

Jinu Lee

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RESEARCH INTERESTS

My research focuses on **semantics of reasoning**, aiming to understand and improve natural language reasoning via neural large language models and symbolic methods. Specific topics include:

- Defining and obtaining symbolic representations that capture the nature of the reasoning tasks.
- Precisely defining reasoning ability and evaluating reasoning traces.
- Improving the reasoning capability of LLMs, from solution space-search to feedback-based learning.

EDUCATION

University of Illinois Urbana-Champaign	Urbana-Champaign, IL
Ph.D., Computer Science / Advisor: Julia Hockenmaier	08/2024 - Present
Seoul National University	Seoul, Korea (South)
BS, Computer Science & Engineering	03/2018 - 08/2024

WORK EXPERIENCE

LBOX	Seoul, Korea (South)
Research Engineer	07/2023 - 06/2024
<ul style="list-style-type: none">• Researched on neuro-symbolic reasoning• Developed information extraction system with legal text	
Naval Future Innovation Research Group	Republic of Korea Navy
Researcher, Seaman	03/2021 - 09/2022
<ul style="list-style-type: none">• Developed military-domain neural machine translation system	
NCSoft	Seongnam, Korea (South)
Researcher	07/2020 - 11/2020
<ul style="list-style-type: none">• Developed Korean neural dependency parsing module for on-premise NLP pipeline	

PUBLICATION (SELECTED)

Lee, J., Liu, Q., Ma, R., Han, V., Wang, Z., Ji, H., Hockenmaier, J. (2025). Entailment-Preserving FOL Representations for Natural Language Entailment. *Preprint*.

Lee, J., Hockenmaier, J. (2025). Evaluating Step-by-step Reasoning Traces: A Survey. *Preprint*.

Lee, J., Hwang, W. (2025). SymBa: Symbolic Backward Chaining for Structured Natural Language Reasoning. *NAACL 2025 Main*.

Lee, Y.*, **Lee, J.***, Hwang, S. (2023). Learning to Rank Generation with Pairwise Partial Rewards. *EMNLP 2023 Main*.

*: equal contribution.

TEACHING, TALKS, AND SERVICE

(Talk) Coupling Formal Logic and Natural Language Reasoning	Seoul, Korea (South)
Human-AI Collaborative Coding Lab @ Yonsei/KNU/UoS/SKKU	02/2025
Reviewer	
Conference on Language Modeling	03/2025-Present
Reviewer	
ACL Rolling Review (ARR)	10/2024-Present

AWARDS AND HONOURS

KFAS Overseas Ph.D. Scholarship

Awarded by *Korea Foundation of Advanced Studies* 08/2024 - Present

Presidential Science Scholarship for Undergraduates

Awarded by *Korea Student Aid Foundation* 03/2018 - 08/2023