Jeesu Jung

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Selected Papers

1. **Jeesu Jung**, Chanjun Park, Sangkeun Jung. *ZEBRA: Leveraging Model-Behavioral Knowledge for Zero-Annotation Preference Dataset Construction*, *EMNLP 2025: The 2025 Conference on Empirical Methods in Natural Language Processing*, Suzhou, 2025

2. Hyuk Namgoong, **Jeesu Jung**, Sangkeun Jung, Yohan Lee, Hyeonsoek Kang *AMACE: Automatic Multi-Agent Chart Evolution for Iteratively Tailored Chart Generation*, *EMNLP 2025: The 2025 Conference on Empirical Methods in Natural Language Processing*, Suzhou, 2025

3. *Courtroom-LLM: A Legal-Inspired Multi-LLM Framework for Resolving Ambiguous Text Classifications*,
   Sangkeun Jung, **Jeesu Jung**†.
   COLING 2025: The 31st International Conference on Computational Linguistics, Abu Dhabi, 2025.

4. **Jeesu Jung**, Hyein Seo, Hyuk Namgoong, Sangkeun Jung. *Assessing and Scoring Difficulty of Hard-to-Solve Data in Summarization Tasks*, *IEEE Access*, Accepted, 2024. ACCESS.2024.3519548

5. *Interactive User Interface for Dialogue Summarization*,
   Jeesu Jung, Hyein Seo, Sangkeun Jung, Riwoo Chung, Hwijung Ryu, Du-Seong Chang.
   IUI '23: Proceedings of the 28th International Conference on Intelligent User Interfaces, Sydney, 2023.

Lifelong Research Objective

My research objective is to develop human-centered AI systems that bridge the gap between complex AI technologies and end-users. I focus on creating intuitive interfaces that empower professionals across specialized domains, particularly in biology and law, to effectively harness AI capabilities. By emphasizing user experience design and creative interaction patterns, I aim to unlock AI's potential to generate novel insights while ensuring accessibility and practical value. My work ultimately seeks to advance AI applications that meaningfully benefit both individuals and society.

Research Interest

I investigate innovative approaches to enhance natural language processing systems, with particular emphasis on dialogue summarization, controlled text generation, and domain-specific applications. My research integrates knowledge graphs, data augmentation strategies, and reward modeling to improve AI performance and reliability. By combining theoretical advances with practical implementations, I

develop solutions that address real-world challenges while fostering creative problem-solving. This work contributes to both fundamental NLP research and its practical applications across diverse professional domains.

Education

Chungnam National University **Daejeon, South Korea**
Integrated M.S./Ph.D. Program in Computer Engineering *Mar. 2021 – expect(02.2026)*
Advisor: Prof. Sangkeun Jung

Research: Enhancement of Large Language Models through Data Analysis and Refinement

Research: Human-AI Interaction

GPA: 4.38/4.5

Chungnam National University **Daejeon, South Korea**
B.S. in Computer Engineering *Mar. 2017 – Feb. 2021*

GPA: 3.95/4.5

Publications

†: Corresponding Author

Google Scholar: `https://scholar.google.com/citations?user=h2UNThYAAAAJ&hl=en`

Conferences:

1. **Jeesu Jung**, Chanjun Park, Sangkeun Jung. *ZEBRA: Leveraging Model-Behavioral Knowledge for Zero-Annotation Preference Dataset Construction*, *EMNLP 2025: The 2025 Conference on Empirical Methods in Natural Language Processing*, Suzhou, 2025
2. Hyuk Namgoong, **Jeesu Jung**, Sangkeun Jung, Yohan Lee, Hyeonsoek Kang *AMACE: Automatic Multi-Agent Chart Evolution for Iteratively Tailored Chart Generation*, *EMNLP 2025: The 2025 Conference on Empirical Methods in Natural Language Processing*, Suzhou, 2025
3. *Courtroom-LLM: A Legal-Inspired Multi-LLM Framework for Resolving Ambiguous Text Classifications*,
   Sangkeun Jung, **Jeesu Jung**†.
   COLING 2025: The 31st International Conference on Computational Linguistics, Abu Dhabi, 2025.
4. *Interactive User Interface for Dialogue Summarization*,
   Jeesu Jung, Hyein Seo, Sangkeun Jung, Riwoo Chung, Hwijung Ryu, Du-Seong Chang.
   IUI '23: Proceedings of the 28th International Conference on Intelligent User Interfaces, Sydney, 2023.
5. *Guidance-Based Prompt Data Augmentation in Specialized Domains for Named Entity Recognition*,
   Hyeonseok Kang, Hyein Seo, **Jeesu Jung**, Sangkeun Jung, Du-seong Chang, Riwoo Chung.
   ACL 2024: The 62nd Annual Meeting of the Association for Computational Linguistics, Bangkok, 2024.
6. *Exploring Domain Robust Lightweight Reward Models based on Router Mechanism*,
   Hyuk Namgoong, **Jeesu Jung**, Sangkeun Jung, Yoon-Hyung Roh.
   ACL 2024: The 62nd Annual Meeting of the Association for Computational Linguistics, Bangkok, 2024.
7. *Sequential Alignment Methods for Ensemble Part-of-Speech Tagging*,

Jeesu Jung, Sangkeun Jung, Yoon-Hyung Roh.
BigComp 2022: IEEE International Conference on Big Data and Smart Computing, Daegu, 2022.

Journals:

1. Hyein Seo, Taewook Hwang, **Jeesu Jung**, Hyeonseok Kang, Hyuk Namgoong, Yohan Lee, Sangkeun Jung *LLM-as-Evaluators in Education: Verification of Feedback Consistency and Accuracy*, *Applied Sciences*, Accepted, 2025. Appl. Sci. 2025, 15(2), 671
2. **Jeesu Jung**, Hyein Seo, Hyuk Namgoong, Sangkeun Jung. *Assessing and Scoring Difficulty of Hard-to-Solve Data in Summarization Tasks*, *IEEE Access*, Accepted, 2024. ACCESS.2024.3519548
3. Hyein Seo, Sangkeun Jung, **Jeesu Jung**, Taewook Hwang, Hyuk Namgoong. *Controllable Text Generation using Semantic Control Grammar*, *IEEE Access*, 2023. ACCESS.2023.3252017
4. **Jeesu Jung**, Sangkeun Jung, Hyein Seo, Hyuk Namgoong, Sungryeol Kim. *Sequence Alignment Ensemble with a Single Neural Network for Sequence Labeling*, *IEEE Access*, 2022. ACCESS.2022.3188107

Under Review:

1. **Jeesu Jung**, Taewook Hwang, Hyein Seo, Sangkeun Jung. *GROVE: Hybrid Data Selection Strategies for Cost-Effective Instruction Tuning of Small Large Language Models*, *Expert Systems with Applications*, 2025, October
2. **Jeesu Jung**, Sangkeun Jung. *Empirical Analysis of Task Mixture Effects in Instruction Tuning: A Statistical Approach*, *ARR 2025 October*, 2025, October

Projects

Korean Telecom(KT) Corporation

Data Selection for Instruction Tuning:

- Conducted data selection and augmentation for instruction datasets.
- Developed a dataset visualization UI and an automatic selection framework for efficient data selection.
- Successfully completed the project and submitted findings, currently under review (ARR).

Human-AI Interactive Dialogue Summarization Technology Using Large Language Models:

- Developed a technology for generating summaries based on conversation history.
- Designed a Human-AI Interactive web framework to improve dialogue summarization models and accuracy.
- Successfully completed the project and published findings, accepted at IUI'23.

Sentence Generation Technology Utilizing Large Language Models and Structured Data:

- Designed a framework for data selection for curriculum learning.
- Conducted curriculum learning using the framework and a reward model.
- Successfully completed the project and published findings, accepted in IEEE Access.

Knowledge Graph-Based Multi-Document Analysis Technology:

- Developed a UI and framework for data refinement.
- Built a UI for NER data collection, including training and post-processing modules.
- Successfully completed the project and published findings, awarded 3rd place at BigComp 2022.

Electronics and Telecommunications Research Institute(ETRI)

Dialogue History-Aware Sentence Similarity Learning and Data Augmentation:

- Generated data for instruction and alignment of models for educational purposes
- Evaluated data quality for generating and augmenting alignment datasets

- Designed binarization and quality assessment methods for training datasets

Conversational Vector Expression Learning and Sentence Generation:
- Data classification and augmentation for enhancing the factuality of LLM responses
- Quantified the factuality of LLM responses using a reward model
- Applied scoring to filter data and perform automatic augmentation and alignment tuning

Awards & Fellowships

Awards:
1. 3rd Place Award, BigComp 2022: IEEE International Conference on Big Data and Smart Computing, Daegu, 2022
2. Research Excellence Award, Chungnam National University, 2021

Fellowships:
1. BK21 Star-fellowship for outstanding, 2024–2025
2. Excellent Graduate Student Scholarship, Chungnam National University, 2021–2024
3. Korean Government Scholarship for Science and Engineering, 2017–2021

Research Experience

KT Corporation, South Korea
Research Intern *2022*

Duration: 2 months

Project: Korean Grammar Correction Using Large Language Models

Key Contributions:
- Research on augmenting large language models to Korean data for interactive user-AI tool.
- Prepared reports and presented project about described project.
- Published findings as a paper: "Grammar Correction for Colloquial Sentences Based on Sentence Templates using Sequence-to-Sequence Models" (HCLT 2022).

Teaching Experience

Samsung Software Academy For Youth(SSAFY)
Associate Teacher *2024, 2025*

Duration: 1 months

Course: RAG system with User Interface

Key Contributions:
- Created lecture materials and example code for implementing a backend with RAG.
- Monitored student project progress and provided guidance on direction.
- The team I supervised was selected as an outstanding team for their project, "Building a RAG System and Chatbot Based on a Notebook User Guide".

Boostcourse(Naver & Upstage)
Associate Teacher *2022–2024*

Duration: 3 Years

Course: Natural Language Processing Applications

Key Contributions:

- Created lecture materials and example code for implementing NLP applications.
- Testing student progress with custom-designed quizzes and provided guidance on direction.
- Integration and Management of Competitions within Course Curriculum.

K-MOOC E-Learning Course
Associate Teacher *2021–2022*

Duration: 2 Years

Course: AI-powered Biotechnology Platform

Key Contributions:
- Created lecture materials and example code for implementing AI-driven biotechnology.
- Basic AI questions and answers for biology students.
- Evaluation of student understanding through custom-designed quizzes.

Academic Services

Conference Reviewer
NAACL, ACL, EMNLP, COLING, ARR

Skills & Tools

Languages: Python, R, LaTeX

Machine Learning: TensorFlow, Scikit-learn, PyTorch

Data Analysis: Pandas, NumPy, Matplotlib, Seaborn

Tools: Jupyter Notebook, Git, Docker

Languages

Korean: Native

English: Intermediate High (TOEIC Speaking 140)