JISEON KIM

Ph.D candidate

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SUMMARY

I'm a PhD candidate advised by Alice Oh at KAIST. My research interests lie in natural language processing (NLP) and computational social science (CSS), with a focus on **1) AI alignment with human and societal values** and **2) AI for social good**. In particular, I work on the following topics:

- **LLM-Human Alignment & Evaluation:** I explore LLM alignment with human values and society, examining their behaviors and limitations (e.g., moral decision [9], cultural bias [5], social reasoning [7]).
- **AI for Science & Social Impact:** I develop AI frameworks to process large-scale, expertise-driven data, particularly in political science (e.g., legislative processes[4], lobbying), to uncover hidden dynamics, enhance transparency, and assess societal impact.

Keywords: AI Alignment, LLM Evaluation, AI for Policy & Governance, AI for Social Good, NLP, Computational Social Science

EXPERIENCE

3/2023 - 2/2024 **Research Intern @ NAVER AI Lab** **NAVER AI Lab**
- Constructed a Korean bias benchmark dataset to make safer and trustworthy Korean LLM
- Work published at TACL 2024 - "KoBBQ: Korean Bias Benchmark for Question Answering"
- Advised by Hwaran Lee

5/2024 - 5/2024
7/2022 - 8/2022
6/2019 - 8/2019 **Visiting Researcher @ MIT** **MIT**
- Conducted interdisciplinary research with political science to understand the US legislative process
- Work published at EMNLP 2021 - "Learning Bill Similarity with Annotated and Augmented Corpora of Bills"
- Collaborated with Elden Griggs and In Song Kim

3/2019 – 2/2020 **Post Master Researcher @ KAIST** **KAIST**
- Researched multimodal NLP utilizing text and color
- Advised by Alice Oh

6/2015 – 8/2015 **Visiting Student @ UC Berkeley** **UC Berkeley**
- Completed Computer Science 61A, the structure and Interpretation of Computer Programs
- Received support for the UC Berkeley summer session program from the Sookmyung Women's University

EDUCATION

3/2020-Present **Korea Advanced Institute of Science and Technology** **Daejeon, Korea**
Ph.D. in School of Computing
Advised by Alice Oh

3/2017-2/2019 **Korea Advanced Institute of Science and Technology** **Daejeon, Korea**
Master in School of Computing
Thesis: Color Generation for Paragraph Level of Text
Advised by Alice Oh

3/2013-2/2017 **Sookmyung Women's University** **Seoul, Korea**
B.S. Student in Computer Science
Graduated with the highest honor (1/68)

PUBLICATION

under review 2025 **[9] Exploring Persona-dependent LLM Alignment for the Moral Machine Experiment**
Jiseon Kim*, Jea Kwon*, Luiz Felipe Vecchietti*, Alice Oh, Meeyoung Cha [*]equal contribution
- Analyzed how sociodemographic personas impact LLM moral decisions, revealing higher variability than humans
- Developed a metric to measure alignment between LLM and human moral judgments
- Identified political bias as a key factor, raising concerns about bias amplification in deployment

Arxiv 2024

[8] Uncovering Factor Level Preferences To Improve Human-Model Alignment

Juhyun Oh*, Eunsu Kim*, Jiseon Kim, Wenda Xu, Inha Cha, William Yang Wang, Alice Oh [*]equal contribution

- Introduced a framework to explain and quantify factors influencing alignment between human and LLM preferences
- Uncovered discrepancies between human and LLM preferences, especially in generation tasks
- Offered explainable insights into misaligned factors, helping improve LLM alignment through targeted adjustments

EMNLP 2024

[7] Perceptions to Beliefs: Exploring Precursory Inferences for Theory of Mind in Large Language Models

Chani Jung, Dongkwan Kim, Jiho Jin, Jiseon Kim, Yeon Seonwoo, Yejin Choi, Alice Oh, Hyunwoo Kim

- Introduced Percept-ToMi and Percept-FANToM datasets to assess ToM precursors in LLMs
- Demonstrated LLMs excel in perception inference but show limitations in perception-to-belief inference
- Developed PercepToM, a method that improves LLM performance on ToM benchmarks

Technical Report 2024

[6] HyperCLOVA X Technical Report **NAVER AI Lab**

Kang Min Yoo, Jaegeun Han, Sookyo In, Heewon Jeon, ... Jiseon Kim*...(additional authors)

- Introduced LLM optimized for Korean language and culture, with strong English, math, and coding skills
- Trained on Korean, English, and code data, and evaluated on various benchmarks in both languages
- Contributed to model evaluations, including bias measurement in Korean culture through KoBBQ

TACL 2024, present at ACL 2024

[5] KoBBQ: Korean Bias Benchmark for Question Answering **NAVER AI Lab**

Jiho Jin*, Jiseon Kim*, Nayeon Lee*, Hanual Yoo*, Alice Oh, Hwaran Lee [*]equal contribution

- Introduced a Korean bias benchmark dataset to address challenges in adapting to non-US cultures
- Proposed a framework for cultural adaptation, categorizing and validating biases via a large-scale survey
- Revealed significant differences in LM biases compared to a machine-translated version, highlighting the need for culturally-sensitive benchmarks

EMNLP 2021 Long paper

[4] Learning Bill Similarity with Annotated and Augmented Corpora of Bills **MIT**

Jiseon Kim, Elden Griggs, In Song Kim, Alice Oh

- Proposed a 5-class task for bill document semantic similarities to understand bill-to-bill linkage in the legislative process
- Improved model performance by achieving a 5.5% higher F1 score compared to the baseline using data augmentation and multi-stage training
- Quantified the similarities across legal documents at various levels of aggregation

EMNLP 2021 Short paper

[3] Efficient Contrastive Learning via Novel Data Augmentation and Curriculum Learning

Seonghyeon Ye, Jiseon Kim, Alice Oh

- Proposed a memory-efficient continual pretraining method
- Outperformed baseline models on GLUE benchmark with only 70% computational memory usage

EMNLP 2021 Long paper

[2] Dimensional emotion detection from categorical emotion

Sungjoon Park, Jiseon Kim, Seonghyeon Ye, Jaeyeol Jeon, Hee Young Park, Alice Oh

- Utilized categorical emotion annotations to train a model predicting fine-grained emotions
- Optmized model with Earth Mover's Distance loss to predict fine-grained and categorical emotions
- Achieved comparable performance to state-of-the-art classifiers in emotion classification

IEEE transactions on intelligent transportation systems 2020

[1] Denoising recurrent neural networks for classifying crash-related events

Sungjoon Park, Yeon Seonwoo, Jiseon Kim, Jooyeon Kim, Alice Oh

- Developed efficient neural network model with noisy time-series data with missing values for crash event classification
- Outperformed baseline models, improving event classification accuracy in driving scenarios

WORKSHOP

WiML@ NeurIPS 2024

[2] Understanding Lobbying Strategies in Legislative Process: Bill Position Dataset and Lobbying Analysis

Jiseon Kim, Dongkwan Kim, Joohye Jeong, In Song Kim, Alice Oh

- Will be presented at the 19th Women in Machine Learning Workshop at NeurIPS (WiML 2024)

C3NLP, Co-located with ACL 2024

[1] KoBBQ: Korean Bias Benchmark for Question Answering **NAVER AI Lab**

Jiho Jin*, Jiseon Kim*, Nayeon Lee*, Hanual Yoo*, Alice Oh, Hwaran Lee [*]equal contribution

- Presented at the 2nd Workshop on Cross-Cultural Considerations in NLP (C3NLP)

ONGOING PROJECT

Ongoing **Competing Interests in U.S. Politics: Who Supports and Who Opposes Congressional Bills?** **MIT**
- Developed a dataset capturing real-world legislative activities and diverse lobbying positions
- Developed a scalable AI framework to measure interest groups' bill positions
- Analyzed lobbying strategies, providing insights into legislative interactions

AWARDS, SCHOLARSHIPS & FUNDINGS

10/2024 **2024 KAIST Graduate Student Outstanding Paper Award** **KAIST**
Awarded for KoBBQ: Korean Bias Benchmark for Question Answering

12/2019 - 8/2024 **MISTI Global Seed Funds** **MIT**
MIT's Global Seed Funds facilitate international collaborations for addressing global challenges

3/2020 - Present **KAIST Support Scholarship (Ph.D.)** **KAIST**

3/2017 - 2/2019 **KAIST Support Scholarship (M.S.)** **KAIST**

2/2016 **Naver Open API Awards in Hackathon** **Unithon**
IT community United Hackathon

3/2015 - 3/2017 **Korea National Science & Technology Scholarship (B.S.)** **Sookmyung Women's University**

TEACHING EXPERIENCE

Fall 2021
Spring 2021 **Machine Learning for NLP** **KAIST**
Teaching Assistant

Fall 2021 **Advanced Data Mining** **KAIST**
Teaching Assistant

Spring 2020 **Artificial Intelligence and Machine Learning** **KAIST**
Head Teaching Assistant

Fall 2018
Spring 2018
Fall 2017 **Data Structure** **KAIST**
Teaching Assistant, Developed assignments

ACADEMIC SERVICE

Reviwer Feb/Apr/June ARR 2024

Volunteer FAccT 2022, COLING 2022

Undergraduate Research Program @ KAIST Spring 2024 (Received an Encouragement Award)

Individual Research Mentoring @ KAIST Summer/Fall 2020, Spring/Fall 2021, Spring 2022, Fall 2023
Spring/Fall 2024

SKILL

Language Python, Latex, PostgreSQL

Framework Pytorch, Docker, Git

LANGUAGE

English Professional

Korean Native

REFERENCE

Alice Oh Professor in School of Computing, KAIST (alice.oh@kaist.edu)