

Dahyun Nam

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Department of Mechanical Engineering, Seoul National University, Seoul, South Korea

EDUCATION

- **Seoul National University** Mar 2024 - Feb 2026 (Expected)
Master of Science in Mechanical Engineering GPA: 4.21/4.5
- **Yonsei University** Mar 2020 - Feb 2024
Bachelor of Science in Mechanical Engineering GPA: 3.41/4.5

RESEARCH INTEREST

- **Learning-based Control, Bioinspired Locomotion, Adaptive Intelligence in Robotics**

RESEARCH EXPERIENCE

- **Biorobotics Laboratory - Seoul National University** Sep 2023 - Present
Undergraduate, Graduate Researcher (PI : Prof. Kyujin Cho) Seoul, South Korea
 - IMU-based robotic hip exoskeleton control system with human-in-the-loop optimization.
 - Simulation and LQR-based controller for quasi-direct drive jumping-driving robot.
- **Soft Computing Lab - Yonsei University** Mar 2023 - Aug 2023
Undergraduate Researcher (PI : Prof. Sung-Bae Cho, Prof. Seok-Jun Buu) Seoul, South Korea
 - Autonomous anomaly detection robot in manufacturing using multimodal DNN.
 - In-vehicle noise classification by ProtoNet-based few-shot learning and dynamic memory replay.
- **Center for Healthcare Robotics - Korea Institute of Science and Technology (KIST)** Dec 2022 - Feb 2022
Research Intern at Medical Navigation Lab (PI: Prof. Deukhee Lee) Seoul, South Korea
 - Vision-based complete blood count algorithm using image processing and deep learning.
 - Biological value estimation using optical microscope ray simulation and blood cell modeling.
- **Manufacturing and Mechatronics Lab - Yonsei University** Sep 2022 - Mar 2023
Undergraduate Intern (PI: Prof. Byung-Kwon Min) Seoul, South Korea
 - Feedback control system of hardware-twin robot arm by two-way remote communication.

WORK EXPERIENCE

- **Hyundai Motors Group, Headquarters** Jul 2022 - Oct 2022
Intern, S Innovation Progress Team, Robotics Division Seoul, South Korea
 - Robotics system software architecture development and patent assetization in HMGICS.

PUBLICATIONS

C=CONFERENCE, J=JOURNAL, T=THESIS

- [J.4] Seung-Hyun An, Sang-Min Baek, Dahyun Nam et al. (2025). **A Small-Scale Wheeled Robot Capable of Continuous Quasi-Direct-Drive Jumping**. (In preparation)
- [J.3] Jinhee Lee, Dahyun Nam et al. (2025). **Vision-Ultrasound Robotic System based on Deep Learning for Gas and Arc Hazard Detection in Manufacturing**. *Expert Systems With Applications (Under Review)*
- [J.2] Dahyun Nam et al. (2024). **Design and Development of an Unmanned Water Rescue Platform with Emergency Detection and Self-inflating Life Jacket Launching Mechanism**. *Trans. Korean Soc. Mech. Eng. C*
- [J.1] Robin Inho Kee, Dahyun Nam et al. (2024). **Disentangled Prototyping with Triplet-trained Prototypical Network for Few-shot Learning in In-vehicle Noise Classification**. *IEEE Access*
- [C.2] Jegyeong Ryu, Dahyun Nam et al. (2023). **Corpuscular Volume Estimation Using a Small Amount of Blood via Microscope Images**. *2023 23rd International Conference on Control, Automation and Systems (ICCAS)*
- [C.1] Dahyun Nam et al. (2023). **Dynamic Prototype-guided Memory Replay for In-Vehicle Noise Classification**. *In Conference of Korea Data Mining Society (KDMS)*


HONORS AND AWARDS

- **Excellent Teaching Assistant Award** Mar 2025
College of Engineering, Seoul National University
- **The 13th KSME Student Creative Design Competition Excellent Project Award** Sep 2023
The Korean Society of Mechanical Engineers (KSME)
- **SAS Student Paper Award** Jun 2023
Conference of Korea Data Mining Society (KDMS)
- **Seoul Software Academy (SeSAC) Excellent Project Award** Jun 2023
Seoul Business Agency
- **Creative Design Competition Grand Prize** Jun 2023
Yonsei University College of Engineering

EXTRACURRICULAR ACTIVITIES

- **ETH Zurich 2025 Robotics Summer School in Epeisses, Switzerland.** Jun 2025
Participated in the grant of ETH Robot X initiative fellowship
 - Training on autonomous robot (state estimation, SLAM, planning, and object detection) and participated in search-and-rescue challenge.
- **Roboin, Robotics Club, Yonsei University** Jun 2021 - Jan 2024
Executive Staff (2021-2024), Vice President (2022), President (2023-2024)
 - [Unmanned water rescue robot](#), autonomous quadraped robot and Turtlebot3 self-driving project.
 - Led robotics seminars(ROS, [Embedded system](#), 3D printing) and cirriculums.
- **Yonsei Drone, UAV Club, Yonsei University** May 2021 - Dec 2022
Executive Staff (2021-2022), Vice President (2021-2022), Advisory Committee (2022)
 - Arduino based quadcopter position control and autonomous face-tracking project.
- **Undergraduate Internship, BAE, KIM & LEE LLC.** Jul 2021
2021 Internship Program for Undergraduates, Labor & Employment team
- **Student Council of the College of Engineering, Yonsei University** May 2021 - Dec 2021
Member of Communications Bureau and Freshman president of mechanical engineering

TEACHING EXPERIENCE

- **Teaching Assistant - Creative Design Engineering [400.018]** 2024 Fall semester
Seoul National University, Dept. of Mechanical Engineering, Undergraduate Course 
 - Course materials (reference robot and its control algorithm) and technical TA sessions.
- **Vex Robotics Instructor - Beyond Coding** Jul 2024 - Nov 2024
- **Arduino Instructor - Yonsei Residential College** May 2023
- **Korean Literature Instructor - Insight Education Inc.** May 2020 - May 2021
- **Science Instructor - SUN Science Inc.** Nov 2019 - May 2021

SKILLS

- **Programming Languages:** C, C++, Python, Arduino, ROS
- **Mathematical & Simulation Tools:** MATLAB, Simulink, FEMM, Ansys Mechanical, TracePro, Isaac Sim
- **Design Tools:** Creo, Solidworks, AutoCAD, Fusion360, Onshape, Autodesk Inventor

CERTIFICATIONS

- **Northwestern University:** Modern Robotics, Foundations of Robot Motion Course Certification Dec 2023
- **IBM:** Deep Learning and Reinforcement Learning Course Certification Nov 2023
- **IBM:** Exploratory Data Analysis for Machine Learning Course Certification Nov 2023
- **Seoul National University, Dynamic Robot Systems Lab:** Robotics Boot Camp Certification Jun 2022
- **Yonsei University:** AI and Machine Learning Engineer Training Course Certification Dec 2021
- **Korea Transportation Safety Authority:** Qualification for Unmanned Multicopter Pilot 4th Class Dec 2021

LANGUAGES

- Korean : Native
- English : Fluent (Khan Academy translator(2014-2015), TOEFL iBT: 107, GRE General Test: 312)