Jinu Lee

Email ◇ Homepage ◇ GitHub ◇ LinkedIn

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
- Fine-grained evaluation of 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 / Advised by: Dr. Julia Hockenmaier — 08/2024 - Present

Seoul National University — Seoul, Rep. of Korea
B.S., Computer Science & Engineering — 03/2018 - 08/2024

WORK EXPERIENCE

Microsoft Research (RiSE) — Redmond, WA
Research Intern — 05/2025 - 08/2025
- Data augmentation and RL for a 32B LLM specialized in program verification and theorem proving

LBOX — Seoul, Rep. of Korea
Research Engineer — 07/2023 - 06/2024
- Neuro-symbolic reasoning and legal information extraction

NCSOFT — Seongnam, Rep. of Korea
Researcher — 07/2020 - 11/2020
- Korean dependency parsers and resources

PUBLICATIONS

CONFERENCE PROCEEDINGS.

Jinu Lee, Julia Hockenmaier (2025). Evaluating Step-by-step Reasoning Traces: A Survey. *EMNLP 2025 Findings.*

Chaeeun Kim, **Jinu Lee**, Wonseok Hwang (2025). LegalSearchLM: Rethinking Legal Case Retrieval as Legal Elements Generation. *EMNLP 2025 Main.*

Jinu Lee, Qi Liu, Runzhi Ma, Vincent Han, Ziqi Wang, Heng Ji, Julia Hockenmaier (2025). Entailment-Preserving FOL Representations for Natural Language Entailment. *ACL 2025 Main.*

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

Youngwon Lee*, **Jinu Lee***, Seung-won Hwang (2023). Learning to Rank Generation with Pairwise Partial Rewards. *EMNLP 2023 Main.*

PREPRINTS.

Jinu Lee, Kyoung-woon On, Simeng Han, Arman Cohan, Julia Hockenmaier (2025). Evaluating Legal Reasoning Traces with Legal Issue Trees. *arXiv preprint.*

Priyanka Kargupta*, Stella Li*, Haocheng Wang, **Jinu Lee**, Shan Chen, Orevaoghene Ahia, Dean Light, Thomas L. Griffiths, Max Kleiman-Weiner, Jiawei Han, Asli Celikyilmaz, Yulia Tsvetkov (2025). Cognitive Foundations for Reasoning and Their Manifestation in LLMs. *arXiv preprint.*

Seungone Kim, Ian Wu*, **Jinu Lee***, Xiang Yue, Seongyun Lee, Mingyeong Moon, Kiril Gashteovski, Caroline Lawrence, Julia Hockenmaier, Graham Neubig, Sean Welleck (2025). Scaling Evaluation-time Compute with Reasoning Models as Process Evaluators. *arXiv preprint.*

*: equal contribution.

Teaching, Talks, and Service

Teaching

CS440 Artificial Intelligence Urbana, IL
Teaching Assistant 08/2025-12/2025

Talks

ReasoningFlow: Semantic Structure of Complex Reasoning Traces
EleutherAI 01/2026

Evaluating Legal Reasoning Traces with Legal Issue Trees Seoul, Rep. of Korea
IDA.L Lab Seminar @ UoS 01/2026

Coupling Formal Logic and Natural Language Reasoning Seoul, Rep. of Korea
Human-AI Collaborative Coding Lab @ Yonsei/KNU/UoS/SKKU 02/2025

Academic Service

ACL Rolling Review (ARR) Reviewer 10/2024-Present

Conference on Language Modeling (CoLM) Reviewer 03/2025-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