

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

- **Bio-inspired mobile robotics, Multi-modal locomotion, Compliant/reconfigurable mechanisms**

RESEARCH EXPERIENCE

- **Biorobotics Laboratory - Seoul National University** Sep 2023 - Present
Undergraduate, Graduate Researcher (PI : Prof. Kyujin Cho)
 - Sub-1 kg single-actuator soft hip exosuit with differential tendon drive for bilateral hip assistance.
 - Developed CM-scale mobile robot platforms for exploration: wall-climbing drone using microspine and quasi-direct-drive jumping-driving robot.
 - Prototyped a fully foldable robotic wheel using composite manufacturing and custom electronics.
- **Soft Computing Lab - Yonsei University** Mar 2023 - Aug 2023
Undergraduate Researcher (PI : Prof. Sung-Bae Cho, Prof. Seok-Jun Buu)
 - 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 2023
Research Intern at Medical Navigation Lab (PI: Prof. Deukhee Lee)
 - Vision-based complete blood count system 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 - Dec 2022
Undergraduate Intern (PI: Prof. Byung-Kwon Min)
 - 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
 - Robotics technology development, startup analysis, and patent assetization at 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**. *IEEE/ASME Transactions on Mechatronics* (Under Review)
- [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**. *Engineering Applications of Artificial Intelligence* (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

- **2026 Fulbright U.S.-Korea Presidential STEM Initiative Award** *Scheduled for 2026*
U.S. Fulbright Program
- **Excellent Teaching Assistant Award** *Mar 2025*
College of Engineering, Seoul National University
- **BK21 FOUR Scholarship** *Mar 2024 & Mar 2025*
Brain Korea 21 Program for Leading Universities and Students by the Korean government
- **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](#), quadruped robot, Teo-jansen linkage based robot and autorace project.
 - Led robotics seminars([ROS](#), [Embedded system](#), 3D printing) and curriculums.
- **Yonsei Drone, UAV Club, Yonsei University** *May 2021 - Dec 2022*
Executive Staff (2021-2022), Vice President (2021-2022), Advisory Committee (2022)
 - Arduino based quadcopter design, position control and face-tracking drone 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 & 2025 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*
- **RC Makerspace 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
- **Design Tools:** Creo, Solidworks, AutoCAD, Fusion360, Onshape, Autodesk Inventor
- **Mathematical & Simulation Tools:** MATLAB, Simulink, FEMM, Ansys Mechanical, TracePro, Isaac Sim

CERTIFICATIONS

- **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: 110, GRE General Test: 317)