

Jaepill Choi

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👤 Research Interest

Natural Language Processing, Large Language Models, Human-AI Interaction, Hallucination

🎓 Education

Seoul National University, Seoul, South Korea

September 2022 - August 2024

M.S., Graduate School of Data Science

- GPA: 4.02/4.30 (3.88/4.0)
- Learning and Adaptation Algorithms Lab (Advisor: Prof. Taesup Kim)
- Relevant Coursework:
 - Machine Learning and Deep Learning for Data Science 1, 2
 - Computing For Data Science 1, 2
 - Conversational AI
 - AI Model Consistency and Large Language Models

Yonsei University, Seoul, South Korea

March 2016 - August 2022

B.S., Department of Mechanical Engineering

- GPA: 3.90/4.30 (3.76/4.0)
- 2-years absence to fulfill military service (January 2017 - October 2018)

📖 Publications

• **Jaepill Choi***, Kyubyung Chae*, Jiwoo Song, Yohan Jo, Taesup Kim. “Model-based Preference Optimization in Abstractive Summarization without Human Feedback”, In *Proceedings of the 2024 Conference on Empirical Methods in Natural Language Processing: EMNLP 2024*.

• Kyubyung Chae*, **Jaepill Choi***, Yohan Jo, Taesup Kim. “Mitigating Hallucination in Abstractive Summarization with Domain-Conditional Mutual Information”, In *Findings of the Association for Computational Linguistics: NAACL 2024*.

• **Jaepill Choi**, Kyubyung Chae, Jiwoo Song, Taesup Kim. “Fine-tuning Language Models to Alleviate Hallucinations in Abstractive Summarization”, *Korean Institute of Information Scientists and Engineers: KIISE*, 2024.

*Equal Contribution

🔪 Research Experience

Learning and Adaptation Algorithms Lab

December 2022 - August 2024

Advisor: Prof. Taesup Kim

Graduate Research Assistant

- **Model-based Preference Optimization (MPO)**
 - Proposed MPO as an alternative to DPO method to enhance LLM factuality
 - Created preference dataset using diverse LLM decoding strategies
 - Achieved significant improvements in summary quality without human feedback
- **Domain-Conditional Pointwise Mutual Information (PMI_{DC})**
 - Introduced PMI_{DC} as an alternative scoring strategy to reduce hallucination
 - Integrated custom decoding strategy into HuggingFace transformers module
 - Improved summary quality without additional training
- **Cross-model Transfer through Multi-Task Learning**
 - Implemented prompt-tuning techniques for effective cross-model transfer
 - Trained soft prompt projector using multi-task learning to enhance model compatibility

Multi-dimensional Insight Lab

December 2021 - March 2022

Advisor: Prof. Sanghoon Lee

Undergraduate Research Intern

- **3D Avatar Modeling**
 - Conducted research study focused on computer vision and 3D avatar development

Work Experience

LG Electronics Language Intelligence , Seoul, South Korea <i>AI Software Engineer Intern</i> <ul style="list-style-type: none">Fine-tuned LLaMA for Query RegeneratorCollected Korean corpus for the webOS25 AI ART service	<i>October 2024 - November 2024</i>
Samsung Biologics EPCV Center , Incheon, South Korea <i>Undergraduate Intern</i> <ul style="list-style-type: none">Conducted analysis and management of the HVAC system for Plant 4 construction	<i>July 2021 - August 2021</i>
Hyundai Motors Headquarter , Seoul, South Korea <i>Human Resources Assistant</i> <ul style="list-style-type: none">Provided assistance with recruiting tasks	<i>November 2019 - December 2019</i>

Awards and Honors

Highest Honor , Yonsei University	<i>Fall 2022</i>
Honor , Yonsei University	<i>Fall 2020, Fall 2021, Spring 2022</i>
3rd Prize , Creative Design Camp, Hongik University	<i>December 2021</i>
Certificate of Achievement , 2-2 AHB, 2ID, US Army	<i>October 2018</i>

Leadership Experience

Yonsei Social Club <i>16th Student President</i> <ul style="list-style-type: none">Organized, created and led club activities for social gatherings	<i>September 2021 - February 2022</i>
Military Service for Republic of Korea <i>Senior KATUSA, 2ID</i> <ul style="list-style-type: none">ROKA Staff Office member at 2-2 Assault Helicopter Battalion, 2ID	<i>January 2017 - October 2018</i>

Teaching Experience

Teaching Assistant, Seoul National University <i>TA for Machine Learning and Deep Learning</i> <ul style="list-style-type: none">Developed self-supervised learning assignment using CIFAR-10Provided office hours to support and answer questions related to the course	<i>September 2023 - December 2023</i>
Samsung Future Maker Camp <i>Coding Instructor</i> <ul style="list-style-type: none">Taught students autonomous driving coding for model cars using SCRATCH	<i>December 2018</i>

Volunteer Experience

Elderly Education Volunteer <i>Technology Educator</i> <ul style="list-style-type: none">Provided technology education to elderly individuals at Gwanak social welfare center	<i>March 2023 - June 2023</i>
2018 Pyeongchang Olympic Volunteer <i>Olympic VIP Translator</i> <ul style="list-style-type: none">Translated for foreign VIP and visitors from all around the worldEscorted IOC president, Thomas Bach	<i>January 2018 - March 2018</i>
Yonsei-Incheon Teaching Volunteer <i>Student Mentor</i> <ul style="list-style-type: none">Assisted students with their high school curriculum at Dong-Incheon high school	<i>March 2016 - June 2016</i>

Skills

Languages	Korean, English
Programming	Python, C++, C, SQL
Tools	HuggingFace, PyTorch, TensorFlow, Numpy, Pandas, Matplotlib