Kyung-Min Jin

CONTACT INFORMATION

LG Electornics
Multimodal Task
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RESEARCH INTERESTS

Building multimodal intelligence from visual perception to embodied reasoning.

I am a multimodal AI researcher with a strong foundation in computer vision, where I designed novel pose estimation frameworks combining transformer architectures with convolutional neural networks and achieved state-of-the-art performance across multiple benchmarks, leading to publications in international venues such as WACV and peer-reviewed journals.

After joining LG Electronics, I worked on deploying body and hand pose estimation models to edge devices, focusing on efficiency and robustness in real-world environments. As my research scope expanded, I transitioned toward multimodal learning, contributing to the development of large-scale Vision–Language–Audio models, cross-modal continual learning strategies, and reinforcement learning–based policy optimization methods such as GRPO and DPO.

More recently, I have been working within an advanced robotics research team, where my focus is on robotic perception and natural language–based object understanding. My current research aims to bridge multimodal foundation models with embodied AI, enabling robots to ground language in visual perception and interact with the physical world more effectively.

EDUCATION

Korea University Seoul, Korea

Department of Artificial Intelligence Sep. 2021 - Feb. 2023

- M.S. in Artificial Intelligence
- Thesis: Kinematic Continuity-aware Masked Hierarchical Attention for Pose Estimation in Videos
- Adviser: Seong-Whan Lee
- Laboratory: PRML Laboratory
- Area of Study: Computer Vision
- GPA: 4.50 / 4.50 (100 / 100)

College of Informatics Mar. 2016 - Aug. 2021

- B.S. in Computer Science & Engineering
  GPA: 4.02 / 4.50 (94.5 / 100)
- B.S. in Artificial Intelligence
  GPA: 4.17 / 4.50 (96.2 / 100)
- GPA: 3.99 / 4.50 (94.2 / 100)

PUBLICATIONS

[1] Tae-Kyung Kang, Gun-Hee Lee, Woo-Jeoung Nam, Hyun-Woo Kim, **Kyung-Min Jin**, and Seong-Whan Lee, "Calibrated Attention Masking Network for Temporal Action Localization," Under Review.

[2] **Kyung-Min Jin**, Gun-Hee Lee, Woo-Jeoung Nam, Tae-Kyung Kang, Hyun-Woo Kim, and Seong-Whan Lee, "Masked Kinematic Correlation with Hierarchical Attention for Pose Estimation," in *Neural Netw.* ***(NN)***, 2024.

[3] Hyun-Woo Kim, Gun-Hee Lee, Woo-Jeoung Nam, **Kyung-Min Jin**, Tae-Kyung Kang, Geon-Jun Yang, and Seong-Whan Lee, "MHCanonNet: "Multi-Hypothesis Canonical Lifting Network for Self-supervised 3D Human Pose Estimation in the wild Video," in *Pattern Recognit.* ***(PR)***, 2024.

[4] **Kyung-Min Jin**, Byoung-Sung Lim, Gun-Hee Lee, Tae-Kyung Kang, and Seong-Whan Lee, "Kinematic-aware Hierarchical Attention Network for Human Pose Estimation in Videos," in *Proc. IEEE Winter Conf. Appl. Comput. Vis. **(WACV)***, 2023. **(Oral)**

[5] Tae-Kyung Kang, Gun-Hee Lee, **Kyung-Min Jin**, and Seong-Whan Lee, "Action-aware Masking Network with Group-based Attention for Temporal Action Localization," in *Proc. IEEE Winter Conf. Appl. Comput. Vis. **(WACV)***, 2023. **(Oral)**

[6] **Kyung-Min Jin**, Gun-Hee Lee, and Seong-Whan Lee, "OTPose: Occlusion-Aware Transformer for Pose Estimation in Sparsely-Labeled Videos," in *Proc. IEEE Int. Conf. Syst. Man Cybern. **(SMC)***, 2022. **(Oral)**

Grants and Honors

[1] Awarded LG Electronics R&D Scholarships — Sep. 2022

[2] Awarded Grand Prize Miso AI Model Development Challenge 2021, Infant Behavior Video Data hosted by Ministry of Science and ICT — Dec. 2021

[3] Encouragement Prize smart campus dataton 2020 in Korea University — Jul. 2020

Academic Service

Reviewer of **CVPR** (IEEE Conference on Computer Vision and Pattern Recognition) 2024 - 2025
Reviewer of **ICCV** (International Conference on Computer Vision) 2025 Reviewer of **ICCV** (International Conference on Computer Vision) 2025

Research Experience

Voice caddie — Seoul, Korea

Golf swing pose, distance assistant device — May. 2020 - Nov. 2020

- Golf pose estimation model, action localization, and annotation tool
- Pytorch, C++, and OpenCV

Industrial Experience

LG Electronics — Seoul, Korea

Advanced Robotics Lab.

- Robot Cognition Solution Task - Artificial intelligence researcher — Jan. 2026 - present

AI Lab.

- Multimodal Task - Artificial intelligence researcher — Jul. 2023 - Dec. 2025
- Cognitive Vision TP - Artificial intelligence researcher — Mar. 2023 - Jul. 2023

Deer corporation — Seoul, Korea

Electric kick board startup — Jul. 2020 - Feb. 2021

- Frontend developer
- React, Typescript, Next.js, and React Native

Klue — Seoul, Korea

Course evaluation service for Korea University — Jul. 2019 - present

- Frontend developer
- React, Typescript, Redux, and MobX

Teaching Experience

Teaching Assistant — Korea University
- Teaching Assistant for COSE213-02: Data Structure — Sep. 2022 - Dec. 2022

Instructor — Inflearn
- Online 2D Pose estimation course — Mar. 2023

CERTIFICATE

Human Resources Development Service of Korea — Seoul, Korea
- Engineer Information Processing — Nov. 2021

SKILLS

Computer Programming
- Python, JavaScript, and C

Deep Learning Frameworks
- PyTorch, Tensorflow, and Keras

Languages
- Korean (mother tongue)
- English (TOEIC Speaking - Lv. 6 / OPIc - IM1 / TOEIC - 830)