Jaewon **Lee**

Robotics · Multi-Robot · SLAM

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"Passion is the genesis of genius."

Summary

This is Jaewon Lee, who wants to be a Multi-Robot engineer and Cooperative Autonomous Driving engineer. I am interested in Robotics, SLAM, Multi-Robot System. I think Robotics can help the development of the world a lot. I want to study a lot and approach the world.

Research Interests

Multi-Robot SLAM, Loop Closing, Pose Estimation

SLAM LiDAR-Inertial SLAM, Sensor Fusion

Education

KwangWoon University *Seoul, S.Korea*

B.S. in School of Robotics *Mar. 2020 - Feb. 2024(Expected)*

- GPA : 4.11/4.50, Major GPA : 4.28/4.50
- Club : BARAM Robotics (Robotics Academic Group) - [2022 Vice President], Mar.2020-Present

Work Experience

ROBOMATION *Seoul, S.Korea*

R&D Intern *Jun. 2022 - Aug. 2022*

- I developed an automation system for soccer games using multi-robot.
- I developed multi-robot coordination and pose system using Aruco Marker.

Robotics A.I. LAB. @KwangWoon Univ *Seoul, S.Korea*

Undergraduate LAB Intern (Advisor : Prof. Junghyun Oh) *Jan. 2022 - Jun. 2022*

- I studied visual SLAM and visual odometry
- I studied Multi-Robot system and implemented Multi-Robot exploration

Honors & Awards

Awards

2023 **Undergraduate Paper Award**, Paper - Autonomous multi robot parking system *ICROS 2023*

2022-1 **Dean's list**, for Academic Excellence *Kwangwoon Univ.*

Honors

2022-1 **Full Tuition Scholarship**, for the first place in last semester *Kwangwoon Univ.*

Publication

Domestic Conference

2023.06 **"Autonomous Multi Robot Parking System"**, *ICROS 2023*

Jaewon Lee, Hyosuk Joo, Chung-gil Ahn, Hyedo Kim, Junghyun Oh - **[Paper]**

Skills

Programming C++/C, Python, MATLAB

DevOps ROS/ROS2, Docker, Git

Framework PyTorch, Tensorflow, Keras, Unity

Extracurricular Activity

Technical Blog - lee-jaewon.github.io

Personal Tech Blog

Writer

Jul. 2021 - Present

- I have been writing posts about the paper review, development, the study of Interests.
- To study through writing and sharing.
- The blog is available at **[here]**.

Technical Team Blog - ropiens.tistory.com

Team Tech Blog

Co-Writer

Jul. 2022 - Present

- I have been writing posts about the paper review, development, the study of Interests.
- To study through writing and sharing.
- The blog is available at **[here]**.

Autonomous Multi Robot Parking System

Kwangwoon Univ.

Capstone Design

Jan.2023 - Jun.2023

- Implement a multi-robot system and implement various technologies necessary for mobile robots.
- The source code for the project is available at **[my GitHub repository]**.

2022 Open Source Contribution Academy

Ministry of Science and ICT, NIPA

Mentee

Jul. 2022 - Oct. 2022

- I contributed to translating PyTorch Hub English documents into Korean at the PyTorch Korean User's Group.

Multi Robot Collision Avoidance with Velocity Obstacle

BARAM Robotics

Personal project

Sep.2022 - Nov.2022

- I implemented collision avoidance with Velocity Obstacle using multi-robot.
- The source code for the project is available at **[my GitHub repository]**.

Autonomous Driving Simulation with Reinforcement Learning

BARAM Robotics

Personal project

Sep.2021 - Nov.2021

- I implemented an Autonomous-driving system through DQN algorithm for the high-way situation.
- I implemented a simulator with Unity. And I managed the reward using Laser Sensor.
- The source code for the project is available at **[my GitHub repository]**.

Frontier Based Multi-Robot Exploration

BARAM Robotics

Personal project

Mar.2022 - Jun.2022

- I implemented ROS-based multi-robot frontier exploration.
- I implemented a multi-robot SLAM system using open sources.
- The source code for the project is available at **[my GitHub repository]**.

House Interior Classifier and Automatic Recommendation

2022 Deep Learning Lecture

Deep-Learning project

Mar.2022 - Jun.2022

- I implemented House Interior Classifier using Inception-Resnet-V2 in Keras.
- I implemented a system that can automatically search on the actual shopping site with the classified result.
- The source code for the project is available at **[my GitHub repository]**.