

# 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](#))

Daejeon, South Korea  
Feb 2022

Thesis Committee: Sung-Hyon Myaeng, Alice Oh, Junho Lim

GPA: 4.13/4.30

### Handong Global University

B.S. in Computer Science & Electrical Eng. (Advisor: [Heeyoul Henry Choi](#))

Pohang, South Korea  
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)

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 (Honorable 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] **PixaR: Pixel-Grounded Retrieval for Knowledgeable Large Multimodal Models**

**Jeonghwan Kim**, Renjie Tao (*Under Review*), 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

- [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

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**Reviewer** - EACL 2026, SEA@NeurIPS 2025, EMNLP 2025, ACL 2025, AAAI 2025, ACL 2024, NAACL 2024, EMNLP 2024, ACL 2023, EMNLP 2023

## Projects

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<b>DARPA Environment-driven Conceptual Learning (ECOLE)</b> <i>Funded by DARPA</i>	Aug 2023 – Present
<b>DARPA In the Moment (ITM)</b> <i>Funded by DARPA</i>	Aug 2023 – Present
<b>Development of Expert Decision-making Support AI</b> Development of AI technology for explainable expert decision-making. <i>Funded by the Korean Government (Ministry of Science and ICT)</i>	Apr 2022 – Jul 2022
<b>Contextual-Numerical Embedding for Reasoning</b> Development of context-number embedding for numerical reasoning in QA. <i>Funded by the Korean Government (Ministry of Science and ICT)</i>	Jul 2021 – Dec 2021
<b>ExoBrain</b> Development of Knowledge Evolutionary WiseQA Platform Technology. <i>Funded by the Korean Government (Ministry of Science and ICT)</i>	Apr 2020 – Jul 2023
<b>Smart Interaction and Context Association</b> Machine Learning for Context Association and Smart Interaction Suggestion. <i>Funded by the Korean Government (Ministry of Science and ICT)</i>	Apr 2020 – Mar 2021
<b>AI-based National Online Petition System</b> Development of AI-based national Online Petition System for citizen deliberation. <i>Funded by KAISTs Exploratory Research Program</i>	Apr 2021 – Dec 2021
<b>Purdue University - IITP Capstone</b> Raw radar data object detection and stealth UAV design. <i>Funded by the Korean Government (IITP)</i>	Aug 2018 – Dec 2018

## Honors & Awards

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- **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

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- **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

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**Programming:** Python, Pytorch, C, C++, Java, Dart

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

**Tools:** SpaCy, NLTK, Seaborn, Matplotlib