Wookjin Ahn

M.S. student

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Research Interests	**Legged Robots, Computer Vision, Optimal Control**

Education

Pusan National University (PNU)
M.S. in electronics engineering, **ongoing** (GPA: 4.31 / 4.5)
Computer And Machine Engaged Laboratory (CAMEL)

Pusan National University (PNU)
Bachelor in electronics engineering, Feb. 2022 (GPA: 3.69 / 4.5)

Research Topics

1. **Terrain Mapping**
   Design and implementation of 2.5-dimension local mapping pipeline for legged robots.
   Implemented the pipeline in C++ without using any other external libraries except Eigen lib and Realsense SDK.
   Obtained map with the information of surface normal vectors, planar regions, edges at 60 Hz.
   The pipeline ca be used in both simulation and real-world environments and is also available with ROS.

2. **Vision-based Locomotion**
   Design and implementation of vision-based locomotion pipeline for quadruped robots.
   Based on the terrain map from vision sensors, the pipeline plans optimal footsteps and body poses, generating keyframes are used by model based control.
   Implemented the pipeline in C++ with multi-threading, RT scheduling.

Research Projects

1. Development and Demonstration of Unmanned Patrol Robot System for Local Police Support, Ministry of science and ICT (Jul. 2021-Dec. 2024, **ongoing**)
2. Guide Dog: Development of Navigation AI Technology of a Guidance Robot for the Visually Impaired Person (Jan. 2023 – Present, **ongoing**)

Awards

1. 2021 International Robot Contest Turtlebot3 AutoRace (1st Prize), Home Service Challenge (1st Prize), AI Robot Challenge (1st Prize)

Skills

1. Programming
   A. C/C++
   B. Python
   C. Java
   D. ROS
2. Languages
   A. English
   B. Korean: Native speaker