DA-HUI SONG

+1 (217) 328-6830 |Email: dahuis2@illinois.edu | www.linkedin.com/in/dahuisong0930 | daheesong.github.io/

EDUCATION

University of Illinois at Urbana-Champaign Expected May 2025
M.S in Mechanical Science and Engineering GPA: 3.83/4.00

Sookmyung Women's University Mar 2019 – Feb 2023
B.S in Mechanical Systems Engineering GPA: 4.10/4.50
B.S in Software Convergence Engineering GPA: 4.45/4.50

TECHNICAL SKILLS

Lab/Research Processes: Robotics, Automation, Control, AI/ML
Programming Languages: Python, C, C++, MATLAB, Java
Applications: AutoCAD, ROS, 3D Printing, LabVIEW, Simulink
Spoken Languages: English and Korean

PROFESSIONAL EXPERIENCE

Intelligent Motion Laboratory, University of Illinois at Urbana-Champaign Champaign, IL
Graduate Research Assistant Feb 2024 – Sep 2024

- Advisor: Kris Hauser
- Developed a robotic eye examination system using optical coherence tomography for the Eye Exam Robot project with Duke University and the National Institutes of Health
- Calibrated hardware setup for accurate data collection and Conducted qualitative and quantitative stress tests and limitation analysis to ensure safe and reliable control of the system

Autonomous Mechanical Systems Laboratory, Sookmyung Women's University Seoul, S. Korea
Undergraduate Research Assistant Apr 2020 – Mar 2022

- Advisor: Joo-Yong Sim
- Researched computer vision and biosensors for wearable technology
- Developed a model for non-contact, video-based physiological estimation for the First Vision for Vitals Challenge, raking 4th place
- Created a ML model for classifying driver inattentive behaviors in the Driver Distraction Detection System project

PROJECT HIGHLIGHTS

Autonomous Land Yacht Carbot Sep 2024 – Present

- Developing hardware setup and software at UIUC Center for Autonomy
- The goal is to create a fully autonomous land yacht carbot capable of navigating on land

SafeDrive: Enhancing Road Safety with Advanced Detection System Mar 2024 – May 2024

- Designed lane, pedestrian, and traffic sign detection systems with weather-invariant capabilities
- Used Yolov8 for pedestrian and traffic sign detection, and LSTR for lane detection
- Integrated each system into a unified platform to advance to road safety technology

Dog Bot Aug 2023 – Dec 2023

- Developed an interactive robot dog inspired by the 2005 iDog, capable of sitting, fetching, and spinning, while expressing emotions through LEDs and speakers
- Integrated SOLIDWORKS based CAD Design, 3D printing, and optimized motion studies

Non-contact Automatic Fare Collection System Sep 2022 – Dec 2022

- Developed a transportation fare collection system without physical contact
- Used an RF coil and created the entire fare collection systems, including transfer features

Rescue Signal Detection and Reporting System May 2022 – Aug 2022

- Created a pose detection algorithm to recognize rescue signals and report them automatically
- Generated data and trained a CNN for detecting specific rescue poses
- Developed a website using HTML