MINSIK JEON

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RESEARCH INTEREST

- **Robotics**
  Robotic Perception, Active Perception & Exploration, Uncertainty-aware Perception
- **Computer Vision**
  Self-supervised Learning, 3D Vision, Domain Adaptation & Generalization, Robustness

EDUCATION

- **Carnegie Mellon University** — Pittsburgh, PA
  Master of Science in Robotics — *Aug. 2025 – Present*
- **Korea Advanced Institute of Science and Technology (KAIST)** — Daejeon, Korea
  Bachelor of Science in Computer Science — *Mar. 2018 – Feb. 2022*
  Bachelor of Science in Electrical Engineering
  GPA: 4.01/4.30 (Total 157 Credits); Dean's List 3 semesters ; ***Summa Cum Laude***
- **Gyeonggi Science High School for Gifted Students** — Suwon, Korea
  High school for talented students in math and science — *Mar. 2015 – Feb. 2018*

PUBLICATIONS

* indicates equal contribution.

1. **Evidential Ellipsoidal BKI with Anisotropic Gaussians for Uncertainty-aware Continuous Semantic Mapping**
   Junyoung Kim, Minsik Jeon, Jihong Min, Kiho Kwak, Junwon Seo.
   In preparation.
2. **OW-Rep: Open World Object Detection with Instance Representation Learning**
   Sunoh Lee, Minsik Jeon*, Jihong Min, Junwon Seo.*
   Submitted to IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), 2026. [link]
   IROS Workshop on Label Efficient Learning Paradigms for Autonomy at Scale, 2024
3. **DA-RAW: Domain Adaptive Object Detection for Real-World Adverse Weather Conditions**
   Minsik Jeon, Junwon Seo*, Jihong Min.*
   IEEE International Conference on Robotics and Automation (**ICRA**), 2024. [link] [project page]

RESEARCH EXPERIENCE

- **Agency for Defense Development - Defense AI Center** — Daejeon, Korea
  Research Officer for National Defense — *Jun. 2022 – May. 2025*
  - **Project: Multi-robot Cooperative Autonomous Driving**
    – Develop a BEV traversability map by combining traversability estimates from multiple UGVs and UAVs for off-road autonomous driving, including sensor data integration, UAV image registration, and uncertainty-aware mapping.
    – Build a generalizable LiDAR semantic segmentation model across various LiDAR sensor configurations.
  - **Project: Deformable Object Recognition Technology**
    – Researched an open-world object detection and instance representation learning method using foundation models, enhancing the reliability and adaptability of detectors in off-road environments with unknown objects.
    – Devised an unsupervised domain adaptation method to improve robustness of detector in real-world adverse weather.

- **Project: Unmanned Reconnaissance Vehicles Development**
  – Implemented a real-time LiDAR and Infrared camera fusion method for robust object detection, enabling reliable vehicle operation in visibility-constrained scenarios.

◦ **Unmanned System Research Group, KAIST** Daejeon, Korea
Undergraduate Researcher, advised by Prof. David Hyunchul Shim *Jun. 2021 – Sep. 2021*

- **Project: Indy Autonomous Challenge (IAC)**
  – Developed the detection and tracking algorithm and the overtaking policy for the Indy Autonomous Challenge (IAC), the first autonomous car racing competition, as an intern of Team KAIST ***(Achieved 4th place)***.

Work Experience

◦ **Research Officer for National Defense** Daejeon, Korea
First Lieutenant, Republic of Korea Army *Apr. 2022 – May. 2025*

– Selected as one of the 20 officers in the nation dedicated to science and technology research for national defense.
– Organized weekly machine learning and computer vision seminars, exploring their applications to current projects.

◦ **SK Hynix** Seongnam, Korea
Winter Intern *Dec. 2019 – Feb. 2020*

- **Project: Performance and Operation Analysis of On-board RAID**
  – Analyzed the performance and operations of each On-board RAID option ***(Selected as Best Intern Project)***.

Teaching Experience

◦ **Tutor**, Calculus, KAIST *Mar. 2021 – Dec. 2021*

◦ **Major-specific Mentoring** on Computer Science, Young Engineers Honor Society (YEHS) *Jan. 2021 – Mar. 2022*

Scholarships

◦ **Korean Government Scholarship Program for Study Overseas** *Aug. 2025 – Aug. 2027*
National Institute for International Education

◦ **National Excellence Scholarship for Science and Engineering** *Mar. 2020 – Feb. 2022*
Korea Student Aid Foundation

◦ **National Scholarship for Undergraduate Study** *Mar. 2018 – Feb. 2020*
Korea Student Aid Foundation

Extracurricular Activities

◦ **32th Class of Professional Officer** *2022 – 2025*
Military Service, First Lieutenant, Republic of Korea Army

◦ **Young Engineers Honor Society (YEHS)** *2021 – Present*
Association of Korean engineering students under the National Academy of Engineering of Korea

◦ **Nanyang Technological University Summer Exchange Student** *2019*
Short-term (6 weeks) exchange student at Nanyang Technological University (NTU)

◦ **KAIST Freshman Student Council** *2018 – 2019*
Student Council for Freshmen at KAIST

Skills

◦ **Programming Languages:** Python, C, C++, MATLAB

◦ **Technologies:** PyTorch, ROS2, ROS1, Docker, Linux, GIT, OpenCV

◦ **Languages:** Korean (Native), English (Fluent, TOEFL iBT 105, GRE 153/170/4.0)