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 Robotics researcher and 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

SLAM Multi-Robot, Descriptor

Novel View Synthesis 3D Scene Representation, Sensor-Fused Representation

Education

Yonsei University @CILAB — *Seoul, S.Korea*

Combined M.S. & Ph.D. in Electrical and Electronic Engineering (Advisor:Prof.Euntai Kim) — *Mar. 2024(Expected) -*

- Research on Robotics

KwangWoon University — *Seoul, S.Korea*

B.S. in School of Robotics — *Mar. 2020 - Feb. 2024*

- GPA : 4.13/4.50, Major GPA : 4.29/4.50
- Club : BARAM Robotics (Robotics Academic Group) - [2022 Vice President], Mar.2020-Feb.2024

Work Experience

Yonsei University @CILAB — *Seoul, S.Korea*

Undergraduate LAB Intern (Advisor : Prof. Euntai Kim) — *Jul. 2023 - Present*

- I Participated in ICCV 2023 SLAM Challenge
- I studied 3D Scene Representation

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.

KwangWoon University @Robotics A.I. LAB. — *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

2023.12 **2023 Hanium ICT Mentoring Competition**, Silver Award — *Ministry of Science and ICT, IITP, FKii*

2023.10 **ICCV 2023 SLAM Challenge**, Fourth place in LiDAR-Inertial Track - Taeyoung Kim, Jaewon Lee, Beomsoo Kim, Euntai Kim — *ICCV 2023*

2023.06 **Undergraduate Paper Award**, Paper - Autonomous multi robot parking system — *ICROS 2023*

2022.10 **Dean's list**, for Academic Excellence — *Kwangwoon Univ.*

Honors

2022.10 **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]**.

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]**.