Jieun Kim

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Research Interest

My research focuses on **vision**, **multimodal learning**, and **trustworthy AI (XAI)**. I'm particularly interested in understanding how models perceive and reason about the visual world, and how we can ensure their outputs are interpretable and reliable.

Education

- **Yonsei University** — *Mar.2024 - **Present***
  Ph.D., Artificial Intelligence (Expected Graduation: Feb. 2028) — Seoul, Korea
- **Keimyung University** — *Mar.2021 - Feb.2023*
  M.S., Computer Engineering — Daegu, Korea
- **Keimyung University** — *Mar.2017 - Feb.2021*
  B.S., Computer Engineering — Daegu, Korea

Selected Publications

Spatial Reasoning in Large Vision-Language Models via Egocentric-to-Allocentric Transformation
Yoonji Kim*, **Jieun Kim*** and Sung-Bae Cho
EMNLP 2026 Findings

Injecting Context via Situation Working Memory for Logical Reasoning with LLMs
Jieun Kim, Seoha Lim, Young-Hae Choi and Sung-Bae Cho
ACL 2026

Diagnosing Spatial Consistency across Perspectives and Viewpoints in Large Vision-Language Models
Yoonji Kim, **Jieun Kim**, Yujin Jeong and Sung-Bae Cho
ACL 2026

Adaptive Beam Search with Shannon Entropy for Data-centric Reasoning in LLMs
Yoonji Kim*, Yujin Jeong*, **Jieun Kim** and Sung-Bae Cho
PAKDD 2026

Hierarchical Prototype Learning for Semantic Segmentation
Seoha Lim*, Jinmyeong Kim*, **Jieun Kim** and Sung-Bae Cho
ICLR 2026

Visual–Linguistic Abductive Reasoning with LLMs for Knowledge-based Visual Question Answering
Jieun Kim, Yujin Jeong and Sung-Bae Cho
EACL 2026

Fuzzy Contrastive Decoding to Alleviate Object Hallucination in Large Vision-Language Models
Jieun Kim, Jinmyeong Kim, Yoonji Kim and Sung-Bae Cho
ICCV 2025

Visual Question Answering: A Survey of Methods, Datasets, Evaluation, and Challenges
Byeong Su Kim, **Jieun Kim**, Deokwoo Lee and Beakcheol Jang
ACM Computing Surveys, Vol. 57, No. 10, pp. 1–35, 2025 (IF 23.8)

**Equal contribution*

Research & Work Experiences

- **Research Student** *Dec 2024 – Present*
  Soft Computing Lab, Yonsei University, Korea
  - **Focus:** **Trustworthy AI (XAI)** for multimodal and agentic systems
  - **Multimodal Model**
    - **Hallucination mitigation** — fuzzy rule-based contrastive decoding
    - ongoing: attention-based steering, co-occurrence bias removal [ongoing]
    - **Logical reasoning** — abductive reasoning, situation working memory
    - **Representation learning** — hierarchical prototype learning
    - **Spatial reasoning** — perspective/viewpoint consistency
  - **Multi-Agent LLM Systems**
    - **Orchestration** — BDI-based multi-agent framework [ongoing]
    - **Failure attribution** — error localization in agent trajectories [ongoing]
- **Research Student** *Mar 2023 – May 2023*
  AndLab, Korea
  - **Visual Question Answering** — survey, *ACM Computing Surveys*
- **Research Student** *Jan 2021 – Feb 2023*
  ISIP Lab, Korea
  - **Facial expression recognition** — spatial transformer networks, CNNs
- **Research Assistant** *Jan 2022 – Dec 2022*
  DGIST, Korea
  - **Camera calibration** — relative orientation, unsynchronized viewpoints

Leadership

- **Leader of Neuro-Symbolic Research Group** *Feb 2024 - Present*
  Soft Computing Lab, Yonsei University
  - **Mentoring** — junior researchers, acceptances at *ICLR 2026*, *PAKDD 2026*, *ACL 2026*
- **Women Graduate Student Engineering Research Team Program** *May 2022 - Oct 2022*
  Korea Women in Science and Technology Foundation, Korea
  - **Principal Investigator** — Korean Visual Question Answering (VQA) model

Registered Software (Copyright)

- **Working Memory for LLM Agent** *2025*
  Korea Copyright Commission (No. C-2025-038246)
- **Dual LLM Improving Symbolic Logic for Knowledge-based Visual Reasoning Model** *2024*
  Korea Copyright Commission (No. C-2024-035398)
- **LoCoT: Logical Chain of Thought Reasoning for Visual Language Model** *2024*
  Korea Copyright Commission (No. C-2024-035781)

Skills

- **Programming:** Python, C, C++, C#, Kotlin, JavaScript
- **Frameworks:** PyTorch, TensorFlow
- **Research Methods:** LoRA fine-tuning, multi-agent LLM orchestration, attention-based interpretability probing, LVLM benchmark evaluation
- **Languages:** Korean (Native), English

Academic Service

- **Reviewer:** *NeurIPS 2026*