Junseok **Lee**

Robotics · Autonomous Driving

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"Until I create robots for people."

Personal Profile

My research interest lies in developing autonomous driving and mobility systems that meaningfully improve people's lives. While improving technical performance is very important, I focus more how these technologies can be applied in real world environments and what practical benefits can be provided.

Having experienced Paraplegia in the past, I deeply understand how mobility limitations can affect one's independence and quality of life. This experience motivates me to develop a stronger interest in mobility technologies that can improve safety and accessibility not only for the general public, but also for transportation-vulnerable individuals, including people with mobility impairments.

Education

Yonsei University — *Seoul*

B.S. in Civil & Environmental Engineering — *Mar. 2022 - Aug. 2026*

Research Experience

MOTIF DRIVE — *Seoul, Republic of Korea*

E2E Autonomous Driving Perception Team — *July. 2025 – Aug. 2025*

Computational Intelligence Lab (CILAB) — *Seoul, Republic of Korea*

Undergraduate Research Internship, Research on AI-based control systems and embedded robotics using deep learning (Advisor: Eun-Tai Kim) — *Feb. 2025 – Jun. 2025*

High-Dimensional Accurate Measurement and Intelligent Sensing Lab (DAMIS) — *Seoul, Republic of Korea*

Worked on vision-based sensing using high-resolution cameras and 3D Reconstruction (Advisor: Jae-Sang Hyun) — *Jul. 2024 – Dec. 2024*

Honors & Awards

Oct 2025	**Excellence Award**, AI Convergence Intensive Major Competition	*Yonsei University*
Oct 2025	**Encouragement Award**, HL FMA Autonomous Drving Competition	*HL Mando, Klemove*
Sep 2025	**Grand Prize**, Korea Robot Aircraft Competition	*Sacheon, KRAC*
Jun 2025	**Excellence Award**, QRC Korea (Quadruped Robot Challenge)	*Jeonju, ICROS 2025*
Nov 2024	**Grand Prize**, Yonsei-Asan UnivCT Climate Tech Start-Up	*Yonsei University*

Publications

A Fusion-Based Curb Detection Framework Using LiDAR and Driving Trajectory for Path Planning in CARLA — *KRoC 2026 Conference*

First Author (JunSeok Lee*, Siho Kim)

- Recovering missing curb annotations in CARLA by fusing 3D LiDAR point clouds with driving trajectories, using weak-perspective projection and trajectory-guided tiling/post-processing to scale to large maps and improve path planning.

Semantic Segmentation-Based Autonomous Flying Drone's Victim Recognition Algorithm in the Complex Terrain — *ICROS 2025 Conference*

First Author (Lee Jun-Seok*, Jeon Yu-jin, Kim Eun-tai)

- Proposed a Semantic Segmentation-based algorithm to identify victims in cluttered outdoor environments using hand-designed Autonomous Drone.

Extracurricular Projects

Hyundai Motor Scholarship Program *Yonsei University*

Member *Oct. 2024 – Aug.2025*

- Participating in various autonomous driving and robot competitions sponsored by Hyundai Motor's contract department (Mobility System Engineering Lab with Hyundai Motors)

XYZ Innovation *Seoul*

Robotics Developer (Supported by Hyundai Asan Foundation) *Jun. 2024 – Jan. 2025*

- Climate Tech Start-up, Providing income in the form of credits to the owners through the forest carbon offset system

Yonsei Drone *Yonsei University*

Member *Sep 2024 – Sep 2025*

- Developed Autonomous Flight Drone systems with expertise in flight control, End-to-End navigation for real-world environments.

Roboin *Yonsei University*

Member *Sep 2025 – Ongoing*

- Autonomous driving competition using 1/5 scale vehicles with AI-based perception and control.

Skills

Programming Language C++, Python

DevOps Git, Docker, ROS2, ROS

Languages Korean, English