



Heejun Park

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“Failure is but a stepping stone to success.”

Education

KAIST (Korea Advanced Institute of Science and Technology)

Daejeon, South Korea

M.S. IN DIVISION OF FUTURE VEHICLE

Sep. 2024 - Expected Aug. 2026

- Thesis: RAF: Reliability-Aware Fusion of Camera, LiDAR and 4D Radar for Robust 3D Object Detection in Adverse Weather
- Advisor: Kuk-Jin Yoon (Visual Intelligence Lab)
- GPA: 3.83 / 4.3

Yonsei University

Wonju, South Korea

B.S. IN COMPUTER ENGINEERING

Feb. 2018 - Aug. 2024

- GPA: 4.24 / 4.3
- Graduated Summa Cum Laude

Technical Skills

- Programming** Python, C, C++, Bash
Libraries PyTorch, Open3D, OpenCV
Expertise Multi-Sensor 3D Object Detection, VLM, E2E Driving

Research & Project Experience

KAIST, Personal Project

Daejeon, South Korea

INDIVIDUAL RESEARCHER

Jan. 2026 - Present

- Initiated VLM-based E2E Autonomous Driving: Reasoning Strategies and Action Heads, a project built on Qwen3-VL and nuScenes dataset.
- Designed a parameter-efficient fine-tuning pipeline using Vision Language Adapter and LoRA.
- Engineered three distinct chain-of-thought prompting strategies.
- Implemented and compared three action head architectures (MLP, Diffusion-based, and RT-2-style tokenization).
- Released a technical report and open-source codebase targeting VLM-based E2E autonomous driving beginners.

Sungkyunkwan University, AI & Media Lab (Prof. Sungeun Hong)

Seoul, South Korea

UNDERGRADUATE RESEARCHER

Jan. 2024 - Jul. 2024

- Developed a multi-frame fusion pipeline to generate a fused SemanticKITTI dataset for scene completion tasks.
- Built a pipeline converting NYU Depth v2 into point cloud data for 3D semantic segmentation training.
- Conducted an empirical bag-of-tricks study on ResNet-50 and ViT classifiers, achieving up to 10% accuracy improvement on CIFAR-10.

Yonsei University, AI Security Lab (Prof. Seok-Hwan Choi)

Wonju, South Korea

UNDERGRADUATE RESEARCHER

Jan. 2023 - Dec. 2023

- Investigated the vulnerability of 3D classification models to backdoor attacks to explore AI security weaknesses.
- Built a CNN from scratch using only NumPy and trained it on MNIST, achieving 83.1% accuracy.

Yonsei University, Project Immersion Course

Wonju, South Korea

TEAM LEADER

Jan. 2023 - Jun. 2023

- Designed an autonomous driving framework for a remote-controlled taxi integrating perception, localization, planning, and control.
- Implemented lane-keeping using OpenCV with Canny edge detection to detect lane edges and follow lane centers.
- Deployed a pre-trained YOLOv5 model for pedestrian detection, enabling the vehicle to stop when a pedestrian is detected within a set distance.
- Developed an odometry-based localization system with drift correction.

Purdue University, IITP K-SW Square Program

Indiana, United States

TEAM LEADER AT GLOBAL INTERNSHIP PROGRAM

Sep. 2022 - Dec. 2022

- Led a cross-institutional team of 7 students across Korea and Purdue University.
- Developed a hybrid machine learning pipeline for non-destructive sugar content measurement using image data.
- Built and publicly released a dataset of 10,500 image-Brix level pairs for reproducible research.

Publication

RAF: Reliability-Aware Fusion of Camera, LiDAR, and 4D RADAR for Robust 3D Object Detection in Adverse Weather

HEEJUN PARK, JAESEOK JEONG, KUK-JIN YOON

European Conference on Computer Vision (ECCV), 2026, (Under review)

- Developed a camera-LiDAR-4D radar fusion method that accounts for camera uncertainty under adverse weather conditions.
- Designed a module to address 3D-2D projection misalignment caused by calibration errors.
- Achieved state-of-the-art performance on the K-Radar benchmark.
- Validated that RAF effectively suppresses noise through visualization of the uncertainty map.

VIPS: Vehicle-Infrastructure Cooperative Planning Benchmark via Pseudo-Simulation

HOONHEE CHO*, GIWON LEE*, JAE-YOUNG KANG*, HYEMIN YANG*, HEEJUN PARK*, KUK-JIN YOON

European Conference on Computer Vision (ECCV), 2026, (Under review)

- Built a Vector Map from vehicle-collected LiDAR data and trained an end-to-end model for autonomous driving.
- Generated infrastructure-side novel-view images for a pseudo closed-loop benchmark using SAM2.
- Designed a bidirectional cross-attention model that is both effective and efficient for V2I perception and planning.
- Evaluated baseline models on the proposed benchmark.

HEAT: Heterogeneous End-to-End Autonomous Driving via Trajectory-Guided World Models

HOONHEE CHO*, GIWON LEE*, JAE-YOUNG KANG*, HYEMIN YANG*, HEEJUN PARK*, SEOKWOO JUNG, KUK-JIN YOON

European Conference on Computer Vision (ECCV), 2026, (Under review)

- Developed a world model-enhanced E2E framework for cross-domain generalization in autonomous driving, in collaboration with 42dot.
- Analyzed the separability of latent representations via UMAP visualization of the feature space.
- Evaluated baseline models on the proposed benchmark.

VR-Drive: Viewpoint-Robust End-to-End Driving with Feed-Forward 3D Gaussian Splatting

HOONHEE CHO*, JAE-YOUNG KANG*, GIWON LEE*, HYEMIN YANG*, HEEJUN PARK, SEOKWOO JUNG, KUK-JIN YOON

Conference on Neural Information Processing Systems (NeurIPS), 2025

- Developed a closed-loop pipeline that enables evaluation of nuScenes-trained models in the CARLA simulator.
- Evaluated baseline models on the proposed benchmark.

Doppler-Aware LiDAR-Radar Fusion for Robust 3D Detection in Adverse Weather

YUJEONG CHAE, HEEJUN PARK, HYEONSEONG KIM, KUK-JIN YOON,

IEEE/CVF International Conference on Computer Vision (ICCV), 2025

- Analyzed model behavior by visualizing predicted 3D bounding boxes alongside ground-truth annotations.
- Evaluated baseline models on the K-Radar benchmark.

Investigating the Vulnerability of 3D Point Cloud Classifiers to Backdoor Attacks Leveraging Transfer Learning

HEEJUN PARK, TAEWON JUNG, HANJU LEE, SEOKHWAN CHOI

Journal of Korean Institute of Intelligent Systems, 2024

- Designed an experimental pipeline to demonstrate the vulnerability of PointNet and PointNet++ to backdoor attacks.
- Investigated the relationship between attack success rate and fine-tuning dataset size.

Predicting the Sweetness of Multiple Apples by Applying Apple Images on Hybrid Machine Learning: Machine Learning and Deep Learning

SEOKHYEON HEO, HEEJUN PARK, HANBI KIM, JEONGHO HA, TAEYUN KIM, ERIC MATSON

Journal of Research Institute of Advanced Technology, 2024

- Developed a CNN model to classify apple sweetness into high, medium, and low categories.
- Led the paper writing as the primary author.

Extracurricular Activity

Computing Thinking Course, Yonsei University

TEACHING ASSISTANT

- Prepared class materials independently and taught Python programming to students.
- Taught computational thinking principles and their applications in problem-solving.
- Introduced students to effective use of AI-assisted tools for learning support and productivity.

Wonju, South Korea

Mar. 2023 - Jun. 2023

Tennis Course, Yonsei University

TEACHING ASSISTANT

- Taught students tennis techniques through step-by-step instruction.
- Prepared class materials covering the rules and history of tennis.

Wonju, South Korea

Mar. 2022 - Jun. 2022

Open Source SW Hackathon, Yonsei University

PROJECT DEVELOPER (INDIVIDUAL PROJECT)

- Developed a disease occurrence probability prediction model using open-source historical and current health examination data.
- Built an Android application that predicts future disease risks based on user-input health examination records.

Wonju, South Korea

Oct. 2021

Language Proficiency

Native Korean speaker, fluent in English

- Aug. 2025 - OPIc AL
- Oct. 2020 - TOEIC 975
- Oct. 2016 - TOEFL iBT 102

Awards & Scholarships

AWARDS

Aug. 2024 Graduated Summa Cum Laude , Academic Excellence	<i>Yonsei University</i>
Nov. 2023 Best Paper Award , KIIS Autumn Conference	<i>Korean Institute of Intelligent Systems</i>
Nov. 2023 Excellence Award , SW Talent Festival Outstanding Work Award	<i>Ministry of Science and ICT</i>
Nov. 2023 Magna Cum Laude , Academic Excellence	<i>Yonsei University</i>
Nov. 2022 Magna Cum Laude , Academic Excellence	<i>Yonsei University</i>
Feb. 2022 Encouragement Award , GDSC Winter Hackathon	<i>Google Developer Student Club</i>
Nov. 2021 Magna Cum Laude , Academic Excellence	<i>Yonsei University</i>
Dec. 2021 Excellence Award , ASC Project Competition	<i>Yonsei University</i>
Dec. 2021 Excellence Award , Open Source SW Hackathon	<i>Yonsei University</i>
May. 2019 Magna Cum Laude , Academic Excellence	<i>Yonsei University</i>
Nov. 2018 Magna Cum Laude , Academic Excellence	<i>Yonsei University</i>
Aug. 2016 KAIST Presidential Award , King of Kings Invention Contest	<i>Korea International Youth Olympiad</i>

SCHOLARSHIPS

Mar. 2023 National Excellence Scholarship (Science & Engineering) , Mar. 2023 – Aug. 2024	<i>Korea Scholarship Foundation</i>
Mar. 2023 Huimang Scholarship	<i>Yongbok Scholarship Foundation</i>
Feb. 2023 Veritas Scholarship	<i>Yonsei University</i>
Feb. 2022 Cheongpa Excellence Scholarship	<i>Cheongpa Scholarship Foundation</i>
Feb. 2022 Eunhae Scholarship	<i>Eunhae Scholarship Foundation</i>
Feb. 2022 Veritas Scholarship	<i>Yonsei University</i>
Nov. 2021 National Center of Excellence in SW Scholarship	<i>National Program of Excellence in SW</i>
Aug. 2021 Cheongpa Scholarship	<i>Cheongpa Scholarship Foundation</i>
Feb. 2021 Cheongpa Scholarship	<i>Cheongpa Scholarship Foundation</i>
Aug. 2018 Cheongpa Outstanding Scholarship	<i>Cheongpa Scholarship Foundation</i>
Aug. 2018 Veritas Scholarship	<i>Yonsei University</i>