DoYoung Kim

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RESEARCH INTEREST

Visual Navigation, Autonomous Robot Learning and Control, Multi-Agent Trajectory Planning

EDUCATION

Mar. 2016~Aug. 2022

- JeonBuk National University(JBNU), South Korea
- Bachelor of Mechanical Design Engineering
- GPA : (Total) 4.09/4.5[3.77/4.0] (Major) 4.18/4.5
- English Certification : 351 TEPS score

RESEARCH EXPERIENCES

Nov. 2022 ~ Present

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

✓ Mainly participating in research projects related to Automatic Mobile Manipulator for Visual Navigation using Nvidia Isaac ROS Nvblox, ROS 2 packages for 3D reconstruction and cost maps for navigation

✓ Subsidiarily participating in research projects related to Collaborative Mapping, Environmental Perception, and Autonomous Navigation Technology Development for Multiple Mobile Robots Operating in Large-scale Indoor Workspaces

✓ Currently working on digital twin tasks using Nvidia Isaac Sim, a robotics simulation toolkit

Mar. 2021 ~ Aug. 2022

▪ Center for Artificial Intelligence Mobility Undergraduate Researcher, JBNU

✓ Supervised by Prof. Deok-Jin Lee

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

✓ Studied Basic Robotics Theory of Machine Learning, Deep Learning, Control Engineeringusing MATLAB-Simulink and ROS

PUBLICATIONS

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

✓ Regular Paper(Accepted), Poster presentation on "Development and Validation of Reconfigurable Autonomous Mobile Manipulator for Flexible Manufacturing Process"

▪ The 18th Korea Robotics Society Annual Conference (Feb 2023)

✓ Poster presentation on "Design of Virtual Simulator Environment for Flexible Production Process Operation"

▪ Institute of Electronics and Information Engineers conference (May 2022)

✓ Poster presentation on "Dynamic Environment Simulation of Self-driving Mobility Using Open Platform"

HONARS & AWARDS

▪ **First Prize- DNA+Drone Challenge 2021 , Korea Ministry of Science and ICT**

✓ Won Ministry of Science and ICT's award

✓ Performed tasks through the stages of auto takeoff-auto flight-object detection-auto landing

▪ **Autonomous Car Contest 2021, JBNU Mechanical Design Engineering Department**

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

▪ **Autonomous Car Contest 2022, Kookmin University Software Department**

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

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

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

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

✓ President's Award for the top graduate student, JBNU

SKILLS

▪ **Robot Programming and 3D Simulators**

✓ Robot Operating System (ROS)

✓ Python (main) , C++ (sub) Programming language

✓ Isaac Sim, Gazebo

▪ **Data Science and Numerical Analysis with Python**

✓ Studied Artificial Neural Network(ANN) and Convolutional Neural Network(CNN) for Deep Learning

✓ Studied iterative method of linear/nonlinear equation and optimization algorithm for Numerical Analysis

▪ **Linux / Docker**

ACADEMIC SEMINAR

▪ **Pixhawk-based drone assembly and autonomous flight education (Jan 2022)**

✓ Learned how to obtain GPS coordinate and execute autonomous and manual flights by using Mission planner

▪ **Seoul National University DYROS Robotics Bootcamp (Jul 2022)**

✓ Learned Robot Simulator CoppeliaSim Structure, Functional Practice, interconnection with ROS, and Robot Manipulation Practice in ROS with Moveit

EXTRACURRICULAR PROGRAMS

▪ **Running a website for personal study**

✓ Summarization of major subjects, Python, ROS, MATLAB Simulink and Artificial Intelligence

✓ https://www.notion.so/d3ffb1d0078241ad90b5ad1b39fe6be2

✓ https://blog.naver.com/ehdud4520

TEACHING EXPERIENCE

▪ **Participated as an undergraduate mentor in JBNU Mar. 2022 ~ July. 2022**

✓ Selected as an Excellent Mentor of Mentoring Program

✓ Presented "Python based Artificial Intelligence" seminar for undergraduate student