

# Seungjae Kim

M.S. Student in Software Convergence

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## 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

## Research Experience

### 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

## Projects

### AI Technology for Recognizing Abnormal Situations in Night and Bad Weather

PROJECT MANAGER

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

Korea Evaluation Institute of  
Industrial Technology (KEIT)

Jul. 2024 – Present

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

DEEP LEARNING RESEARCHER

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

National Research  
Foundation of Korea (NRF)

Sep. 2024 – Present

### Development of an AGI Platform for a Multisensory Social Robot

DEEP LEARNING RESEARCHER

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

Institute for Information & Communications  
Technology Promotion (IITP)

Apr. 2025 – Jan. 2026

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

DEEP LEARNING RESEARCHER

- 3D object detection and LiDAR-RGB sensor fusion

National IT Industry  
Promotion Agency (NIPA)

Sep. 2025 – Dec. 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*

## 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*

## Patents

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### 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

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### Prof. Myeong-Ah Cho

*Kyung Hee University*

M.S. ADVISOR

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