Sanghyun **Park**

Autonomous Driving System · SLAM · Perception

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"Can't get anything without trying"

Summary

This is Sanghyun Park, who wants to become a 0.1% of Robotics engineer. I'm interested in Autonomous driving system of mobile robot and vehicle,SLAM and Sensor Fusion. I think the more research on these technologies develops, the more convenient human life becomes. Therefore, I would like to contribute to this research.

Research Interests

Robotics Visual SLAM, Mobile Robot, Sensor Fusion, Dynamic Object Detection

Education

KwangWoon University — *Seoul, S.Korea*

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

- **Current GPA** : 4.18/4.5, **Current Major GPA** : 4.25/4.5
- **Club** : Baram (Robotics Academic Group) - [2022 Staff]

Work Experience

Urban Robotics LAB @KAIST — *Daejeon, S.Korea*

Undergraduate LAB Intern (Advisor : Prof.Hyun Myung) — *July. 2023 - Present*

- Research on Multi-Sensor Fusion SLAM for Mobinn Mobile Robot

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

Undergraduate LAB Intern (Advisor : Prof.Junghyun Oh) — *December. 2021 - August. 2022*

- Research on Visual SLAM and Computer Vision
- Studying Visual SLAM in Dynamic Environment

Honors & Awards

Honors

2020-2	**Academic Scholarship**, One-quarter tuition	*KwangWoon Univ.*
2021-1	**Academic Scholarship**, One-quarter tuition	*KwangWoon Univ.*
2022-1	**Academic Scholarship**, One-quarter tuition	*KwangWoon Univ.*
2022-2	**Academic Scholarship**, One-quarter tuition	*KwangWoon Univ.*

Awards

2023-1	**Encouragement award**, SHARE robot contest	*Shared AI-Robotics Education School*

Skills

Programming C++/C, Python, Matlab

DevOps ROS, Git, Docker

Frameworks Pytorch, Tensorflow

Extracurricular Activity

QS Bot - Quarantine & Security Bot

Baram(Robotics Academic Group)

Mobile Robot, Moving Object Detection, Charging Station Docking System, SLAM, Navigation, Motor Control

September.2022 - January.2023

- This project is a Team Project
- I worked on Moving Object Detection and Charging Station Docking System
- This project is in my Github repository : **QS - Bot [Link]**

NRGAN : Neural Radiance GAN Network for Photorealistic Space Design

Capston Design

NeRF, CycleGAN

March.2023 - June.2023

- This project propose a method of neural radiance GAN to enable photorealistic design
- Our model combines NeRF and CycleGAN

Visual Odometry with image preprocessing

Robotics & A.I. LAB (KW Univ.)

Visual Odometry, image preprocessing, python

February.2022 - February.2022

- I implemented visual odometry based on ORB features using Python
- Visual Odometry is improved in terms of path accuracy when applying Gaussian filter using OpenCV : **Result[Link]**

3D Objection Detection(LiDAR) & Camera Align

Baram(Robotics Academic Group)

OpenPCDet, Numpy, ROS

March.2022 - July.2022

- I used PointRCNN pretrained model
- This project is about Projection 3D point cloud (matching Camera Frame) using NumPy
- This project is in my Github repository : **3D-Object-Detection_to_2D_Projection [Link]**

Basic Autonomous driving software

Baram(Robotics Academic Group)

C++, ROS, Deeplearning

August.2021 - November.2021

- I trained Yolov3 model for Object detection
- It was implemented to make real-time judgment by using Yolov3 through ROS
- This project is in my Github repository : **Basic_Autonomous-Driving-Software [Link]**

Console game

Individual

C++

May.2021 - August.2021

- I implemented a console game that avoids falling objects.
- This project is in my Github repository : **Console_game-avoid_object [Link]**