DoYoung Kim

Github : https://github.com/KimDoYoung1997
E-mail: ehdud971119@gmail.com

RESEARCH INTEREST

Language and Multi-Modal Models in Robotics, Deep Reinforcement Learning, Visual Navigation

EDUCATION

Mar. 2016 - Aug. 2022

▪ Bachelor's Degree in Mechanical Design Engineering, Jeonbuk National University (JBNU), South Korea

▪ GPA : 3.77/4.0

Jun. 2018 - Feb. 2020

▪ Leave of Absence: Mandatory Military Service for Republic of Korea Army

RESEARCH EXPERIENCES

Nov. 2022 - Present

▪ Intelligent Robotics Research Center, Korea Electronics Technology Institute, KETI

✓ Developed autonomous navigation intelligence for mobile robots, leveraging 5G, Wi-Fi 6E, and Multi-Access Edge Computing (MEC) for enhanced connectivity and distributed processing of navigation algorithms in dynamic environments

✓ Developing algorithms for autonomous transportation workflows, wherein mobile robots employ LiDAR-based perception to identify and align with target carts, execute precise docking and lifting operations, transport carts to designated locations, and perform safe unloading procedures

✓ Responsible for the comprehensive navigation process, including Simultaneous Localization and Mapping(SLAM) and management of middleware

Mar. 2021 - Aug. 2022

▪ Undergraduate Researcher, JBNU

✓ Supervised by Prof. Deok-Jin Lee

✓ Participated in projects related to autonomous driving motion control using Imitation learning

PUBLICATIONS

▪ The 23rd International Conference on Control, Automation and Systems (Oct 2023)

✓ "Development and Validation of Reconfigurable Autonomous Mobile Manipulator for Flexible Manufacturing Process," Accepted at the 23rd International Conference on Control, Automation and Systems, Oct. 2023

HONORS & AWARDS

▪ Autonomous Car Contest 2021, JBNU Mechanical Design Engineering Department

✓ Designed wall following Autonomous car with LABVIEW, 3rd award

▪ **Minister's Award in Drone Navigation Challenge, Ministry of Science and ICT, Korea 2021**

✓ Performed autonomous drone navigation tasks and won Ministry of Science and ICT's award

▪ **Presidential Award for Outstanding Graduates (Aug 2022)**

✓ Presidential Award for Outstanding Graduates

▪ **Autonomous Car Contest, Kookmin University Software Department (Aug 2022)**

✓ Used multiple sensors, including cameras, lidar, and imu to perform lane recognition, parallel parking, vertical parking, obstacle avoidance, and stop line recognition tasks

✓ Achieved 6th place out of 74 teams

SKILLS

▪ **Robot Programming**

✓ Programming Languages : C++, Python

✓ Frameworks : ROS, ROS2, Behavior Tree, PyTorch

✓ Tools: Isaac Sim, Gazebo, Docker, Linux, Git

EXTRACURRICULAR PROGRAMS

▪ **Member, Robotics Club, AUTURBO, Jan. 2024 - Present**

✓ Developing digital twin environment using Nvidia Isaac Lab for Reinforcement Learning(RL) and deployment of quadruped robots

✓ Contributed to and maintained open-source projects, StrideSim, a quadruped robot simulation

▪ **Managing personal websites**

✓ Notion

✓ Git Blog

TEACHING EXPERIENCE

▪ **Participated as an undergraduate mentor, JBNU (Mar. 2022 - Jul. 2022)**

✓ Selected as an Excellent Mentor of Mentoring Program

✓ Presented "Artificial Intelligence" seminar for undergraduate students

SCHOLARSHIP

▪ **Superior Academic Performance Scholarship, JBNU (Mar 2016)**

✓ Admitted as the top student of Mechanical Design Engineering department (full tuition)

▪ **Work-Study, Tuition Aid Scholarship (Jan 2021)**

▪ **Academic Scholarship, JBNU (Jan 2021)**

▪ **3rd Prize Award in Autonomous Navigation Contest, JBNU Department (Jan 2022)**

▪ **Next Generation Science Talent Scholarship, Jeollabuk Province Lifelong Education Scholarship Foundation (May 2022)**

✓ Selected as a science talent and awarded a scholarship under the Next Generation Science Talent Development Program