

Taeyeong Kim

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Education

KyungHee University

M.S. Course in Artificial Intelligence

• Visual Science Lab. supervised by Prof. MyeongAh Cho

Gyeonggi, Korea

Sep. 2024 - Present

KyungHee University

B.S. in Industrial & Management Engineering / Software Convergence

Gyeonggi, Korea

Mar. 2018 - Aug. 2024

Research Interests

3D Perception

3D Object Detection, BEV Representation, Point Cloud Processing

Sensor Fusion & Multimodal Learning

RGB-LiDAR Fusion, Infrared-Visible Image Fusion, Low-Light Image Enhancement

Domain Generalization

Robust Vision Models, Generalizable Object Detection & Segmentation

Experiences

AI robot-based human machine collaboration technology HRD

Korea Institute for Advancement
of Technology (KIAT)

Sep. 2024 - Aug. 2026

AI Convergence and Innovation Talent Development Program

KyungHee University

Sep. 2024 - Aug. 2026

Project Manager / Researcher

Visual Science Lab.

KyungHee University

Sep. 2024 - Present

- Development of AI technology capable of robustly recognizing abnormal and dangerous situations and behaviors during night and bad weather conditions
- Development of a Multi-modal Alignment-based 3D Perception Foundation Model for Autonomous Driving
- Anomaly pre-detection and response for intelligent surveillance system: high-level interpretation and response based on the visual-language fusion

Undergraduate Intern

SmartFactory Lab.

KyungHee University

Dec. 2021 - Dec. 2022

- Maximize the productivity and interoperability of factory system by using digital twin and artificial intelligence
- Development of an AI-driven O&M Service for Precision Machining, Leveraging Operator Expertise

Projects

Development of a Multi-modal Alignment-based 3D Perception Foundation Model for Autonomous Driving

National IT Industry Promotion
Agency (NIPA)

Sep. 2025 -

- Project manager
- 3D Object Detection, Multi-modal Alignment

Anomaly pre-detection and response for intelligent surveillance system: high-level interpretation and response based on the visual-language fusion

- Surveillance System, Image/Video Anomaly Detection

National Research Foundation
of Korea (NRF)

Sep. 2024 - PRESENT

Development of AI technology capable of robustly recognizing abnormal and dangerous situations and behaviors during night and bad weather conditions

- Project manager
- Image Enhancement, IR-Vis Image Fusion

Korea Planning & Evaluation
Institute of Industrial
Technology (KEIT)

Jul. 2024 - PRESENT

Development of an AI-driven O&M Service for Precision Machining, Leveraging Operator Expertise

- Digital Twin, Reinforcement Learning

Korea Planning & Evaluation
Institute of Industrial
Technology (KEIT)

Mar. 2022 - Dec. 2022

Publications

INTERNATIONAL

Do We Need Perfect Data? Leveraging Noise for Domain Generalized Segmentation

Taeyeong Kim, SeungJoon Lee, JungUk Kim, MyeongAh Cho

- Under-review

Normal-Adaptive Memory Module for Unsupervised Domain Adaptation in Weakly-Supervised Video Anomaly Detection

Taeyeong Kim*, YoungBin Kim*, Donghyeong Kim, Hyeonjeong Lim, MyeongAh Cho

- IEEE/IEIE International Conference on Consumer Electronics Asia (ICCE-Asia 2024)

DOMESTIC

RAT-VAD: Role-Aware adaptive Text Fusion for Video Anomaly Detection

MyoungChul Kim, YoungBin Kim, Taeyeong Kim, MyeongAh Cho

- Korea Computer Congress (KCC), 2025.

Night Image Transformation-Based Data Augmentation for Domain Generalization in Autonomous Driving Environment

Taeyeong Kim, SeongBae Park, MyeongAh Cho

- Korea Software Congress (KSC), 2024.

Optimizing Guidance Scale in Classifier-Free Diffusion Models for Conditional Brain MRI Generation

Taeyeong Kim, Howook Lee, Won Hee Lee

- Korea Computer Congress (KCC), 2024.

Awards

CDE DX Awards 2022

Society for Computational
Design and Engineering

2022

- Special Award (SIEMENS)
- Payload aware path planning robot

Capstone Design Competition

KyungHee University

2022

- 2nd place
- Autonomous mobile robots (AMRs) for in factory parts transport

Skills

Programming	C/C++, Python, Bash (Shell scripting), LaTeX
Tools	Pytorch, Linux (CLI), OpenCV, Git
Languages	Korean, English