

# Mingi Shin

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## EXPERIENCE

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### Assistant Research Engineer

*Metaverse Lab., Nara Information*

July 2024 – Present

*Seoul, South Korea*

- Developing a local RAG system for the civil petition and the customer support
- Managing a Python package for document retrieval (document indexing and vector search)

### Student Research Assistant

*Data Science Group, Institute for Basic Science (IBS)*

September 2021 – August 2023

*Daejeon, South Korea*

- Detecting and analyzing hate speech and harassment in crowd-sourced chatbot data using large language models (LLMs)
- Finding sentiment change of chatbot users between pre- and post- COVID-19 pandemic
- Developing a neural topic model to analyze online contents using LLM and VAE

### Intern

*Simsimi inc.*

June 2021 – February 2023

*Seoul, South Korea*

- Increasing the performance of autonomous hate speech detection from user-created contents
- Research of pre-/post-pandemic emotional change from user utterances, focussing on depression and COVID-19 shutdown.
- Detecting and removing malicious contents in database

## EDUCATION

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### Korea Advanced Institute of Science and Technology (KAIST)

*Master of Science*

Daejeon, South Korea

*September 2021 – August 2023*

- Thesis: "Toward Chatbot Safety: Context-Aware Offensive Language Detection in Chatbot-Human Conversation Data"

### Korea Advanced Institute of Science and Technology (KAIST)

*Bachelor of Science*

Daejeon, South Korea

*March 2014 – August 2021*

- Double major in Mechanical Engineering

## PROJECTS

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[CALIOPER](#) | *Python, Pytorch, Transformers*

September 2022 – March 2024

- Annotated dataset and model code for "Context-Aware Offensive Language Detection in Human-Chatbot Conversations"
- I designed and managed the dataset annotation process.
- I also designed and implemented a neural net model for detecting offensive language in a conversation context, achieving the best performance in offensive chat detection benchmarks.

- VAE-based topic model from “Unified Neural Topic Model via Contrastive Learning and Term Weighting”
- I was in charge of implementing the model, running experiments, finding weaknesses, and suggesting better design. UTopic combines the two types of topic model schemes, achieving favorable results among SotA topic models.

## PUBLICATIONS – INTERNATIONAL

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### **Detecting Offensive Language in an Open Chatbot Platform**

May 2024

*LREC-COLING 2024*

*Conf.@Torino, Italia*

- Hyeonho Song, Jisu Hong, Chani Jung, Hyojin Chin, **Mingi Shin**, Yubin Choi, Junghoi Choi, and Meeyoung Cha

### **Context-Aware Offensive Language Detection in Human-Chatbot Conversations**

February 2024

*IEEE International Conference on Big Data and Smart Computing (BigComp2024) Conf.@Bangkok, Thailand*

- **Mingi Shin**, Hyojin Chin, Hyeonho Song, Yubin Choi, Junghoi Choi, and Meeyoung Cha

### **The Potential of Chatbots for Emotional Support and Promoting Mental Well-Being in Different Cultures: Mixed Methods Study**

August 2023

*Journal of Medical Internet Research (IF 7.08 / SCIE)*

*Journal*

- Hyojin Chin, Hyeonho Song, G. Baek, **Mingi Shin**, Chani Jung, Meeyoung Cha, Jeonghoi Choi, and Chiyoung Cha

### **Unified Neural Topic Model via Contrastive Learning and Term Weighting**

May 2023

*European Chapter of ACL (EACL2023)*

*Conf.@Dubrovnik, Croatia*

- Sungwon Han, **Mingi Shin**, Sungkyu Park, Changwook Jung, and Meeyoung Cha
- Citations: 9

### **User-Chatbot Conversations During the COVID-19 Pandemic: Study Based on Topic Modeling and Sentiment Analysis**

January 2023

*Journal of Medical Internet Research (IF 7.08 / SCIE)*

*Journal*

- Hyojin Chin, Gabriel Lima, **Mingi Shin**, Assem Zhunis, Chiyoung Cha, Junghoi Choi, and Meeyoung Cha
- Citations: 34

### **A risk communication event detection model via contrastive learning**

December 2020

*3rd NLP4IF Workshop on NLP for Internet Freedom:  
Censorship, Disinformation, and Propaganda*

*Conf.@Barcelona, Spain*

- **Mingi Shin**, Sungwon Han, Sungkyu Park, and Meeyoung Cha

## PUBLICATIONS – DOMESTIC

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### **Unique Characteristics of Human-Chatbot Conversations and Their Potential for Mental Health Support**

KCC 2022

June 2022

*Conf.@South Korea*

- Assem Zhunis, Gabriel Lima, Hyojin Chin, **Mingi Shin** (presenter), Jeonghoi Choi, Chiyoung Cha, and Meeyoung Cha

### **Hate speech detection in chatbot data using KoELECTRA**

HCLT 2021

October 2021

*Conf.@South Korea*

- **Mingi Shin**, Hyojin Chin, Hyeonho Song, Jeonghoi Choi, Hyeonseung Lim, and Meeyoung Cha

### **Identifying risk communication trend using an event detection model based on contrastive learning**

KSC 2021

December 2020

*Conf.@South Korea*

- **Mingi Shin**, Sungwon Han, Sungkyu Park, and Meeyoung Cha

## TECHNICAL SKILLS & EXPERIENCES

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- **Languages:** Korean (Native), English (Intermediate), Japanese (Intermediate, JLPT N2)
- **Programming Languages:** Python, R, C++, Javascript/Typescript
- **Frameworks/Libraries:** Pytorch, Transformers, Scikit-Learn, Tensorflow, Docker
- **Developer Tools:** Git, Jira