

Hyungjin Lee

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- Presented at the Autodesk Webinar was the development of a URDF generation program via Fusion 360 API that integrates color and center of mass, and its implementation in Unity and NVIDIA Omniverse environments
- Studied an 3D Printing, Deep Learning as an undergraduate researcher in the Computer-Aided Engineering Lab
- Participated in the National Defense Robotics Competition with Club RO:AD, developing a robotic arm and vehicle in Fusion360 and simulating a Gazebo environment using URDF integrated with ROS
- Interested in Graphics, Deep learning, Robotics

Education

Kyonggi University - Suwon, South Korea

Mechanical Engineering

March 2018 – February 2022

- Track: Mechanical System Engineering
- GPA: 3.49/4.0(3.99/4.5)

Work Experience

Air Force Officer – Gyeryong, South Korea

Software Engineer

December 2022 – Present

- Participated a U.S.-South Korea Joint military exercise
- Analyze exhibit resources
 - Calculated an exhibition resource analysis (2023)
- Development
 - **Wartime Resource Analysis:** Developed supply requirement calculation program to optimize logistics planning (2024~25)
 - **Radar Systems:** Created detection range analysis program for air defense operations (2025)
 - **Wargame Simulation:** Built Python macro for automated target data input, reducing manual processing time by 90% (2025)

SD Solution - Hwaseong, South Korea

Software Engineer (Intern)

January 2021 – February 2021

- Analyzed a semiconductor ZIG location with machine learning
 - Improved the instability of the Z axis at the end of the robot that transports semiconductor wafers using linear regression

Activities

Autodesk Webinar

August 2022

- Gave a presentation about 'Expansion of Robot Simulation Tool Using Fusion 360 API' at the Autodesk Webinar
 - Developed a URDF (Unified Robot Description Format) generation program that takes color and center of mass into account using the Fusion 360 API. Additionally, announced how to apply this URDF in Unity and NVIDIA Omniverse environment

Club RO:AD – Robot Operating and Autonomous Driving

August 2021 – March 2022

- Participated in the <National Defense Robotics Competition (2021)>

- Developed a robotic arm and a vehicle using Fusion360
- Simulated a Gazebo environment using URDF code and developed code for integrating with the Robot Operating System (ROS)
- Initiated the club RO:AD as a team member and systematized the club
- Served as the Club Semi-Annual Project Lead (2022)
 - Project lead for development of automated vehicle accident reporting using FLEX pressure sensors in car bumpers
 - Taught new club members about ROS (Robot Operating System), modeling, and basic software knowledge

Computer-Aided Engineering Lab

August 2020 – February 2022

- Studied an engineering simulation as an undergraduate researcher
 - Obtained a nationally recognized 3D printing certification using the Inventor modeling program (2020)
 - Authored the graduation thesis titled 「Robotic Arm Fault Diagnosis Using Machine Learning」 and won the grand prize in a Capstone design competition (2021)
 - Participated as the second author of a paper titled 「Implementation of an Inter-City Autonomous Driving Environment and Design of Components Using Unity ML-Agent」, which was presented at the Korean Society of Information Science and Technology conference and advanced to the finals (2021)

Club Kyonggi Art

February 2019 – December 2019

- Club Vice President (2019)
 - Organized and participated in an environmental exhibition and won an encouragement Award
 - Organized a visit to a famous exhibition

Club KURC – Kyonggi University Racing Club

January 2019 – August 2019

- Participated in the <International University Student Self-Built Car Competition by Yeungnam University (2019)>
- Participated in the <University Student Self-Built Car Competition (2019)>
 - Led a team of engineers in overhauling 125cc motorcycle engines and wiring automobiles
- Analyzed the torsional stiffness of a formula designed with a modeling program using ANSYS (2021)

Certifications

- Craftsman 3D Printer Operation (2020)
- TensorFlow Developer Certificate (2021)
- Engineer Information Processing (2021)
- NVIDIA DLI Certification for the Basic Deep Learning (2022)
- KISTI - NVIDIA AI for Science bootcamp (2022)

Technical Skills

Software:

Fusion 360, blender, Godot, Ansys, Ubuntu, Git

Programming Language:

Python, C++, Golang (keep studying)

Awards

- Honors: Acceleration Prize - Yeungnam University Self-Made Car Competition (2019)
- Honors: Excellence Award - Exhibition of Art (2020)
- Honors: Encouragement Award - Liberal Arts Competition (2021)

- Honors: Excellence Award - Student Portfolio Competition (2020, 2021)
- Honors: Grand Prize - Capstone Design Competition (2021)
- Honors: Air Force Chief of Staff Award (Grand Prize): 6th Air Force Hackathon (2024)