

CONTACTS	<p><i>E-Mail:</i> dhk6869@gmail.com <i>Portfolio:</i> dokkev.github.io</p> <p><i>Cell Phone:</i> (346)-247-8113 <i>Github:</i> dokkev</p>
EDUCATION	<p>Northwestern University, Evanston, IL, USA Master of Science in Robotics, expected in December 2021</p> <p>Saint Louis University, St.Louis, MO, USA Bachelor of Science in Mechanical Engineering, May 2020</p>
RESEARCH/ PROJECTS	<p>Whisker-based Tactile Sensing and Shape Classifier <i>Northwestern University</i> 03/2021 - 12/2021</p> <ul style="list-style-type: none"> • 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 <p>Autonomous Fire Fighting Robot Arm <i>Northwestern University</i> 12/2020 - 08/2020</p> <ul style="list-style-type: none"> • 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 <p>UAV Navigation Using Vision Based Landmark Recognition <i>Saint Louis University</i> 06/2019 - 05/2020</p> <ul style="list-style-type: none"> • Trained a real time object detector with Tensorflow to recognize different landmarks on SLU campus • Integrated webcam into a quadcopter drone to implement vision feedback based control system
INTERNSHIP	<p>Research Assistant Intern <i>HQ Tech</i> <i>Daejeon, South Korea</i> 05/2017 - 08/2017</p> <ul style="list-style-type: none"> • 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 <p>Micah Senior Intern <i>Micah Program</i> <i>St.Louis, MO</i> 07/2019 - 05/2020</p> <ul style="list-style-type: none"> • 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 perspective students to Micah Program
TECHNICAL SKILLS	<p>Programming Languages: C, C++, Python, MATLAB/Simulink, Java</p> <p>Operating System: Linux, ROS</p> <p>Machine Learning: Tensorflow, PyTorch, Scikit-learn</p> <p>Mechantronics: PIC32, Raspberry Pi, Arduino, PLC</p> <p>CAD/FEA: Creo, Abaqus, Ansys</p> <p>Other: L^AT_EX, CMake, OpenCV, OpenGL, Moveit, BulletPhysics, RT Toolbox2, Ableton</p>

RESEARCH INTERESTS	Dynamic Tactile Sensing Adhesive Manipulation Bio-inspired Robotics Climbing Robotics	
TEACHING EXPERIENCE	Mechanical Engineering Lab Teaching Assistant <i>Saint Louis University 01/2020 - 05/2020</i> <ul style="list-style-type: none"> 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 <i>Firm Foundation Tutoring Program 09/2016 - 03/2020</i> <ul style="list-style-type: none"> 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 <i>Executive Board Member 09/2020 - Current</i> <ul style="list-style-type: none"> 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 <i>Lead Climber 08/2017 - 03/2020</i> <ul style="list-style-type: none"> competed in climbing competitions in Midwestern Region New Day Pops <i>Guitarist, Audio Engineer 09/2017 - 06/2019</i> <ul style="list-style-type: none"> 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 Sensing, Navigation, and ML Advanced Mechatronics	Embedded Systems in Robotics Biomedical Robotics Soft Robotics
LANGUAGE SKILLS	English: Fluent (resided in US for 10 years) Korean: Native Chinese: Can read and write	