DONGHO KANG

I am a roboticist passionate about developing sophisticated mobile robots manipulators. My graduate research focuses on sensing, manipulation, and robotic rat simulation. I have broad experience in developing in ROS along with motion planning, image processing, Gazebo simulation, and Git.

CONTACT

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Evanston, IL

rubberdk.github.io

github.com/rubberdk

EDUCATION

MS in Robotics
Northwestern University
Evanston, IL
Expected December 2021

BS in Mechanical Engineering
Saint Louis University
St. Louis, MO | May 2020

</> LANGUAGES

- C / C++ / C#
- Python
- MATLAB
- Bash

SKILLS

- Robot Manipulation
- Motion Planning
- ROS
- Rviz
- URDF/Xacro
- Linux (Ubuntu)
- Version Control (Git)
- Creo Parametric
- 3D Printing
- TIG Welding

AWARDS

Parks College Innovation Challenge 1st Place
Saint Louis University

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Grand Challenges Scholar
National Academy of Engineering

PROJECTS

Digital Rat Navigation With Whiskers

Northwestern University | Evanston, IL | 03/2021 - Current

- Simulated rat's whisking over different shapes of objects and obtained dynamic data using a computing cluster
- Implemented user-controllable digital rat simulation and whisker-based navigation algorithm

Autonomous Fire Fighting Robot Arm

Northwestern University | Evanston, IL | 12/2020 - 05/2021

- Manipulated HDT Adroit robot arm to pick up and operate a fire extinguisher using ROS Moveit
- Implemented sensing and 3D pose estimation of fire using a FLIR Lepton thermal camera and an Intel Realsense D435

UAV Navigation Using Object Detection

Saint Louis University | St.Louis, MO | 06/2019 - 05/2020

- Modified a real time object detection model with Tensorflow to design an auto-pilot drone
- Trained neural networks models with different types of landmarks and evaluated the training results

WORK / SERVICE EXPERIENCE

Mechanical Engineering Lab Teaching Assistant

Saint Louis University | St.Louis, MO | 01/2020 - 05/2020

- Instructed ME Lab (MENG 3001) of 20+ students and evaluated assignments and lab reports
- Demonstrated and organized the impact testing and vibration of a cantilever beam experiments

Research Assistant Intern

HQ Tech | Daejeon, South Korea | 05/2018 - 08/2018

- Operated drones to measure the flux and quality of water in the reservoirs
- Assisted in the design and execution of testing and analysis of a precise bathometer using computer vision
- Ensured conformance with engineering design and performance specifications by determining appropriate modification of products

Academic Tutor

Firm Foundation | St.Louis, MO | 08/2016 - 05/2020

- Worked on course syllabi, study guides, assessments, and other additional documents that assist students in the grades of 4 to 9 for their academic success
- Taught Physical Science, and Algebra, Writing composition (grammar), Reading literature