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, Registration, Scene-Graph
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 -*

- Research on 3D Scene Representation
- **Teaching Assistant**: 2024-2 Research Experience for Undergraduate (REU)
- **Teaching Assistant**: 2025-1 Research Experience for Undergraduate (REU)

KwangWoon University   *Seoul, S.Korea*

B.S. IN SCHOOL OF ROBOTICS   *Mar. 2020 - Feb. 2024*

- **Total 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 - Feb. 2024*

- Participated in ICCV 2023 SLAM Challenge
- Research on 3D Scene Representation

ROBOMATION   *Seoul, S.Korea*

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

- Development of an automated system for soccer games using multi-robot systems

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

UNDERGRADUATE LAB INTERN (ADVISOR : PROF. JUNGHYUN OH)   *Jan. 2022 - Jun. 2022*

- Study of Visual SLAM and visual odometry
- Study of Multi-Robot systems and implementation of Multi-Robot exploration

Projects

Cooperative mapping, environment recognition, and autonomous driving technology for multiple mobile robots operating in large indoor workspaces   *KEIT*

PARTICIPANT   *Mar. 2024 -*

- Development multi-robot navigation systems

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"**, Jaewon Lee, Hyosuk Joo, Chung-gil Ahn, Hyedo Kim, Junghyun Oh - **[Paper]**	*ICROS 2023*

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*

- Study and write posts on paper reviews, development projects, and personal interests.
- Learn through writing and sharing knowledge.
- Blog available at **[here]**.

Autonomous Multi-Robot Parking System *Kwangwoon Univ.*

CAPSTONE DESIGN *Jan. 2023 - Jun. 2023*

- Developed a multi-robot system with mobile robot technologies.
- Source code available at **[GitHub repository]**.

2022 Open Source Contribution Academy *Ministry of Science and ICT, NIPA*

MENTEE *Jul. 2022 - Oct. 2022*

- Translated PyTorch Hub documentation into Korean with the PyTorch Korean User's Group.

Multi-Robot Collision Avoidance with Velocity Obstacle *BARAM Robotics*

PERSONAL PROJECT *Sep. 2022 - Nov. 2022*

- Implemented collision avoidance using the Velocity Obstacle method in a multi-robot system.
- Source code available at **[GitHub repository]**.

Autonomous Driving Simulation with Reinforcement Learning *BARAM Robotics*

PERSONAL PROJECT *Sep. 2021 - Nov. 2021*

- Developed an autonomous driving system using the DQN algorithm for highway scenarios.
- Built a simulator in Unity with laser sensors for rewards.
- Source code available at **[GitHub repository]**.

Frontier-Based Multi-Robot Exploration *BARAM Robotics*

PERSONAL PROJECT *Mar. 2022 - Jun. 2022*

- Implemented ROS-based multi-robot frontier exploration.
- Built a multi-robot SLAM system using open-source libraries.
- Source code available at **[GitHub repository]**.

House Interior Classifier and Automatic Recommendation *2022 Deep Learning Lecture*

DEEP-LEARNING PROJECT *Mar. 2022 - Jun. 2022*

- Built a house interior classifier using Inception-ResNet-V2 in Keras.
- Developed an automatic recommendation system integrated with shopping websites.
- Source code available at **[GitHub repository]**.