Oh, Hanseok

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Research Interest

I am interested in enabling AI to equip with knowledge required differently from each individual, control behavior in complex, real-world scenarios, and build trust in its solutions. Specifically, I am interested in: (1) How can language models effectively store, access, and leverage diverse types of knowledge? and (2) How can we design AI systems that interact naturally with humans and adapt to individual needs?

Experience

SoftlyAI @ Seoul, Korea   May 2024 - present
AI research Engineer
SoftlyAI (`softly.ai`) is a startup working on the AI Agent for the professionals. Our team worked on building conversational agentic RAG engines that powers the company's core products (clinic coordination, finance assistant).

LG AI @ Seoul, Korea   Sep 2023 - Feb 2024
Research Intern
I worked on an evaluation benchmark, InstructIR, for measuring user-aligned instance-wise instruction following ability of information retrieval at Language lab [7].

Kakao Enterprise @ Seongnam, Korea   Jul 2020 - Oct 2020
Machine Learning Engineer Intern
I worked on knowledge graph embedding (KGE) to better represent complex relationship of large-scale in-house graph data. I also contributed to analyze large scale graph data with distributed system with hadoop and spark.

NAVER @ Seongnam, Korea   Mar 2020 - Jun 2020
Software Engineer Intern
I worked on tools for entity linking engine for the search system. I also worked on building a neural entity linking model.

Undergraduate Research Program, KOFAC @ Seoul, Korea   Jan 2019 - Dec 2019
Undergraduate Researcher
I worked on a project for building a fake news detection system for news. Our team is grouped in multidisciplinary with social science, media, and industrial engineering major.

Republic of Korea Air Force @ Jinju, Korea   Sep 2015 - Sep 2017
Sergeant
I served as a training assistant for the Republic of Korea Air Force Training Wing.

Education

Korea Advanced Institute of Science and Technology   Sep 2021 – Feb 2024
MS in Artificial Intelligence
Area: Natural Language Processing, Machine Learning, Information retrieval
Advisor: Minjoon Seo

SungKyunKwan University   Mar 2014 - Aug 2020
BS in Data Science & BA in Child and Adolescent Education
Cumulative GPA: 4.17/4.5

Honors and Awards

- Best paper, NAACL 2025 [8]
- 1st Place, VALUE Challenge Retrieval Track, ICCV 2021 [1]
- Academic Excellence Scholarship, Sungkyunkwan University, Korea (2019)

Selected Papers

[8] Seungone Kim, Juyoung Suk, Ji Yong Cho, Shayne Longpre, Chaeeun Kim, Dongkeun Yoon, Guijin Son, Yejin Cho, Sheikh Shafayat, Jinheon Baek, Suehyun Park, Hyeonbin Hwang, Jinkyung Jo, Hyowon Cho, Haebin Shin, Seongyun Lee, Hanseok Oh, Noah Lee, Namgyu Ho, Sejune Joo, Miyoung Ko, Yoonjoo Lee, Hyungjoo Chae, Jamin Shin, Joel Jang, Seonghyeon Ye, Bill Yuchen Lin, Sean Welleck, Graham Neubig, Moontae Lee, Kyungjae Lee, and Minjoon Seo. "The BiGGen Bench: A Principled Benchmark for Fine-grained Evaluation of Language Models with Language Models". In: *NAACL*. 2025.

[7] Hanseok Oh, Hyunji Lee, Seonghyeon Ye, Haebin Shin, Hansol Jang, Changwook Jun, and Minjoon Seo. "INSTRUCTIR: A Benchmark for Instruction Following of Information Retrieval Models". In: *ACL workshop on Knowledge-Augmented NLP (KnowledgeNLP-ACL24)*. 2024.

[6] Hanseok Oh, Haebin Shin, Miyoung Ko, Hyunji Lee, and Minjoon Seo. "KTRL+ F: Knowledge-Augmented In-Document Search". In: *NAACL*. 2024.

[5] Yongrae Jo, Seongyun Lee, Aiden SJ Lee, Hyunji Lee, Hanseok Oh, and Minjoon Seo. "Zero-shot dense video captioning by jointly optimizing text and moment". In: *arXiv preprint*. 2023.

[4] Hyunji Lee, Jaeyoung Kim, Hoyeon Chang, Hanseok Oh, Sohee Yang, Vlad Karpukhin, Yi Lu, and Minjoon Seo. "Nonparametric Decoding for Generative Retrieval". In: *ACL Findings*. 2023.

[3] Hanseok Oh, Seojin Nam, and Yongjun Zhu. "Structured abstract summarization of scientific articles: Summarization using full-text section information". In: *JASIST* (2023).

[2] Hyunji Lee, Sohee Yang, Hanseok Oh, and Minjoon Seo. "Generative multi-hop retrieval". In: *EMNLP*. 2022.

[1] Aiden Seungjoon Lee, Hanseok Oh, and Minjoon Seo. "ViSeRet: A simple yet effective approach to moment retrieval via fine-grained video segmentation". In: *ICCV Workshop on Closing the Loop between Vision and Language (CLVL)*. 2021.

Services

- Reviewer: ARR, ACL, NAACL, EMNLP