Dong Ho Kang   **dokkev.github.io**

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EDUCATION

University of Texas at Austin, Austin, TX, USA
PhD in Mechanical Engineering, Currently Enrolled

Northwestern University, Evanston, IL, USA
Master of Science in Robotics, December 2021

Saint Louis University, St.Louis, MO, USA
Bachelor of Science in Mechanical Engineering, May 2020

RESEARCH/
PROJECTS

Visuotactile Perception for Humanoids
University of Texas at Austin | 01/2023 - current
- Integrated tactile sensors to **humanoid**feet and trained contact information
- Implemented multimodal perception which can estimate tactile information from computer vision and vice versa

Whisker-based Tactile Sensing and Shape Classifier
Northwestern University | 03/2021 - 12/2021
- Simulated rat's active whisker sensing over divergent objects shapes with **C++** and obtained collision, force, and moment data using **multiprocessing**
- Implemented and trained whisker-based **real-time shape classifiers** using **Tensorflow**.
- Integrated sensing algorithm which adjusts rat's orientation by **Deep Q-Learning** to improve real-time classification accuracy

Autonomous Fire Fighting Robot Arm
Northwestern University | 12/2020 - 08/2020
- Manipulated HDT Adroit robot arm to pick up and operate a fire extinguisher autonomously using **ROS** and **Moveit**
- Implemented sensing and locating of fire in Rviz using **thermal imaging, depth imaging**, and **pointcloud**

INTERNSHIP

Research Assistant Intern
HQ Tech | Daejeon, South Korea | 05/2017 - 08/2017
- Operated **UAVs** to **measure the flux and quality** of water in the reservoirs
- Presented water flux measuring UAV design at R&D Special Zone Technology Exposition at Daejeon Convention Center
- Assisted in the design and execution of **testing and analysis** of precise water gauges using **computer vision**

Micah Senior Intern
Micah Program | St.Louis, MO | 07/2019 - 05/2020
- Planned community night events and retreats for first-year students in the Micah Program
- Trained student group leaders with other senior interns
- Reached out and recruited prospective students to Micah Program

TECHNICAL
SKILLS

Programming Languages: C, C++, Python, MATLAB/Simulink, Java, MELFA-BASIC

Operating System: Linux, ROS

Machine Learning: Tensorflow, PyTorch, Scikit-learn

Mechantronics: PIC32, Raspberry Pi, Arduino, PLC, PCB (EAGLE)

CAD/FEA: Creo, Abaqus, Ansys, Solidworks

Other: LaTeX, CMake, OpenCV, OpenGL, Moveit, BulletPhysics, RT Toolbox2, Ableton

TEACHING EXPERIENCE	**Mechanical Engineering Lab Teaching Assistant**

TEACHING EXPERIENCE

Mechanical Engineering Lab Teaching Assistant
Saint Louis University | *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 axial flow experiments

Academic Tutor
Firm Foundation Tutoring Program | *09/2016 - 03/2020*
- 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

HONORS AND AWARDS

Grand Challenges Scholar, National Academy of Engineering, 2020

Parks College Innovation Challenge 1st Place, Saint Louis University, 2018

Dean's List, Saint Louis University, 2018

ACTIVITIES

Northwestern University Korean Student Association
Executive Board Member | *09/2020 - Current*
- Organized remote networking events for Korean graduate students at NU
- Assisted Industries in Korea to connect with graduate students at NU for recruitment

Saint Louis University Climbing Team
Lead Climber | *08/2017 - 03/2020*
- competed in climbing competitions in Midwestern Region

New Day Pops
Guitarist | *09/2017 - 06/2019*
- Alternative Rock Band played at bars and private events in St.Louis
- Mixed audio for live stages and studio recording
- Released an EP *'Sorry for Spitting'*

RELEVANT COURSEWORK

Robotic Manipulation	Embedded Systems in Robotics
Sensing, Navigation, and ML	Biomedical Robotics
Advanced Mechatronics	Soft Robotics

LANGUAGE SKILLS

English: Fluent (resided in US for 10 years)

Korean: Native

Chinese: Can read and write