# 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** Navigation, Collision Avoidance, SLAM, Pose Estimation

**SLAM** Visual SLAM, LiDAR SLAM

## Education

**KwangWoon University**                                                                                     *Seoul, S.Korea*

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

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

## Work Experience

**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

**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.

## Honors & Awards

### Awards

### Domestic

| | | |
|---|---|---|
| 2022-1 | **Dean's list**, for Academic Excellence | *Kwangwoon Univ.* |
| 2023 | **Undergraduate Paper Award**, Paper - Autonomous multi robot parking system | *ICROS 2023* |

### Honors

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

## Skills

**Programming** C++/C, Python, Matlab

**DevOps** ROS, 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]**.

## Educational Activities

**AI Genius Academy Mentoring**                                        *Organized by Micro School, TresC3*

TEACHING ASSISTANT                                                      *Nov.2021*

- I taught Arduino and Raspberry Pi and assisted students' AI projects.
- I taught how to use Google Teachable Machine and what is AI or Deep Learning.

**Samsung Electronics App Development Mentoring**                       *Organized by Micro School, TresC3*

TEACHING ASSISTANT                                                      *Jan.2022*

- I taught MIT App Inventor and assisted students' projects.

**2022 FUTURE EDUFESTA : LINK**                                        *Association of Teachers For Computing*

TEACHING ASSISTANT                                                      *Oct.2022*

- I taught simple robot software to children.