

# Yuheun Kim

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## Research Interests

Natural Language Processing, Computational Social Science, Cultural Alignment, Multilingual LLMs, Mechanistic Interpretability

## Education

Ph.D., Information Science and Technology, **Syracuse University** Aug 2022 - Now  
Advisor: Joshua Introne (C4 Lab)

M.S., Digital Analytics, **Yonsei University** Mar 2020 - Feb 2022  
Advisor: Min Song (Deep Text Lab)

B.A., Economics, Underwood International College, **Yonsei University** Mar 2015 - Feb 2020

## Publications

\* indicates equal contribution

### Peer-reviewed Conference Papers

- [C6] **Yuheun Kim**, and Joshua Introne. Belief Alignment vs Opinion Leadership: Understanding Cross-linguistic Digital Activism in K-pop and BLM Communities *Proceedings of the International AAAI Conference on Web and Social Media*, 2026.
- [C5] **Yuheun Kim**, Qiaoyi Liu, and Jeff Hemsley. LLM-Supported Content Analysis of Motivated Reasoning on Climate Change. *Proceedings of the Association for Information Science and Technology (ASIS&T)*, 2025.
- [C4] Qiaoyi Liu, **Yuheun Kim**, and Jeff Hemsley. Scientists, but deny science? Climate change sceptics networks on YouTube led by scientists. *Information Research an international electronic journal 30.iConf*, 2025.
- [C3] Qiaoyi Liu, **Yuheun Kim**, and Jeff Hemsley. Climate Change Sceptics and the Power of Negativity. *Proceedings of the Association for Information Science and Technology 61.1 (ASIS&T)*, 2024.
- [C2] **Yuheun Kim**, Lu Guo, Bei Yu, and Yingya Li. Can ChatGPT Understand Causal Language in Science Claims? *Proceedings of the 13th Workshop on Computational Approaches to Subjectivity, Sentiment, & Social Media Analysis (WASSA)*, 2023.
- [C1] Injin Paek, Nayoung Choi, Seongjin Ha, **Yuheun Kim**, and Min Song. SQ2SV: Sequential Queries to Sequential Videos retrieval. *IEEE International Conference on Big Data*, 2022.

## Journal Articles

- [J1] Gibong Hong\*, **Yuheun Kim\***, YeonJung Choi\*, and Min Song. BioPREP: Deep learning-based predicate classification with SemMedDB. *Journal of Biomedical Informatics*, 2021.

## Conference Presentations

- [P1] **Yuheun Kim** and Joshua Introne. Cross-Cultural Belief Dynamics: A Case Study of K-pop Fans and the BLM Movement. *International Conference on Computational Social Science (IC2S2)*, 2024. [non-archival]

## Research Experience

### Cross-lingual cultural alignment in LLMs

- Leveraged LLMs to measure culturally encoded bias in model outputs.
- Trained probing classifiers to quantify cultural divergence in gender representation.

### Computationally analyzing social beliefs

- Applied a belief landscape framework to analyze temporal shifts in user beliefs.
- Applied LLMs for belief cluster labeling and pairwise coherence validation.

### Social media & discourse analysis

- Comment analysis on polarized climate change YouTube videos.
- Fine-tuned BERT model for sentiment analysis.

### LLM evaluation & prompting

- Evaluated prompting strategies; Chain-of-Thought (CoT), context, and system messages.
- Benchmarked GPT classification performance against fine-tuned BERT models.

### Biomedical text classification

- Constructed a biomedical dataset for predicate classification (BioPREP).
- Configured fine-tuning pipeline for BERT-based models.

## Professional Activities

### Conference Reviews (Reviewer)

The 31st International Conference on Computational Linguistics (COLING 2025)

The 11th International Conference on Computational Social Science (IC2S2 2025)

The 20th International AAAI Conference on Web and Social Media (ICWSM 2026)

## Work Experience

Mar 2022-Jun 2022 AI research internship, BIGCARE services

## **Awards & Fellowships**

- 2025-2027 WiSE-FPP (Women in Science and Engineering Future Professionals Program), Syracuse University
- 2024-2025 Research Excellence Doctoral Funding (REDF) Fellowship, Syracuse University
- Dec 2020 Digital Analytics Working Group Scholarship, Yonsei University
- Nov 2020 AI Solution Competition, 3rd place, National IT Industry Promotion Agency (NIPA)
- Oct 2020 Digital Analytics Major Competition, 1st place, Yonsei University

## **Teaching**

- 2026 IST387 (Introduction to Applied Data Science), Syracuse University
- IST687 (Introduction to Data Science), Syracuse University
- 2025-2026 IST256 (Applications Programming for Information Systems), Syracuse University
- 2023-2024 IST256 (Applications Programming for Information Systems), Syracuse University
- Fall 2022 IST736 (Text Mining), Syracuse University
- Spring 2021 Python programming, Hanhwa Total Employee Training
- Fall 2020 Data Analysis Project, Big Data Youth Campus, Korea Data Agency

## **Mentoring**

- Summer 2021 Student Mentor, Digital Analytics, Yonsei University