Jeongho Ahn

Email: ahn@irvs.ait.kyushu-u.ac.jp | Tel: +81-80-7895-6121 | LinkedIn: linkedin.com/in/jeongho9413

Homepage: jeongho9413.github.io | GitHub: github.com/jeongho9413

Education

Ph.D. in Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan — Oct 2021 – Mar 2025
- Advisor: Prof. Ryo Kurazume
- Dissertation: "3D LiDAR-based Gait Analysis for Person Identification in Long-range Measurement Environments"

M.Eng. in Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan — Apr 2019 – Mar 2021
- Advisor: Prof. Ryo Kurazume

B.Eng. in Electrical and Electronic Engineering, Gachon University, Seongnam, South Korea — Mar 2012 – Feb 2019
- Advisor: Prof. Hyung-Seok Han
- GPA: 3.6 (Top 20%, under Relative Grading System)

Experience

Postdoctoral Researcher, Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan — Apr 2025 – Present
- Developed a real-time ROS2-based person segmentation system using LiDAR–camera calibration for mobile robot navigation.
- Designed algorithms to project pedestrian masks from image-based segmentation models onto the 3D LiDAR scenes and extract person point clouds by estimating camera-LiDAR intrinsics and extrinsics.
- Conducted field experiments to validate system performance at ranges up to 10 m in real-world environments.

Research Assistant, Faculty of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan — Oct 2024 – Mar 2025
- Developed real-time heavy machinery detection models for construction site automation.
- Fine-tuned RGB image-based segmentation models using datasets collected from 360° ultra-wide cameras.
- Achieved over 90% accuracy, comparable to models integrated with depth sensors.

Research Intern, NASA Jet Propulsion Laboratory (JPL), Pasadena, CA, United States — Feb 2024 – Apr 2024
- Designed deep learning-based restoration models to denoise images of Permanently Shadowed Regions (PSRs) on the lunar surface, reducing the uncertainty in VIPER rover and human traverse planning.
- Built diffusion process-based models using both task-specific and task-agnostic approaches, and conducted comparative performance evaluations.
- Achieved up to 15% improvement over prior baselines by restoring PSR images in the frequency domain.

Part-time Software Engineer, Living Robot Inc., Fukuoka, Japan — Oct 2020 – Jan 2024
- Developed machine learning-based models using time–series data from olfactory sensors to predict health conditions based on patient excretion.
- Achieved over 80% accuracy and deployed the system in a hospital setting.

Publications – Journal Articles

Koki Yoshino, Kazuto Nakashima, Jeongho Ahn, Yumi Iwashita, and Ryo Kurazume. "RGB-based Gait Recognition with Disentangled Gait Feature Swapping". *IEEE Access*, Vol.12, pp. 115515–115531, 2024

Jeongho Ahn, Kazuto Nakashima, et al. "Learning Viewpoint-Invariant Features for LiDAR-Based Gait Recognition". *IEEE Access*, Vol. 11, pp. 129749–129762, 2023

Hiroyuki Yamada, Jeongho Ahn, et al. "Gait-based Person Identification using 3D LiDAR and Long Short-term Memory Deep Networks". *Advanced Robotics*, Vol. 34, No. 18, pp. 1201–1211, 2020

Publications – Conference Proceedings

Jeongho Ahn, Kazuto Nakashima, et al. "Gait Sequence Upsampling using Diffusion Models for Single LiDAR Sensors". *In Proceedings of the IEEE/SICE International Symposium on System Integration (SII)*, pp. 658–664, 2025.1.21–24, 2025

Koki Yoshino, Kazuto Nakashima, Jeongho Ahn, et al. "S2Gait: RGB-based Gait Recognition with Style Feature Sampling Data Augmentation". *In Proceedings of the IEEE/SICE International Symposium on System Integration (SII)*, pp. 375–380, 2025.1.21–24, 2025

Jeongho Ahn, Kazuto Nakashima, et al. "2V-Gait: Gait Recognition using 3D LiDAR Robust to Changes in Walking Direction and Measurement Distance". *In Proceedings of the IEEE/SICE International Symposium on System Integration (SII)*, pp. 602–607, 2022.1.9–12, 2022

Koki Yoshino, Kazuto Nakashima, Jeongho Ahn, et al. "Gait Recognition using Identity-Aware Adversarial Data Augmentation". *In Proceedings of the IEEE/SICE International Symposium on System Integration (SII)*, pp. 596–601, 2022.1.9–12, 2022

Publications – Domestic Conference in Japan

Meeting on Image Recognition and Understanding (MIRU) 2022, 2023, 2024, 2025

The Robotics Society of Japan (RSJ) 2021, 2022

Research Grant

Support for Pioneering Research Initiated by the Next Generation (SPRING), Japan Science and Technology Agency (JST) Oct 2021 – Sep 2024

- Amount: ¥1,500,000

Awards

Grand Prize, Parking System Robot Competition, Gachon University Nov 2019

Outstanding Presentation Award, Three Minute Thesis (3MT) Competition, Kyushu University Mar 2025

Reviewer

Journal of NeuroEngineering and Rehabilitation Apr 2025

Wireless Networks Jul 2025

Scientific Reports Jul, Sep 2025

Additional Information

Squad Leader, Military Police, Republic of Korea Army (Mandatory Service) Oct 2014 – Jul 2016

Student Representative, Graduation Ceremony, Japanese Language Program, Fukuoka University Oct 2018 – Sep 2019

Skills

Languages: Korean, English, Japanese

Programming Languages: Python, C/C++, Java, VHDL

Machine Learning Frameworks: PyTorch, TensorFlow, Scikit-learn

Tools & DevOps: Ubuntu, Git, Docker

Libraries & Middleware: ROS (Robot Operating System) 1/2, OpenCV, Open3D, PCL (Point Cloud Library), Maya

Embedded Platforms: Arduino, Raspberry Pi, Intel NUC, Jetson AGX Orin

Devices: LiDAR, RGB-D cameras, Event cameras, Olfactory sensors