

HOJUNE KIM

hojune@stanford.edu | hojjunekim.github.io

EDUCATION

Stanford University Incoming M.S. student in Aeronautics and Astronautics	Starting from Sept. 2025 CA, United States
Seoul National University (SNU) B.S. in Aerospace Engineering, summa cum laude (expected) • GPA: 4.21/4.30(Major) , 4.07/4.30(Overall) - Kwanjeong Scholar	Mar. 2019 – Jun. 2025 (expected) Seoul, South Korea * 1.5-year absence from military service
ETH Zürich Visiting Student in Mechanical Engineering	Feb. 2024 – Aug. 2024 Zurich, Switzerland

PUBLICATIONS

- Hojune Kim***, Jongseok Lee*, George Mesesan, Riccardo Giubilato, Robert Schuller, Konrad Fründ, Jinoh Lee. Knowledge-enabled Adaptive Locomotion Using Semantic SLAM with Active Learning. *In Progress*.
- Hojune Kim**, Hyesu Jang, Ayoung Kim. 2D Ego-Motion with Yaw Estimation using Only mmWave Radars via Two-Way weighted ICP. *IEEE ICRA 2024 Workshop on Radar in Robotics*, Yokohama, 2024.

WORK EXPERIENCE

German Aerospace Center (DLR) <i>Humanoid TORO team, Guest Researcher, Advisor: Prof. Jinoh Lee</i> • Developed semantic mapping system for legged robots via robust visual odometry and kinematics fusion	Sept. 2024 – Feb. 2025 Munich, Germany
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RESEARCH EXPERIENCE

Vision for Robotics Lab ETH Zürich <i>Semester Project Intern, Advisor: Prof. Margarita Chli</i> • Improved the open-source c++ package of continuous-time SLAM via distributed optimization	Feb. 2024 – Aug. 2024 Zurich, Switzerland
Robust Perception and Mobile Robotics Lab SNU <i>Undergraduate Student Researcher, Advisor: Prof. Ayoung Kim</i> • Devised robust mmWave radar 2D odometry and implemented direct SLAM by fusing infrared camera and LiDAR • Designed handheld sensor system development and held camera-LiDAR-radar calibration via graph optimization	Jan. 2023 – Mar. 2024 Seoul, South Korea
Satellite Geophysics Lab SNU <i>Undergraduate Student Researcher, Advisor: Prof. Duk-jin Kim</i> • Developed real-time flood monitoring system via DeepLabV3 semantic segmentation using satellite SAR image	Aug. 2020 – May. 2021 Seoul, South Korea

HONORS & AWARDS

Awards:

1st Place, IEEE-RAS Humanoids 2024 Competition Adult-sized Biped Free Walk	Nov. 2024
Minister of National Defense Award, Minister of Defense Startup Competition <i>Ministry of National Defense, Republic of Korea</i>	Dec. 2022
Gold Prize, International Student Car Competition Autonomous Driving Sector <i>Ministry of Land, Infrastructure and Transport, Republic of Korea</i>	Oct. 2021
Final Selected, Star-Exploration Startup Support Project <i>Korea Aerospace Research Institute(KARI)</i>	Feb. 2021

Honors:

Korea-Germany Junior Research Fellowship Support Max Planck POSTECH/KOREA • Full coverage of expenses during in DLR as a guest researcher	Sept. 2024
Global Leadership Program Scholarship SNU	Feb. 2024

Certificate of Appreciation (AI Tech Play) Dean, College of Engineering in SNU	Jun. 2021
Kwanjeong Undergraduate Scholarship Kwanjeong Educational Foundation	Mar. 2021
• Full coverage of junior and senior tuition and stipend	
Undergraduate Research Internship Scholarship SNU	Mar. 2021
Merit-based Scholarship SNU	Fall 2019, Spring & Fall 2020

SELECTED GRADUATE COURSE PROJECTS

Crowd Navigation for Quadruped robot , Perception and Learning for Robotics ETH Zürich	Spring 2024
• Developed teacher-student reinforcement learning policies with LiDAR data using Proximal Policy Optimization	
Fault Tolerant Control of Quadrotor , Decision Making for Autonomous Aerospace Systems SNU	Spring 2023
• Designed Feedback Linearization, Sliding Mode and Backstepping Controllers on faulty condition	
Analysis of LiDAR-Inertial SLAM , Sensor-Based Spatial Intelligence SNU	Fall 2023
• Analyzed and evaluated the LiDAR-inertial SLAM(Fast-LIO2, Faster-LIO) in urban long-term dataset	

MEMBERSHIPS & ACTIVITIES

SNU Tomorrow's Engineers Membership(STEM) SNU	Sept. 2023 – Present
• Served as Mentor : Organized a mentoring seminar for over 150 undergraduate engineering students	
• Served as Speaker : Held academic talks for 'LiDAR vs Radar in perception' and 'Start-up business model building'	
Bulnabi , Autonomous Flight Drone Club SNU	Feb. 2023 – Jan. 2024
• Developed auto-landing algorithm with path planning via bézier curve for continuous trajectory and control	
• Verified in Gazebo simulation and on-board flight tests; finalizing technology transfer to the company	
Army Aviation Operations Command Republic of Korea Army	Aug. 2021 – Feb. 2023
<i>CH-47D Helicopter Flight Attendant, Sergeant</i>	
• Produced CH-47D maintenance and put on tactical missions including forest fire extinguish for 60+ hours flight	
SNU ZERO , Autonomous Driving Car Club SNU	Jan. 2021 – Oct. 2021
• Performed Extended-Kalman Filter with IMU, GPS and line detection for robust localization	
• Developed dynamic obstacle avoidance by clustering LiDAR and combining vision detection	
AI Tech Play(KAIT Foundation) , Non-Profit Organization for AI education	Feb. 2021 – Aug. 2021
<i>Co-organizer & Hardware Team Leader</i>	
• Served as Organizer : Hosted nationwide AI camp and autonomous race car competition for over 200 students	
• Served as Hardware Leader : Developed novel autonomous race car system for education and competition	
Science Volunteer Corps SNU	Jul. 2019
• Held science experiment and mentoring camp for middle and high school students in Gochang	

TEACHING EXPERIENCES

Teaching Assistant	
Basic of Robot Programming and Mechanical System Design SNU	Spring 2023
• Taught machine learning algorithms in Python and developed propeller competition kits for over 100 students	
Teaching Tutor	
Engineering Mathematics 1 & Dynamics SNU	Fall 2023

PATENT

1. Parking Location Tracking System, *KR102291377B1*, 2021
Hojune Kim, Taekin Kim, Jinhwan Na, Jaeyoung Lee, Seunghwan Jeong

SKILLS

Programming: C/C++, Python, Matlab, Javascript	Sensors: Radar, LiDAR, rgb-d/Thermal camera
Frameworks: ROS1/2, Isaac Sim, Gazebo, Pytorch, Ceres	Manufactures: SolidWorks, 3D printer, Laser cutter