	Spring 2024 <i>ETH Zürich</i>
Decision Making for Autonomous Aerospace Systems(A+) <i>Topic: Fault Tolerant Control of Quadrotor</i> • Designed Controller via Feedback Linearization, Sliding Mode and Backstepping	Spring 2023 <i>Seoul National University</i>
Sensor-Based Spatial Intelligence(A0) <i>Topic: Analysis of LiDAR SLAM in long-term localization</i> • Compared LiDAR SLAM in urban dataset for long term localization	Fall 2023 <i>Seoul National University</i>

TEACHING EXPERIENCE

Teaching Assistant • Basic of Robot Programming and Mechanical System Design	Spring 2023
Teaching Tutor • Engineering Mathematics I • Dynamics	Fall 2023

PATENT

Parking Location Tracking System , KR102291377B1 • <u>H. Kim</u> , T. Kim, J. Na, J. Lee, S. Jeong	2021
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EXTRA CURRICULAR

CH-47 Helicopter Flight Attendant , Republic of Korea Army • Put on the forest fire extinguish mission during the military service	Aug. 2021 – Feb. 2023
Bulnabi , Autonomous Flight Drone Club • Path planning via bezier curve, auto landing in simulation and real flight	2023
SNU ZERO , Autonomous Driving Car Club • Perform EKF localization and dynamic obstacle detection with LiDAR	2021
STEM , Honor Society of Seoul National University, College of Engineering • Launch academic talks : LiDAR vs Radar in perception field / Start-up business model building	2023
Science Volunteer Corps , Seoul National University	2019

SKILLS

Programming: C/C++, Python, Vanilla JS	Manufactures: SolidWorks, 3D printer(Stratasys), Laser cutter
Frameworks: ROS1/2, Isaac Sim, Gazebo, Pytorch	Tools: PX4-Autopilot, LS-DYNA, Matlab, Docker, QGIS