KyeongHyeon Kim

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EDUCATION

JeonBuk National University (Jeonju)

Mar.2020-Feb.2026

- Bachelor of Electronic Engineering(Minor in Computer Science)
  - Total GPA of 3.83/4.5
  - Major GPA of 3.93/4.5
  - Credits Taken 108/140

INTERNSHIPS

AI Robotics Lab (AIR Lab)

Advisor : HyungGi Jo

Mar.2024-Present Undergraduate Researcher

- Acquired hands-on experience with 3D LiDAR SLAM technology based on LeGO-LOAM
- Developed proficiency in ROS framework and fundamental system design skills
- Built expertise in designing basic robot navigation systems
- Researched latest Deep-Learning architectures and improved models for training

ACTIVITY

Robotics Academic Club “Jeon Bot Dae” - 1st Gen

Apr.2024-Present 2nd-Term Club President

- Increased the number of club members from 20 to 30
- Organized 5 project-based teams and introduced a direct management system with mentors
- Established a monthly presentation and sharing system for each team’s project progress
- Directly guided the study direction and project progress in robotics as a mentor for 2 teams

AI & Robotics Summer School 2024 (Hosted by KROS)

Jul.17th.2024 3 days at GIST

- Performed object classification and detection in a simulator
- Mastered the basics of Issac Sim
- Learned to configure a manipulator control environment and object grasping techniques within Issac Sim

AWARD & HONORS

Award

Dec.2023

- **Silver Prize**, Creative Engineering Design Competition of the Department of Electronics

Honors

Spring.2025

- Academic Excellence

Fall.2024

- Academic Excellence
- JBNU Integrated Career Management Program (Tuition Assistance)

Fall.2023

- Academic Excellence

Spring.2023

- Academic Excellence
- JBNU Integrated Career Management Program (Tuition Waiver)
- JBNU Integrated Career Management Program (Tuition Assistance)

PROJECT EXPERIENCE

Map-less & Map-based Autonomous Driving Robot Design

Dec.2024-Present Team Leader of 4-person team

Team Project for Electronics Engineering Comprehensive Design (from Air Lab)

- **Map-based Elements**
  - Acquiring predefined GPS waypoints through the Kakao API to establish a Global Path.
  - Using GPS+LiDAR+IMU Odometry for Localization to Correct errors between absolute and relative coordinate systems
- **Map-less Elements**
  - Using LiDAR Semantic Segmentation to segment drivable areas in real-time.
  - Implementing obstacle avoidance maneuvers using geometric information from Point Cloud data.

Design of Fire Safety Management Robot for Traditional Markets

Apr.2024-Nov.2024 Team Member of 5-person team

Team Project for Innovative Industry-Academia Convergence Club (from Jeon Bot Dae)

- Detected fire using a thermal imaging camera
- Mapped and generated fixed patrol routes using SLAM (with a single LiDAR)
- Performed obstacle avoidance maneuvers upon detecting obstacles

Real-time Image-Based Pose Estimation (from Air Lab)

Mar.2024-Aug.2024 Solo Project

- Designed a real-time visual localization system that estimates the pose of a robot using image data and visualizes it with RViz.
- Utilized LeGO-LOAM for pose extraction and PoseNet (ResNet50) for pose estimation.
- Generated Ground Truth data from LeGO-LOAM output and trained a PoseNet model.
- Integrated image data and the trained PoseNet model into a ROS environment to achieve real-time pose prediction.

SKILLS

- **Programming :** Python, C++, ROS 1 Noetic
- **Deep Learning :** Pytorch, Numpy, MMdetection3D, OpenCV
- **Version Control & Collaboration :** Git, GitHub, Docker

OTHERS

Feb.2023-Feb.2025 **Language Skills**

- English : Intermediate (TOEIC : 705)

Jul.2022- **Computer Specialist in Spreadsheet & Database -** Level 1