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) — Champaign, USA
Ph.D. Candidate in Computer Science (Advisor: Heng Ji) — Aug 2023 – Present

KAIST — Daejeon, South Korea
M.S. in Computer Science (Advisor: Sung-Hyon Myaeng) — Feb 2022
Thesis Committee: Sung-Hyon Myaeng, Alice Oh, Junho Lim
GPA: 4.13/4.30

Handong Global University — Pohang, South Korea
B.S. in Computer Science & Electrical Eng. (Advisor: Heeyoul Henry Choi) — Feb 2020
Magna Cum Laude (Overall GPA: 4.11/4.5 | Major GPA: 4.21/4.5)

Experience

Meta — *Research Scientist Intern (Part-time Student Researcher)* — Redmond, USA
Working on Retrieval-Augmented Generation (RAG) on multimodal LLMs. — May 2025 – Oct 2025

Amazon — *Applied Scientist Intern* — Bellevue, USA
Developed a generalizable multimodal encoder for geospatial applications. — May 2024 – Aug 2024

UIUC — *Research Assistant* — Champaign, USA
Research on Multimodal LLMs and reasoning. — Aug 2023 – Present

KAIST — *Researcher* — Daejeon, Korea
Developed graph and RAG-based language modeling approaches for QA. — Mar 2022 – Jul 2023

Republic of Korea Marine Corps — *Sergeant (Honorably Discharged)* — Pohang, Korea
Served as a rifleman and interpreter for the ROK-US Combined Marine Command. — Mar 2015 – Dec 2016

Publications

'*' indicates equal contribution

[1] **PixaR: 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] **PARTONOMY: Large Multimodal Models with Part-Level Visual Understanding**
Jeonghwan Kim*, *Ansel Blume*, Hyeonjeong Ha, Elen Chatikyan, Xiaomeng Jin, Khanh Duy Nguyen, Nanyun Peng, Kai-Wei Chang, Derek Hoiem and Heng Ji*
NeurIPS 2025 (Spotlight)

[3] **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

[4] **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

[5] **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

[6] **Aligning LLMs with Individual Preferences via Interaction**
*Shujin Wu, May Fung, Cheng Qian, **Jeonghwan Kim**, Dilek Hakkani-Tur, Heng Ji*

COLING 2025

[7] **Finer: Investigating and Enhancing Fine-Grained Visual Concept Recognition in Large Vision Language Models**
***Jeonghwan Kim**, Heng Ji*

EMNLP 2024

[8] **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

[9] **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

[10] **Graph-Induced Transformers for Efficient Multi-Hop Question Answering**
*Giwon Hong, **Jeonghwan Kim**, Junmo Kang, Sung-Hyon Myaeng*

EMNLP 2022

[11] **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

[12] **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

[13] **Leveraging Order-Free Tag Relations for Context-Aware Recommendation**
*Junmo Kang, **Jeonghwan Kim**, Suwon Shin, Sung-Hyon Myaeng*

EMNLP 2021

[14] **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

[15] **Maximizing Efficiency of Language Model Pre-training for Learning Representation**
Junmo Kang, Suwon Shin*, **Jeonghwan Kim***, Jaeyoung Jo*, Sung-Hyon Myaeng*

KSC 2020

[16] **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

[17] **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 - EACL 2026, SEA@NeurIPS 2025, EMNLP 2025, ACL 2025, AAAI 2025, ACL 2024, NAACL 2024, EMNLP 2024, ACL 2023, EMNLP 2023

Projects

DARPA Environment-driven Conceptual Learning (ECOLE) Aug 2023 – Present
Funded by DARPA

DARPA In the Moment (ITM) Aug 2023 – Present
Funded by DARPA

Development of Expert Decision-making Support AI Apr 2022 – Jul 2022
Development of AI technology for explainable expert decision-making.
Funded by the Korean Government (Ministry of Science and ICT)

Contextual-Numerical Embedding for Reasoning Jul 2021 – Dec 2021
Development of context-number embedding for numerical reasoning in QA.
Funded by the Korean Government (Ministry of Science and ICT)

ExoBrain Apr 2020 – Jul 2023
Development of Knowledge Evolutionary WiseQA Platform Technology.
Funded by the Korean Government (Ministry of Science and ICT)

Smart Interaction and Context Association Apr 2020 – Mar 2021
Machine Learning for Context Association and Smart Interaction Suggestion.
Funded by the Korean Government (Ministry of Science and ICT)

AI-based National Online Petition System Apr 2021 – Dec 2021
Development of AI-based national Online Petition System for citizen deliberation.
Funded by KAISTs Exploratory Research Program

Purdue University - IITP Capstone Aug 2018 – Dec 2018
Raw radar data object detection and stealth UAV design.
Funded by the Korean Government (IITP)

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, Pytorch, C, C++, Java, Dart
Frameworks: Pytorch, TensorFlow, Theano, Docker, Huggingface, OpenCV, Flutter, Firebase, DGL
Tools: SpaCy, NLTK, Seaborn, Matplotlib