Takyoung Kim

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

⚲ Room 1129, Thomas M. Siebel Center for Computer Science, 201 North Goodwin Avenue, Urbana, IL 61801

🌐 youngerous.github.io   ✉ tk30@illinois.edu   in/takyoung   🎓 Google Scholar

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* ↗   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 (currently 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)*

Research Experience

Amazon | Alexa AI *Bellevue, WA, USA* ↗   May 2025 - Aug 2025
Applied Scientist Intern (Mentors: Jinseok Nam, Chandrayee Basu, Chengyuan Ma)
Worked on error recovery in real-world constrained conversational systems

University of Illinois Urbana-Champaign | Conversational AI Lab *Urbana, IL, USA* ↗   Aug 2024 - Present
Graduate Research Assistant (Advisor: Dilek Hakkani-Tür)
Working on cognitive interactions in real-world environments

Korea University | Data Science & Business Analytics Lab *Seoul, South Korea* ↗   Apr 2024 - Jul 2024
Research Associate (Advisor: Pilsung Kang)
Worked on retrieval-augmented language models specialized in Korean digital media

LG AI Research | Advanced Machine Learning Lab *Seoul, South Korea* ↗   Apr 2023 - Mar 2024
Research Intern (Mentors: Kyungjae Lee, Moontae Lee)
Worked on improving long-form responses of retrieval-augmented language models via planning [4]

NAVER AI Lab | Language Research Team *Seongnam, South Korea* ↗   Jul 2022 - Jan 2023
Research Intern (Mentor: Sungdong Kim)
Worked on revealing innate bias in task-oriented dialogue research via interactive study [5]
Worked on constructing safety benchmark for sensitive questions [8] and social biases [7]

Korea University | Data Science & Business Analytics Lab *Seoul, South Korea* ↗   Sep 2020 - Jun 2022
Graduate Research Assistant (Advisor: Pilsung Kang)
Worked on analyzing realistic biases and limitations of dialogue state tracking [10, 9, 6]
Developed algorithms and pipelines in various domains, such as news [11], car, and ocean waves

Publications

* = equal contribution, † = equal advising

[1] **Goal Alignment in LLM-Based User Simulators for Conversational AI** 📄
Shuhaib Mehri, Xiaocheng Yang, <u>Takyoung Kim</u>, Gokhan Tur, Shikib Mehri, Dilek Hakkani-Tür
Transactions of the Association for Computational Linguistics   TACL 2025

[2] **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, <u>Takyoung Kim</u>, Gokhan Tur, Dilek Hakkani-Tür
Annual Meeting of the Special Interest Group on Discourse and Dialogue (Oral Presentation)   `SIGDIAL 2025`

[3] **Premise-Augmented Reasoning Chains Improve Error Identification in Math reasoning with LLMs** 📄
Sagnik Mukherjee*, Abhinav Chinta*, <u>Takyoung Kim</u>, Tarun Anoop Sharma, Dilek Hakkani-Tür
International Conference on Machine Learning   `ICML 2025`

[4] **Learning to Explore and Select for Coverage-Conditioned Retrieval-Augmented Generation** 📄
<u>Takyoung Kim</u>, 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`

[5] **Revealing User Familiarity Bias in Task-Oriented Dialogue via Interactive Evaluation** 📄
<u>Takyoung Kim</u>, Jamin Shin, Young-Ho Kim, Sanghwan Bae, Sungdong Kim
Workshop on NLP for Conversational AI (Oral Presentation, Best Paper Award)   `NLP4ConvAI, ACL 2024`

[6] **DSTEA: Improving Dialogue State Tracking via Entity Adaptive Pre-training** 📄
Yukyung Lee, <u>Takyoung Kim</u>, 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`

[7] **KoSBi: A Dataset for Mitigating Social Bias Risks Towards Safer Large Language Model Applications** 📄
Hwaran Lee*, Seokhee Hong*, Joonsuk Park, <u>Takyoung Kim</u>, Gunhee Kim, Jung-Woo Ha
Annual Meeting of the Association for Computational Linguistics (Industry Track)   `ACL 2023`

[8] **SQuARe: A Large-Scale Dataset of Sensitive Questions and Acceptable Responses Created Through Human-Machine Collaboration** 📄
Hwaran Lee*, Seokhee Hong*, Joonsuk Park, <u>Takyoung Kim</u>, 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`

[9] **Oh My Mistake!: Toward Realistic Dialogue State Tracking including Turnback Utterances** 📄
<u>Takyoung Kim</u>, Yukyung Lee, Hoonsang Yoon, Pilsung Kang, Junseong Bang, Misuk Kim
Towards Semi-Supervised and Reinforced Task-Oriented Dialog Systems   `SereTOD, EMNLP 2022`

[10] **Mismatch between Multi-turn Dialogue and its Evaluation Metric in Dialogue State Tracking** 📄
<u>Takyoung Kim</u>, Hoonsang Yoon, Yukyung Lee, Pilsung Kang, Misuk Kim
Annual Meeting of the Association for Computational Linguistics (Short)   `ACL 2022`

[11] **Building an Integrated Framework of Korean Text Summarization and Text-to-Speech** 📄
<u>Takyoung Kim</u>, Jina Kim, Hyeongwon Kang, Subin Kim, Pilsung Kang
Journal of Korean Institute of Industrial Engineers   `JKIIE 2022`

Preprint & Under Review

[12] **PIPA: A Unified Evaluation Protocol for Diagnosing Interactive Planning Agents** 📄
<u>Takyoung Kim</u>*, Janvijay Singh*, Shuhaib Mehri*, Emre Can Acikgoz, Sagnik Mukherjee, Nimet Beyza Bozdag, 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
Merit-based Scholarship, Computer Science Coursework Sungkyunkwan University	Spring 2018, Fall 2018

Teaching Experience

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

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