

# Takyoung Kim

## Ph.D. Student at the University of Illinois at Urbana-Champaign (UIUC)

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## Interests

My research interest lies in the intersection of Natural Language Processing and Communication. I am particularly interested in building communicative language models (LMs) that can understand social and cognitive context, evaluating preference during interactions, and exploring how LMs compose knowledge both from parametric and external sources.

## Education

**University of Illinois at Urbana-Champaign, Urbana, IL, USA** 📍 Aug 2024 - Present

Doctor of Philosophy, Computer Science

Advisor: [Dilek Hakkani-Tür](#)

**Korea University, Seoul, South Korea** 📍 Sep 2020 - Aug 2022

Master of Engineering, Industrial Management Engineering

Advisor: [Pilsung Kang](#) (now at Seoul National University)

Thesis: *Relaxing Unrealistic Assumptions of Dataset and Evaluation Metric in Dialogue State Tracking*

**Sungkyunkwan University, Seoul, South Korea** 📍 Mar 2013 - Aug 2020

Bachelor of Science in Engineering, Interdisciplinary Program of Convergent Software

Bachelor of Media & Communication (*Leave of absence for military service: Feb 2015 - Nov 2016*)

## Publications

\* indicates equal contribution

- [1] **Revealing User Familiarity Bias in Task-Oriented Dialogue via Interactive Evaluation** 📄📄  
[Takyoung Kim](#), Jamin Shin, Young-Ho Kim, Sanghwan Bae, Sungdong Kim  
*Workshop on NLP for Conversational AI (Oral, Best Paper Award)* NLP4ConvAI, ACL 2024
- [2] **DSTEa: Improving Dialogue State Tracking via Entity Adaptive Pre-training** 📄  
Yukyung Lee, [Takyoung Kim](#), Hoonsang Yoon, Pilsung Kang, Junseong Bang, Misuk Kim  
*Knowledge-Based Systems (Q1, Impact Factor: 8.8)* KBS 2024  
*Workshop on Knowledge Augmented Methods for NLP* KnowledgeNLP, KDD 2023
- [3] **KoSBi: A Dataset for Mitigating Social Bias Risks Towards Safer Large Language Model Applications** 📄📄  
Hwaran Lee\*, Seokhee Hong\*, Joonsuk Park, [Takyoung Kim](#), Gunhee Kim, Jung-Woo Ha  
*Annual Meeting of the Association for Computational Linguistics (Industry Track)* ACL 2023
- [4] **SQuARe: A Large-Scale Dataset of Sensitive Questions and Acceptable Responses Created Through Human-Machine Collaboration** 📄📄  
Hwaran Lee\*, Seokhee Hong\*, Joonsuk Park, [Takyoung Kim](#), Meeyoung Cha, Yejin Choi, Byoungpil Kim, Gunhee Kim, Eun-Ju Lee, Yong Lim, Alice Oh, Sangchul Park, Jung-Woo Ha  
*Annual Meeting of the Association for Computational Linguistics (Oral, Best Paper Nomination)* ACL 2023
- [5] **Oh My Mistake!: Toward Realistic Dialogue State Tracking including Turnback Utterances** 📄  
[Takyoung Kim](#), Yukyung Lee, Hoonsang Yoon, Pilsung Kang, Junseong Bang, Misuk Kim  
*Towards Semi-Supervised and Reinforced Task-Oriented Dialog Systems* SereTOD, EMNLP 2022
- [6] **Mismatch between Multi-turn Dialogue and its Evaluation Metric in Dialogue State Tracking** 📄  
[Takyoung Kim](#), Hoonsang Yoon, Yukyung Lee, Pilsung Kang, Misuk Kim  
*Annual Meeting of the Association for Computational Linguistics (Short)* ACL 2022
- [7] **Building an Integrated Framework of Korean Text Summarization and Text-to-Speech** 📄📄  
[Takyoung Kim](#), Jina Kim, Hyeongwon Kang, Subin Kim, Pilsung Kang  
*Journal of Korean Institute of Industrial Engineers* JKIIIE 2022

## Preprint & Under Review

- [8] **Learning to Explore and Select for Coverage-Conditioned Retrieval-Augmented Generation** 📄📄  
[Takyoung Kim](#), Kyungjae Lee, Young Rok Jang, Ji Yong Cho, Gangwoo Kim, Minseok Cho, Moontae Lee  
*Preprint*

## Research Experience

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<b>University of Illinois at Urbana-Champaign   Conversational AI Lab</b> Urbana, IL, USA  Graduate Research Assistant (Advisor: <a href="#">Dilek Hakkani-Tür</a> ) Working on cognitive interactions in embodied environments	Aug 2024 - Present
<b>Korea University   Data Science &amp; Business Analytics Lab</b> Seoul, South Korea  Research Associate (Advisor: <a href="#">Pilsung Kang</a> ) Worked on retrieval-augmented language models specialized in Korean digital media	Apr 2024 - Jul 2024
<b>LG AI Research   Advanced Machine Learning Lab</b> Seoul, South Korea  Research Intern (Mentors: <a href="#">Kyungjae Lee</a> , <a href="#">Moontae Lee</a> ) Worked on improving long-form responses of retrieval-augmented language models via planning [8]	Apr 2023 - Mar 2024
<b>NAVER AI Lab   Language Research Team</b> Seongnam, South Korea  Research Intern (Mentor: <a href="#">Sungdong Kim</a> ) Worked on revealing innate bias in task-oriented dialogue research via interactive study [1] Worked on constructing safety benchmark for sensitive questions [4] and social biases [3]	Jul 2022 - Jan 2023
<b>Korea University   Data Science &amp; Business Analytics Lab</b> Seoul, South Korea  Graduate Research Assistant (Advisor: <a href="#">Pilsung Kang</a> ) Worked on analyzing realistic biases and limitations of dialogue state tracking [6, 5, 2] Developed algorithms and pipelines in various domains, such as news [7], car, and ocean waves	Sep 2020 - Jun 2022
<b>Korea University   Data Science &amp; Business Analytics Lab</b> Seoul, South Korea  Undergraduate Research Intern (Advisor: <a href="#">Pilsung Kang</a> ) Designed spatial/temporal architecture reflecting optical flow for video deepfake detection	Jan 2020 - Aug 2020

## Presentations and Talks

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<b>Selective Masking for Task-Adaptive Pre-Training</b> Korean Institute of Industrial Engineers Conference (Spring)	Jun 2021
<b>A Life of Turning into Software</b> Software Edu Fest, Naver Connect Foundation	Jul 2020

## Honors and Awards

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<b>CS PhD Fellowship</b> University of Illinois at Urbana-Champaign	Aug 2024 - May 2025
<b>Best Paper Award</b> ACL 2024 NLP for Conversational AI Workshop	Aug 2024
<b>Best Student Feedback Award, Research Ideation Contest</b> Korea University	Feb 2021, Dec 2021
<b>2nd Place (2,500 USD), MyData Acting Hackathon</b> Ministry of Science and ICT	Oct 2019
<b>Merit-based Scholarship, Computer Science Coursework</b> Sungkyunkwan University	Spring 2018, Fall 2018

## Teaching Experience

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<b>T02459101 Natural Language Processing</b> Hankuk University of Foreign Studies Teaching Assistant (Instructor: <a href="#">Yukyung Lee</a> )	Feb 2024 - Jun 2024
<b>Industrial Machine Learning</b> LG Electronics Head Teaching Assistant (Instructor: <a href="#">Pilsung Kang</a> )	Jan 2022 - Apr 2022
<b>Research Mentoring</b> Hyundai Mobis Research Project Assistant (Instructor: <a href="#">Pilsung Kang</a> )	Jul 2021 - Sep 2021
<b>Industrial Machine Learning and Deep Learning</b> LG Innotek, SK Hynix Teaching Assistant (Instructor: <a href="#">Pilsung Kang</a> )	Jul 2021 - Aug 2021

Academic Service

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<b>Conference Reviewer</b>	
Conference on Neural Information Processing Systems (NeurIPS)	2024
Conference of the European Chapter of the Association for Computational Linguistics (EACL)	2024
Conference on Empirical Methods in Natural Language Processing (EMNLP) - Industry Track	2023 - 2024
Conference on Empirical Methods in Natural Language Processing (EMNLP)	2023 - 2024
Conference on Neural Information Processing Systems (NeurIPS) - Datasets & Benchmarks	2022 - 2024
<b>Journal Reviewer</b>	
Knowledge-Based Systems	2023 - 2024
<b>Others</b>	
ACL Rolling Review (ARR)	2023 - 2024