

Takyoung Kim

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Interests

My research interest lies in Natural Language Processing and Conversational AI. I am particularly interested in (1) building communicative language models (LMs) that can understand social and cognitive context beyond textual domain, (2) providing personalized assistance, and (3) exploring how LMs compose knowledge both from parametric and external sources.

Education


University of Illinois Urbana-Champaign, Urbana, IL, USA  Doctor of Philosophy, Computer Science Advisor: Dilek Hakkani-Tür	Aug 2024 - Present
Korea University, Seoul, South Korea  Master of Engineering, Industrial Management Engineering Advisor: Pilsung Kang (currently at Seoul National University) Thesis: <i>Relaxing Unrealistic Assumptions of Dataset and Evaluation Metric in Dialogue State Tracking</i>	Sep 2020 - Aug 2022
Sungkyunkwan University, Seoul, South Korea  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

Amazon Alexa AI Bellevue, WA, USA  <i>Applied Scientist Intern</i> (Mentors: Jinseok Nam , Chandrayee Basu , Chengyuan Ma) Worked on error recovery in real-world constrained conversational systems	May 2025 - Aug 2025
University of Illinois Urbana-Champaign Conversational AI Lab Urbana, IL, USA  <i>Graduate Research Assistant</i> (Advisor: Dilek Hakkani-Tür) Working on cognitive interactions in real-world environments	Aug 2024 - Present
Korea University Data Science & Business Analytics Lab Seoul, South Korea  <i>Research Associate</i> (Advisor: Pilsung Kang) Worked on retrieval-augmented language models specialized in Korean digital media	Apr 2024 - Jul 2024
LG AI Research Advanced Machine Learning Lab Seoul, South Korea  <i>Research Intern</i> (Mentors: Kyungjae Lee , Moontae Lee) Worked on improving long-form responses of retrieval-augmented language models via planning [3]	Apr 2023 - Mar 2024
NAVER AI Lab Language Research Team Seongnam, South Korea  <i>Research Intern</i> (Mentor: Sungdong Kim) 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
Korea University Data Science & Business Analytics Lab Seoul, South Korea  <i>Graduate Research Assistant</i> (Advisor: Pilsung Kang) 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 Presentation) 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 Presentation, 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 Presentation, 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 Simulators 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

- Explainable and Efficient Turn-Taking Strategies for Full-Duplex Conversational AI**
TTIC Summer Workshop on Foundations of Speech and Audio Foundation Models (Chicago, IL, USA) Sep 2025
- Embodied Multi-Agent Planning in Conflicting Scenarios**
Midwest Speech and Language Days (Notre Dame, IN, USA) Apr 2025

Honors and Awards

- CS PhD Fellowship** University of Illinois Urbana-Champaign Aug 2024 - May 2025
- Best Paper Award** ACL 2024 NLP for Conversational AI Workshop Aug 2024
- Best Student Feedback Award, Research Ideation Contest** Korea University Feb 2021, Dec 2021
- 2nd Place (2,500 USD), MyData Acting Hackathon** Ministry of Science and ICT Oct 2019

Teaching Experience

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

Academic Service

Conference Reviewer	
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
Journal Reviewer	
Knowledge-Based Systems	2023 - 2024
Other Reviewer	
ACL Rolling Review (ARR)	2023 - Present
Student Volunteer (On-Site)	
Nations of the Americas Chapter of the Association for Computational Linguistics (NAACL)	2025