

# Takyoung Kim

## Ph.D. Student at the University of Illinois 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


<b>University of Illinois Urbana-Champaign, Urbana, IL, USA</b>  Doctor of Philosophy, Computer Science Advisor: <a href="#">Dilek Hakkani-Tür</a>	Aug 2024 - Present
<b>Korea University, Seoul, South Korea</b>  Master of Engineering, Industrial Management Engineering Advisor: <a href="#">Pilsung Kang</a> (currently at Seoul National University) Thesis: <i>Relaxing Unrealistic Assumptions of Dataset and Evaluation Metric in Dialogue State Tracking</i>	Sep 2020 - Aug 2022
<b>Sungkyunkwan University, Seoul, South Korea</b>  Bachelor of Science in Engineering, Interdisciplinary Program of Convergent Software Bachelor of Media & Communication ( <i>Leave of absence for military service: Feb 2015 - Nov 2016</i> )	Mar 2013 - Aug 2020





## Research Experience

<b>Amazon   Alexa AI</b> <i>Bellevue, WA, USA</i>  <i>Applied Scientist Intern</i> (Mentors: <a href="#">Jinseok Nam</a> , <a href="#">Chandrayee Basu</a> , <a href="#">Chengyuan Ma</a> ) Working on error recovery in real-world constrained conversational systems	May 2025 - Aug 2025
<b>University of Illinois Urbana-Champaign   Conversational AI Lab</b> <i>Urbana, IL, USA</i>  <i>Graduate Research Assistant</i> (Advisor: <a href="#">Dilek Hakkani-Tür</a> ) Working on cognitive interactions in real-world environments	Aug 2024 - Present
<b>Korea University   Data Science &amp; Business Analytics Lab</b> <i>Seoul, South Korea</i>  <i>Research Associate</i> (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> <i>Seoul, South Korea</i>  <i>Research Intern</i> (Mentors: <a href="#">Kyungjae Lee</a> , <a href="#">Moontae Lee</a> ) Worked on improving long-form responses of retrieval-augmented language models via planning [3]	Apr 2023 - Mar 2024
<b>NAVER AI Lab   Language Research Team</b> <i>Seongnam, South Korea</i>  <i>Research Intern</i> (Mentor: <a href="#">Sungdong Kim</a> ) Worked on revealing innate bias in task-oriented dialogue research via interactive study [4] Worked on constructing safety benchmark for sensitive questions [7] and social biases [6]	Jul 2022 - Jan 2023
<b>Korea University   Data Science &amp; Business Analytics Lab</b> <i>Seoul, South Korea</i>  <i>Graduate Research Assistant</i> (Advisor: <a href="#">Pilsung Kang</a> ) Worked on analyzing realistic biases and limitations of dialogue state tracking [9, 8, 5] Developed algorithms and pipelines in various domains, such as news [10], car, and ocean waves	Sep 2020 - Jun 2022



## Publications

\* = equal contribution, † = equal advising

- [1] **TD-EVAL: Revisiting Task-Oriented Dialogue Evaluation by Combining Turn-Level Precision with Dialogue-Level Comparisons**   
Emre Can Acikgoz\*, Carl Guo\*, Suvodip Dey\*, Akul Datta, [Takyoung Kim](#), Gokhan Tur, Dilek Hakkani-Tür  
*Annual Meeting of the Special Interest Group on Discourse and Dialogue (Oral)* SIGDIAL 2025

- [2] **Premise-Augmented Reasoning Chains Improve Error Identification in Math reasoning with LLMs**   
Sagnik Mukherjee\*, Abhinav Chinta\*, Takyoung Kim, Tarun Anoop Sharma, Dilek Hakkani-Tür  
*International Conference on Machine Learning* ICML 2025
- [3] **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  
*Nations of the Americas Chapter of the Association for Computational Linguistics* Findings of NAACL 2025
- [4] **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
- [5] **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
- [6] **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
- [7] **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
- [8] **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
- [9] **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
- [10] **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

- [11] **Goal Alignment in LLM-Based User Simulation for Conversational AI**   
Shuhaib Mehri, Xiaocheng Yang, Takyoung Kim, Gokhan Tur, Shikib Mehri, Dilek Hakkani-Tür  
*Preprint Under Review*
- [12] **PIPA: A Unified Evaluation Protocol for Diagnosing Interactive Planning Agents**   
Takyoung Kim\*, Janvijay Singh\*, Shuhaib Mehri\*, Emre Can Acikgoz, Sagnik Mukherjee, Nimet Beyza Bozdog, Sumuk Shashidhar, Gokhan Tur, Dilek Hakkani-Tür  
*Preprint Under Review*

#### Presentations and Talks

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##### Embodied Multi-Agent Planning in Conflicting Scenarios

Midwest Speech and Language Days (Notre Dame, IN, USA)

Apr 2025

#### Honors and Awards

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<b>CS PhD Fellowship</b>	University of Illinois 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	Feb 2024 - Jun 2024
<i>Teaching Assistant (Instructor: Yukyung Lee)</i>		
<b>Industrial Machine Learning</b>	LG Electronics	Jan 2022 - Apr 2022
<i>Head Teaching Assistant (Instructor: Pilsung Kang)</i>		
<b>Research Mentoring</b>	Hyundai Mobis	Jul 2021 - Sep 2021
<i>Research Project Assistant (Instructor: Pilsung Kang)</i>		
<b>Industrial Machine Learning and Deep Learning</b>	LG Innotek, SK Hynix	Jul 2021 - Aug 2021
<i>Teaching Assistant (Instructor: Pilsung Kang)</i>		

Academic Service

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<b>Conference Reviewer</b>		
Conference on Language Modeling (COLM)		2025
Annual Meeting of the Association for Computational Linguistics (ACL)		2025
Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL)		2025
Neural Information Processing Systems (NeurIPS)		2024
European Chapter of the Association for Computational Linguistics (EACL)		2024
Empirical Methods in Natural Language Processing (EMNLP) - Industry Track		2023 - 2024
Empirical Methods in Natural Language Processing (EMNLP)		2023 - 2025
Neural Information Processing Systems (NeurIPS) - Datasets & Benchmarks		2022 - 2025
<b>Journal Reviewer</b>		
Knowledge-Based Systems		2023 - 2024
<b>Other Reviewer</b>		
ACL Rolling Review (ARR)		2023 - Present
<b>Student Volunteer (On-Site)</b>		
Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL)		2025