

EDUCATION

- **Carnegie Mellon University** Pittsburgh, PA
Master of Science in Robotics (Advisor: Prof. Shubham Tulsiani) 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; 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

RESEARCH EXPERIENCE

- **Physical Perception Lab, Carnegie Mellon University** Pittsburgh, PA
Graduate Research Assistant Sep. 2025 – Present
 - Researched 3D/4D reconstruction, positional encoding for multi-view inputs, and novel-view synthesis methods.
- **Agency for Defense Development** Daejeon, Korea
Research Officer for National Defense, Republic of Korea Army Apr. 2022 – May. 2025
 - Researched robust perception model for autonomous driving systems, while completing mandatory military service.

PUBLICATIONS

* indicates equal contribution.

1. **RayRoPE: Projective Ray Positional Encoding for Multi-view Attention**
Yu Wu, Minsik Jeon, Jen-Hao Rick Chang, Oncel Tuzel, Shubham Tulsiani.
Under Review, 2026. [\[link\]](#) [\[project page\]](#)
2. **Flow3r: Factored Flow Prediction for Visual Geometry Learning**
Zhongxiao Cong, Qitao Zhao, Minsik Jeon, Shubham Tulsiani.
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2026. [\[link\]](#) [\[project page\]](#)
3. **Evidential Ellipsoidal BKI with Anisotropic Gaussians for Uncertainty-aware Continuous Semantic Mapping**
Junyoung Kim, Minsik Jeon, Jihong Min, Kiho Kwak, Junwon Seo.
IEEE Robotics and Automation Letters (RA-L), 2026. [\[link\]](#) [\[project page\]](#)
4. **OW-Rep: Open World Object Detection with Instance Representation Learning**
Sunoh Lee, Minsik Jeon*, Jihong Min, Junwon Seo.*
IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2026. [\[link\]](#) [\[project page\]](#)
5. **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. [\[link\]](#) [\[project page\]](#)
6. **Improving Open-World Object Detection through Richer Instance Representation using Vision Foundation Models**
Minsik Jeon, Sunoh Lee*, Junwon Seo.*
IROS Workshop on Label Efficient Learning Paradigms for Autonomy at Scale, 2024 [\[link\]](#)

WORK 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*).

- **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)