

Email: starsuzi@kaist.ac.krHomepage: <https://starsuzi.github.io>Google Scholar: [/Soyeong Jeong](#)RESEARCH
INTEREST

My research interests are mainly on Retrieval-Augmented Generation (RAG) for solving open-domain language tasks and interpretation of Large Language Models (LLMs) to enhance their interpretability in real-world applications. Not limited to, I am interested in broad topics on natural language understanding.

EDUCATION

KAIST

Ph.D. in Graduate school of AI

Daejeon, Korea

M.S. in School of Computing

Mar 2022 – Present

Mar 2020 – Feb 2022

Thesis: Information Retrieval by Augmenting Document Representation

Korea University

Seoul, Korea

B.S. in Computer Science and Engineering (Graduated with Honor)

Mar 2016 – Feb 2020

B.E. in Software Technology and Enterprise Program (Interdisciplinary Program)

Anyang Foreign Language High School

Anyang, Korea

Prestigious high school for talented students (Major in English)

Mar 2013 – Feb 2016

EMPLOYMENT

Applied Scientist Intern, Amazon

Jul 2024 - Oct 2024

- Conducting research on a proactive conversational task with LLM-powered multi-agents.

Graduate student, KAIST (Advisor: Prof. Sung Ju Hwang)

Mar 2020 - Present

- Conducted research on LLM-powered Retrieval-Augmented Generation (RAG) systems.
- Conducted research on the open conversational question-answering task.
- Conducted research on augmentation of both sparse and dense retrievers.

Undergrad. Research Assistant, Korea University (Advisor: Prof. Jaewoo Kang)

Mar 2019 - Feb 2020

- Participated in the major recommendation project by embedding curriculum vectors.
- Participated in the food ingredient & drug graph construction project.

Research Intern, Seoul SW-SoC Convergence R&BD Center, ETRI

Jul 2019 - Aug 2019

- Participated in the Speech Emotion Recognition project.

Research Intern, Artificial Intelligence Research Laboratory, ETRI

Jan 2019 - Feb 2019

- Participated in the AIR project (Developing Artificial Social Intelligence for Human-Care Robots).

PUBLICATIONS

International Publications

- [24] Database-Augmented Query Representation for Information Retrieval
[Soyeong Jeong](#), Jinheon Baek, Sukmin Cho, Sung Ju Hwang, and Jong C. Park
Under review
- [23] Typos that Broke the RAG's Back: Genetic Attack on RAG Pipeline
by Simulating Documents in the Wild via Low-level Perturbations
Sukmin Cho, [Soyeong Jeong](#), Jeongyeon Seo, Taeho Hwang, and Jong C. Park
Under review
- [22] Ask LLMs Directly, "What shapes your bias?": Measuring Social Bias in Large Language Models
Jisu Shin, Hoyun Song, Huije Lee, [Soyeong Jeong](#), and Jong C. Park
Findings of the Association for Computational Linguistics (**Findings of ACL**), 2024.
- [21] DSLR: Document Refinement with Sentence-Level Re-ranking and Reconstruction
to Enhance Retrieval-Augmented Generation
Taeho Hwang, [Soyeong Jeong](#), Sukmin Cho, SeungYoon Han, and Jong C. Park
Knowledge Augmented Methods for NLP Workshop (**KnowledgeNLP @ ACL**), 2024.
- [20] Adaptive-RAG: Learning to Adapt Retrieval-Augmented Large Language Models
through Question Complexity
[Soyeong Jeong](#), Jinheon Baek, Sukmin Cho, Sung Ju Hwang, and Jong C. Park
North American Chapter of the Association for Computational Linguistics (**NAACL**), 2024.

- [19] Self-Knowledge Distillation for Learning Ambiguity
Hancheol Park, [Soyeong Jeong](#), Sukmin Cho, and Jong C. Park
arXiv preprint
- [18] Test-Time Self-Adaptive Small Language Models for Question Answering
[Soyeong Jeong](#), Jinheon Baek, Sukmin Cho, Sung Ju Hwang, and Jong C. Park
Findings of the Empirical Methods in Natural Language Processing (**Findings of EMNLP**), 2023.
- [17] Knowledge-Augmented Language Model Verification
Jinheon Baek, [Soyeong Jeong](#), Minki Kang, Jong C. Park, and Sung Ju Hwang
Empirical Methods in Natural Language Processing (**EMNLP**), 2023.
- [16] Improving Zero-shot Reader by Reducing Distractions
from Irrelevant Documents in Open-Domain Question Answering
Sukmin Cho, Jeongyeon Seo, [Soyeong Jeong](#), Jong C. Park
Findings of the Empirical Methods in Natural Language Processing (**Findings of EMNLP**), 2023.
- [15] Phrase Retrieval for Open-Domain Conversational Question Answering
with Conversational Dependency Modeling via Contrastive Learning
[Soyeong Jeong](#), Jinheon Baek, Sung Ju Hwang, and Jong C. Park
Findings of the Association for Computational Linguistics (**Findings of ACL**), 2023.
- [14] Discrete Prompt Optimization via Constrained Generation for Zero-shot Re-ranker
Sukmin Cho, [Soyeong Jeong](#), Jeong yeon Seo, Jong C. Park
Findings of Association for Computational Linguistics (**Findings of ACL**), 2023.
- [13] Realistic Conversational Question Answering with Answer Selection
based on Calibrated Confidence and Uncertainty Measurement
[Soyeong Jeong](#), Jinheon Baek, Sung Ju Hwang, and Jong C. Park
Conference of the European Chapter of the Association for Computational Linguistics (**EACL**), 2023.
- [12] Augmenting Document Representations for Dense Retrieval with Interpolation and Perturbation
[Soyeong Jeong](#), Jinheon Baek, Sukmin Cho, Sung Ju Hwang, and Jong C. Park
Annual Meeting of the Association for Computational Linguistics (**ACL**), 2022. (**Oral**)
- [11] Query Generation with External Knowledge for Dense Retrieval
Sukmin Cho, [Soyeong Jeong](#), Wonsuk Yang, Jong C. Park
Deep Learning Inside Out at Association for Computational Linguistics (**DeeLIO @ ACL**), 2022.
- [10] Unsupervised Document Expansion for Information Retrieval with Stochastic Text Generation
[Soyeong Jeong](#), Jinheon Baek, ChaeHun Park, and Jong C. Park
Scholarly Document Processing Workshop at NAACL (**SDP @ NAACL**), 2021. (**Oral**)
- [9] Development of Speech Emotion Recognition Algorithm using MFCC and Prosody
Hyejin Koo, [Soyeong Jeong](#), Sungjae Yoon, Wonjong Kim
International Conference on Electronics, Information, and Communication (**ICEIC**), 2020.

Domestic Publications, mostly written in Korean

- [8] Retrieval-Augmented Generation through Zero-shot Sentence-Level Passage Refinement using LLMs
Taeho Hwang, [Soyeong Jeong](#), Sukmin Cho, and Jong C. Park
Korea Computer Congress (KCC), 2024. (**Best Paper**)
- [7] Controllable prompt tuning with relation dependent tokens
Jinseok Kim, Sukmin Cho, [Soyeong Jeong](#), and Jong C. Park
Korea Computer Congress (KCC), 2023.
- [6] Stopwords Mask Pooling for Dense Retrieval in Medical Domain
Dongho Choi, Hoyun Song, [Soyeong Jeong](#), Sukmin Cho, and Jong C. Park
Korea Computer Congress (KCC), 2022. (**Best Presentation**)
- [5] Assessing automatic summarization model as a reading assistant
Aujin Kim, Jisu Shin, [Soyeong Jeong](#), Sukmin Cho, and Jong C. Park
Korea Computer Congress (KCC), 2022.

- [4] Calibration of Pre-trained Language Model for the Korean Language
Soyeong Jeong, Wonsuk Yang, ChaeHun Park, Jong C. Park
 Journal of KIISE (JOK), 2021.
- [3] Calibration of Pre-trained Language Model for Korean
Soyeong Jeong, Wonsuk Yang, ChaeHun Park, Jong C. Park
 Human & Cognitive Language Technology (HCLT), 2020. **(Best Paper)**
- [2] Embedding Academic Majors and Lectures for Analyzing Departments in University
 Jinheon Baek, Gwanghoon Jang, Soyeong Jeong, Donghyeon Park, Kiwon Kwon, Jaewoo Kang
 Korea Computer Congress (KCC), 2019.

Thesis

- [1] Information Retrieval by Augmenting Document Representation
Soyeong Jeong
 Master's Thesis, KAIST, 2022

HONORS AND AWARDS

| | |
|---|------|
| Awarded a Ph.D. fellowship from NRF (National Research Foundation) of Korea | 2023 |
| Title: Realistic Open-domain Question Answering System with Large Language Models | |
| Received the Best Paper Award at HCLT 2020 | 2020 |
| Graduated with Honor | 2019 |
| Computer Science and Engineering Department at Korea University | |
| Received the First Prize in the Graduation Project, Competition Among Around 20 Teams | 2019 |
| Computer Science and Engineering Department at Korea University | |
| Nominated as Semester High Honors (Spring 2019) | 2019 |
| Nominated as Semester High Honors (Fall 2018) | 2018 |
| Received the Second Prize for the iOS Hackathon at Korea University | 2018 |
| Awarded as the Finalist, Competition of 21:1 with 735 total submissions | 2017 |
| LG Global Challenger | |

ACADEMIC SERVICES

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|---|------|
| Reviewer of ACL ARR 2024 February, April, June Reviewer | 2024 |
| Reviewer of ACL ARR 2023 October, December Reviewer | 2023 |
| Reviewer of TALLIP 2022 (ACM Transactions on Asian and Low-Resource Language Information Processing) | 2022 |
| Reviewer of ACL-IJCNLP Demo Track 2021 | 2021 |

TEACHING

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| Machine Learning (CS376) | |
| KAIST Spring 2024 (Teaching Assistant) | |
| Computational Linguistics (CS579) | |
| KAIST Fall 2022 (Teaching Assistant) | |
| Natural Language Processing with Python (CS372) | |
| KAIST Spring 2020, Spring 2021, Spring 2023 (Teaching Assistant) | |

SKILLS

Languages: Korean (mother tongue), English (fluent)
 Programming: Python, C, Java, Swift