# Eunchong Kim

ekim01@unist.ac.kr / justinkim7577@gmail.com

010-7577-0596

**RESEARCH INTEREST**

**AI-based End-to-End Autonomous Driving & Perception Systems for Robotics**

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**EDUCATION**

**Ulsan National Institute of Science and Technology (UNIST)** Ulsan, Republic of Korea

M.S. in Artificial Intelligence *Sep. 2023 - Current*

- GPA: 4.05
- Advisor: Prof. Jeong hwan Jeon (Robotics and Mobility Lab.)
- Thesis: End-to-End Autonomous Driving: Deployment-Oriented and Rule-Conformant Design

**Jacobs University Bremen (Currently Constructor Univeristy)** Bremen, Germany

B.Sc. in Robotics and Intelligent Systems *Sep. 2020 - Jun. 2023*

- GPA: 1.52 / 1.0 (German Scale) ≈ 3.5 / 4.0 (U.S. GPA)
- Advisor: Prof. Francesco Maurelli
- Thesis: Event-Based Motion Segmentation and Stereo Feature Matching in Highly Cluttered Environments (Collaborative research with WasteAnt GmbH)
- Major Representative
- Merit-based Scholarship (€5,000 per year)

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**PUBLICATIONS**

**First author**. "Deployment-Oriented End-to-End Autonomous Driving: Enhancing Closed-Loop Stability with a Lightweight Camera-Only Framework", Submitted to 2026 IEEE Intelligent Vehicles Symposium (Under Review).

**First author**. "Rule-Conformant End-to-End Autonomous Driving: Safer Intersection Behavior via Enforced Cue Representation", Submitted to 2026 IEEE Intelligent Vehicles Symposium (Under Review).

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**PROJECTS**

**2025 Hyundai Motor Group Autonomous Driving Challenge** *Oct. 2024 - Sep. 2025*

**1st Round: 3rd place** (₩5M Reward)
**2nd Round: 1st place (Team leader)** (₩30M Reward, Recruitment perks, China Tech Tour)

- Developed a deployment-oriented End-to-End AD model, prioritizing closed-loop performance.
- Utilized DAgger to enhance model robustness in Out-of-Distribution scenarios, resolving the covariate shift issue in imitation learning.
- Achieved 16Hz inference speed on NVIDIA Jetson AGX Orin.

**BEV-based Lane Detection for ERP42** *Dec. 2023 - Feb. 2024*

- Developed and validated a lane detection framework using conventional computer vision techniques for ERP42 in UNIST.

**Multi-Teacher Knowledge Distillation based Pedestrian Detection** *Aug. 2023 - Dec. 2023*

- Collected and labeled a custom dataset using pseudo-labeling techniques to maximize data efficiency and minimize labeling cost.
- Developed a real-time pedestrian detection model using MTKD, improving detection accuracy (over 16% mAP gain) compared to the fine-tuned model.

**Truck-Discharging Waste Segmentation using Event Camera Data** *Jan. 2023 - Jun. 2023*

- Developed an event-based motion segmentation algorithm for the precise detection of anomalous waste in incineration plant environments.
- Implemented Event-RGB stereo matching techniques for robust 3D perception.

**Event-based Vehicle Tracking in Highway Surveillance System** *Jun. 2022 - Aug. 2022*

- Developed a low-cost vehicle tracking algorithm (clustering and event-seeking based) for highway surveillance systems using an event camera for high efficiency.

**DuckieTown Project** *Feb. 2022 - May. 2022*

- Developed lane and object detection framework (Fine-tuning on custom dataset).

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## AWARDS

**Excellence Award | AI Tech Open Workshop (AI Graduate School)** *Apr. 2025 - Sep. 2025*

- Project Title: Development of an End-to-End Autonomous Driving Framework Using a High-Fidelity Simulator.
- ₩ 2,500,000 Reward

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## ACADEMIC EXPERIENCE

**Reviewer | 2026 IEEE Intelligent Vehicles Symposium (IV)** *Nov. 2025*

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## WORK & TEACHING EXPERIENCES

**Ulsan National Institute of Science and Technology**

Teaching Assistant — Spring 2024, Spring 2025

- AI Programming I

Research Intern — Jun. 2022 - Aug. 2022

- Robotics and Mobility Lab.

**WasteAnd GmbH** — Oct. 2022 - Jun. 2023

Working Student

**Jacobs University Bremen (Currently Constructor University)**

Teaching Assistant — 2021 - 2023

- Algorithms and Data Structures (C++)
- Programming in C/C++
- Embedded Systems
- Introduction to Robotics and Intelligent Systems Lab (Arduino)

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## SKILLS

**Languages**

- Korean ●●●●●
- English ●●●●●
- German ●●●○○

**Programming Languages**

Python, C++, Matlab

**Frameworks & Libraries**

PyTorch, OpenCV, Pandas, NumPy

**Tools & Platform**

ROS, Git, Docker, MORAI simulator