

Jeonghwan Kim

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Research Interests

Natural Language Processing (NLP), Multimodal Large Language Models (MLLMs), Deep Learning

Vision-Language Models (VLMs), Retrieval-Augmented Generation (RAG), Multimodal Representation Learning, Multi-Hop/Open-Domain Question Answering (QA), Numeracy in LLMs, and Model Interpretability and Robustness.

Education

University of Illinois at Urbana-Champaign (UIUC)

Ph.D. Candidate in Computer Science (Advisor: [Heng Ji](#))

Champaign, USA
Aug 2023 – Present

KAIST

M.S. in Computer Science (Advisor: [Sung-Hyon Myaeng](#))
Thesis Committee: Sung-Hyon Myaeng, Alice Oh, Junho Lim
GPA: 4.13/4.30

Daejeon, South Korea
Feb 2022

Handong Global University

B.S. in Computer Science & Electrical Eng. (Advisor: [Heeyoul Henry Choi](#))
Magna Cum Laude (Overall GPA: 4.11/4.5 | Major GPA: 4.21/4.5)

Pohang, South Korea
Feb 2020

Experience

Meta — Research Scientist Intern (Part-time Student Researcher)

Working on Retrieval-Augmented Generation (RAG) on multimodal LLMs.

Redmond, USA
May 2025 – Oct 2025

Amazon — Applied Scientist Intern

Developed a generalizable multimodal encoder for geospatial applications.

Bellevue, USA
May 2024 – Aug 2024

UIUC — Research Assistant

Research on Multimodal LLMs and reasoning.

Champaign, USA
Aug 2023 – Present

KAIST — Researcher

Developed graph and RAG-based language modeling approaches for QA.

Daejeon, Korea
Mar 2022 – Jul 2023

Republic of Korea Marine Corps — Sergeant (Honorably Discharged)

Served as a rifleman and interpreter for the ROK-US Combined Marine Command.

Pohang, Korea
Mar 2015 – Dec 2016

Publications

‘*’ indicates equal contribution

[1] Pixel-Grounded Retrieval for Knowledgeable Large Multimodal Models

Jeonghwan Kim, Renjie Tao, Sanat Sharma, Jiaqi Wang, Kai Sun, Zhaojiang Lin, Seungwhan Moon, Lambert Mathias, Anuj Kumar, Heng Ji, Xin Luna Dong

Preprint (Under Review)

[2] Constructive Distortion: Improving MLLMs with Attention-Guided Image Warping

Dwip Dalal, Gautam Vashishtha, Utkarsh Mishra, **Jeonghwan Kim**, Madhav Kanda, Hyeonjeong Ha, Svetlana Lazebnik, Heng Ji, Unnat Jain

ICLR 2026

[3] PARTONOMY: Large Multimodal Models with Part-Level Visual Understanding

Jeonghwan Kim*, Ansel Blume*, Hyeonjeong Ha, Elen Chatikyan, Xiaomeng Jin, Khanh Duy Nguyen, Nanyun Peng,

- [4] **Infogent: An Agent-based Framework for Web Information Aggregation**
*Jeonghwan Kim**, Revanth Gangi Reddy*, Sagnik Mukherjee*, Zhenhailong Wang*, Dilek Hakkani-Tur, Heng Ji
NAACL 2025, Findings
- [5] **SYNTHIA: Novel Concept Design with Affordance Composition**
Hyeonjeong Ha, Xiaomeng Jin, Jeonghwan Kim, Jiateng Liu, Zhenhailong Wang, Khanh Duy Nguyen, Ansel Blume, Nanyun Peng, Kai-Wei Chang, Heng Ji
ACL 2025
- [6] **Search and Detect: Training-Free Long Tail Object Detection via Web-Image Retrieval**
Mankeerat Sidhu, Hetarth Chopra, Ansel Blume, Jeonghwan Kim, Revanth Gangi Reddy, Heng Ji
CVPR 2025
- [7] **Aligning LLMs with Individual Preferences via Interaction**
Shujin Wu, May Fung, Cheng Qian, Jeonghwan Kim, Dilek Hakkani-Tur, Heng Ji
COLING 2025
- [8] **Finer: Investigating and Enhancing Fine-Grained Visual Concept Recognition in Large Vision Language Models**
Jeonghwan Kim, Heng Ji
EMNLP 2024
- [9] **Why So Gullible? Enhancing the Robustness of Retrieval-Augmented Models against Counterfactual Noise**
Giwon Hong, Jeonghwan Kim*, Junmo Kang*, Sung-Hyon Myaeng, Joyce Jiyoung Whang*
NAACL 2024, Findings
- [10] **ARMADA: Attribute-Based Multimodal Data Augmentation**
Xiaomeng Jin, Jeonghwan Kim, Yu Zhou, Kuan-Hao Huang, Te-Lin Wu, Nanyun Peng, Heng Ji
Advancing Natural Language Process for Wikipedia@EMNLP 2024
- [11] **MIRACLE: An Online, Explainable Multimodal Interactive Concept Learning System**
Ansel Blume, Khanh Duy Nguyen*, Zhenhailong Wang, Yangyi Chen, Michal Shlapentokh-Rothman, Xiaomeng Jin, Jeonghwan Kim, Zhen Zhu, Jiateng Liu, Kuan-Hao Huang, Mankeerat Sidhu, Xuanming Zhang, Vivian Liu, Raunak Sinha, Te-Lin Wu, Abhay Zala, Elias Stengel-Eskin, Da Yin, Yao Xiao, Utkarsh Mall, Zhou Yu, Kai-Wei Chang, Camille Cobb, Karrie Karahalios, Lydia Chilton, Mohit Bansal, Nanyun Peng, Carl Vondrick, Derek Hoiem, Heng Ji*
ACM MM Technical Demos, 2024
- [12] **FinePrompt: Unveiling the Role of Finetuned Inductive Bias on Compositional Reasoning in GPT-4**
Jeonghwan Kim, Giwon Hong*, Sung-Hyon Myaeng, Joyce Jiyoung Whang*
EMNLP 2023, Findings
- [13] **Graph-Induced Transformers for Efficient Multi-Hop Question Answering**
Giwon Hong, Jeonghwan Kim, Junmo Kang, Sung-Hyon Myaeng
EMNLP 2022
- [14] **Exploiting Numerical-Contextual Knowledge to Improve Numerical Reasoning in Question Answering**
Jeonghwan Kim, Junmo Kang, Kyung-min Kim, Giwon Hong, Sung-Hyon Myaeng
NAACL 2022, Findings
- [15] **Have You Seen That Number? Investigating Extrapolation in Question Answering Models**
Jeonghwan Kim, Giwon Hong, Kyung-min Kim, Junmo Kang, Sung-Hyon Myaeng
EMNLP 2021
- [16] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation**
Junmo Kang, Jeonghwan Kim, Suwon Shin, Sung-Hyon Myaeng
EMNLP 2021
- [17] **Can You Distinguish Truthful from Fake Reviews? User Analysis and Assistance Tool for Fake Review Detection**
Jeonghwan Kim, Junmo Kang*, Suwon Shin*, Sung-Hyon Myaeng*
HCI+NLP Workshop, EACL 2021

[18] **Maximizing Efficiency of Language Model Pre-training for Learning Representation**

Junmo Kang, Suwon Shin*, Jeonghwan Kim*, Jaeyoung Jo*, Sung-Hyon Myaeng*

KSC 2020

[19] **Object Classification on Raw Radar Data Using Convolutional Neural Networks**

Heejae Han, Jeonghwan Kim, Junyoung Park, YuJin Lee, Hyunwoo Jo, Yonghyeon Park, Eric T Matson, Seongha Park

IEEE SAS 2019

[20] **Towards the Development and Realization of an Undetectable Stealth UAV**

Jiyeon Oh, Daeun Choe, Chanhui Yun, Jeonghwan Kim, Michael Hopmeier

IEEE IRC 2019

Academic Services

Reviewer - ICML 2026, ECCV 2026, CVPR 2026, ACL 2026, EACL 2026, SEA@NeurIPS 2025, AI4Research@AAAI 2025, EMNLP 2025, ACL 2025, ACL-SRW 2025, AAAI 2025, ACL 2024, Language + Molecules@ACL 2024, KnowledgeLM@ACL 2024, EMNLP 2024, EMNLP 2023

Projects

DARPA Environment-driven Conceptual Learning (ECOLE)

Funded by DARPA

Aug 2023 – Present

DARPA In the Moment (ITM)

Funded by DARPA

Aug 2023 – Present

Center for Advanced Bioenergy and Bioproducts Innovation (CABBI)

Funded by U.S. Department of Energy

Aug 2024 – Present

Development of Expert Decision-making Support AI

Development of AI technology for explainable expert decision-making.

Funded by the Korean Government (Ministry of Science and ICT)

Apr 2022 – Jul 2022

Contextual-Numerical Embedding for Reasoning

Development of context-number embedding for numerical reasoning in QA.

Funded by the Korean Government (Ministry of Science and ICT)

Jul 2021 – Dec 2021

ExoBrain

Development of Knowledge Evolutionary WiseQA Platform Technology.

Funded by the Korean Government (Ministry of Science and ICT)

Apr 2020 – Jul 2023

Smart Interaction and Context Association

Machine Learning for Context Association and Smart Interaction Suggestion.

Funded by the Korean Government (Ministry of Science and ICT)

Apr 2020 – Mar 2021

AI-based National Online Petition System

Development of AI-based national Online Petition System for citizen deliberation.

Funded by KAIST's Exploratory Research Program

Apr 2021 – Dec 2021

Purdue University - IITP Capstone

Raw radar data object detection and stealth UAV design.

Funded by the Korean Government (IITP)

Aug 2018 – Dec 2018

Honors & Awards

- **2020:** Graduated with Honors in CSE, Magna Cum Laude (Handong Global University)
- **2020:** Finalist (Top 3), COMEUP2020 AI CHAMPIONSHIP (K-Startup)
- **2019:** Grand Prize, Capstone Graduation Project Festival (Handong Global University, CSEE)
- **2018:** Certificate of Merit, IITP Capstone 9 Program (Purdue University)
- **2018:** Finalist (Top 15), NAVER AI Hackathon (NAVER AI RUSH)

- **2017:** National Science and Technology Scholarship, Korea Student Aid Foundation (KOSAF)

Teaching

- **Aug 2020 – Jun 2021:** Teaching Assistant, Senior Data Science, Samsung SDS
- **Jun 2021 – Jul 2021:** Teaching Assistant, Text Mining, SKKU Global Business School
- **Mar 2021 – Dec 2021:** Teaching Assistant, Text Mining, KAIST
- **Mar 2019 – Jun 2019:** Teaching Assistant, Data Structures, Handong Global University

Technical Skills

Programming: Python, C, C++, Java

Frameworks: Pytorch, TensorFlow, Theano, Docker, Huggingface, OpenCV, Flutter, Firebase, DGL

Tools: SpaCy, NLTK, Seaborn, Matplotlib