

Seungjae Kim

✉ tmdwo8814@khu.ac.kr | 🏠 tmdwo8814.github.io | 🎓 Seungjae Kim

Research Interests

Video Understanding

- Multi-Object Tracking, Motion Prediction

2D/3D Perception

- Few-Shot Object Detection, 3D Object Detection

Novel View Synthesis

- 3D Gaussian Splatting

Education

Kyung Hee University

M.S. IN SOFTWARE CONVERGENCE

- Visual Science Lab
- Advisor: Prof. Myeong-Ah Cho

Gyeonggi, South Korea

Sep. 2025 – Aug. 2027 (Expected)

Hanshin University

B.S. IN INFORMATION AND COMMUNICATION ENGINEERING

- Completed mandatory military service (2020 – 2021)

Gyeonggi, South Korea

Mar. 2019 – Aug. 2025

Experiences

Research Grant for Master's Students

PRINCIPAL INVESTIGATOR

- Ego-Motion Compensated Adaptive Multi-Object Tracking for Moving Camera Environments
- Funding KRW 12 million for 1 year

National Research Foundation of Korea (NRF)

Sep. 2026 – Aug. 2027

Visual Science Lab, Kyung Hee University

UNDERGRADUATE INTERN

- Research topics: Multi-Object Tracking, Few-Shot Object Detection, and 3D Object Detection
- Advisor: Prof. Myeong-Ah Cho

Gyeonggi, South Korea

Jul. 2024 – Aug. 2025

Publications

International Conference

[1] Rethinking Prototype-based Similarity Learning for Few-Shot Object Detection

KunHo Heo*, **Seungjae Kim***, Wongyu Lee*, SuYeon Kim, MyeongAh Cho *Equal contribution
European Conference on Computer Vision (ECCV), 2026

[2] PlugTrack: Multi-Perceptive Motion Analysis for Adaptive Fusion in Multi-Object Tracking

Seungjae Kim, SeungJoon Lee, MyeongAh Cho
Proceedings of the AAAI Conference on Artificial Intelligence (AAAI), 2026

International Journal

[1] Semi-WIR: Semi-Supervised Adaptation for Real-World Adverse Weather Image Restoration

YoungKwan Cho*, **Seungjae Kim***, Wongyu Lee*, MyoungChul Kim, MyeongAh Cho *Equal contribution
Under Review

[2] DB-Fusion: Dual-Balanced Sensor Fusion for Multimodal 3D Object Detection

SeungJoon Lee*, Taeyoung Kim*, Useok Choi*, **Seungjae Kim**, Chanse Oh, MyeongAh Cho *Equal contribution
Under Review

Domestic Conference

[1] Efficient 3D Gaussian Splatting with Adaptive Depth Refinement in High-Confidence Regions

Seungjae Kim, Taeyoung Kim, YongHyun Gwon, MyeongAh Cho
Korea Software Congress (KSC), 2025 **Best Presentation Award**

[2] **BEV Segmentation Prior-Guided Class-Wise Attention for 3D Object Detection in Autonomous Driving**

SeungJoon Lee, Taeyoung Kim, **Seungjae Kim**, MyeongAh Cho
Korea Software Congress (**KSC**), 2025

[3] **Future-Aware Nonlinear Prediction Module for Real-Time Multi-Object Tracking**

Seungjae Kim, Useok Choi, Hayoung Lee, MyeongAh Cho
Korea Computer Congress (**KCC**), 2025

Projects

AI Technology for Recognizing Abnormal Situations in Night and Bad Weather

Korea Evaluation Institute of
Industrial Technology (KEIT)
Jul. 2024 – Present

PROJECT MANAGER

- Image restoration and Data pre-processing under adverse visual conditions

Anomaly Pre-Detection for Intelligent Surveillance via Vision-Language Fusion

National Research
Foundation of Korea (NRF)
Sep. 2024 – Present

DEEP LEARNING RESEARCHER

- Vision-language model integration for surveillance anomaly interpretation and response

Development of an AGI Platform for a Multisensory Social Robot

Institute for Information & Communications
Technology Promotion (IITP)
Apr. 2025 – Jan. 2026

DEEP LEARNING RESEARCHER

- Few-shot object detection and cross-domain adaptation for robotic perception

Multimodal Alignment-Based 3D Perception Foundation Model for Autonomous Driving

National IT Industry
Promotion Agency (NIPA)
Sep. 2025 – Dec. 2025

DEEP LEARNING RESEARCHER

- 3D object detection and LiDAR-RGB sensor fusion

Patents

Domestic Patent

[1] **Method and Apparatus for Generating 3D Scene Graph**

KR Registration No. 10-2025-0188361, South Korea, Dec. 2025

Software Copyright

[1] **Improved Sound Source Localization Model through Audio Signal Enhancement**

C-2025-035472, South Korea, 2025

Reference

Prof. Myeong-Ah Cho

Kyung Hee University

M.S. ADVISOR

- Assistant Professor, Visual Science Lab
- Email: maycho@khu.ac.kr