

Seongyun Lee

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PROFILE

I'm an incoming Ph.D student (Fall 2025) at **KAIST AI** and advised by Prof. Minjoon Seo. I'm currently interested in **enhancing the reasoning and planning capabilities of language (or multimodal) agents**. I obtained B.S in Computer Science at Korea University and also was previously a research intern at **Twelve Labs**.

RESEARCH INTERESTS

I'm interested in building AI models that understand and interactive with the real world. (**Mutimodal, AI Agent, Reasoning and Planning**)

EDUCATION

Sep 2025 —	Ph.D. Kim Jaechul Graduate School of AI Korea Advanced Institute of Science and Technology	Seoul
Mar 2024 — Aug 2025	M.S. Kim Jaechul Graduate School of AI Korea Advanced Institute of Science and Technology	Seoul
Mar 2020 — Feb 2024	B.S. Computer Science and Engineering Korea University	Seoul

PUBLICATIONS

May 2025	The CoT Encyclopedia: Analyzing, Predicting, and Controlling how a Reasoning Model will Think Seongyun Lee, Seungone Kim, Minju Seo, Yongrae Jo, Dongyoung Go, Hyeonbin Hwang, Jinho Park, Xiang Yue, Sean Welleck, Graham Neubig, Moontae Lee, Minjoon Seo Preprint
Apr 2025	Paper2Code: Automating Code Generation from Scientific Papers in Machine Learning Minju Seo, Jinheon Baek, Seongyun Lee , Seong Ju Hwang Preprint
Mar 2025	Scaling Evaluation-time Compute with Reasoning Models as Process Evaluators Seungone Kim, Ian Wu, Jinu Lee, Xiang Yue, Seongyun Lee , Mingyeong Moon, Kiril Gashteovski, Carolin Lawrence, Julia Hockenmaier, Graham Neubig, Sean Welleck Preprint
Dec 2024	Efficient Long Context Language Model Retrieval with Compression

Minju Seo, Jinheon Baek, **Seongyun Lee**, Seong Ju Hwang

ACL 2025 Main

Dec 2024

Evaluating Language Models as Synthetic Data Generators

Seungone Kim, Juyoung Suk, Xiang Yue, Vijay Viswanathan, **Seongyun Lee**, Yizhong Wang, Kiril Gashteovski, Carolin Lawrence, Sean Welleck, Graham Neubig

ACL 2025 Main

Oct 2024

How Does Vision-Language Adaptation Impact the Safety of Vision Language Models?

Seongyun Lee*, Geewook Kim*, Jiyeon Kim*, Hyunji Lee, Hoyeon Chang, Sue Hyun Park, Minjoon Seo

(*equal contribution)

ICLR 2025

Jun 2024

The BiGGen Bench: A Principled Benchmark for Fine-grained Evaluation of Language Models with Language Models

Seungone Kim, Juyoung Suk, Ji Yong Cho, Shayne Longpre, Chaeun Kim, Dongkeun Yoon, Guijin Son, Yejin Cho, Sheikh Shafayat, Jinheon Baek, Sue Hyun Park, Hyeonbin Hwang, Jinkyung Jo, Hyowon Cho, Haebin Shin, **Seongyun Lee**, Hanseok Oh, Noah Lee, Namgyu Ho, Se June Joo, Miyoung Ko, Yoonjoo Lee, Hyungjoo Chae, Jamin Shin, Joel Jang, Seonghyeon Ye, Bill Yuchen Lin, Sean Welleck, Graham Neubig, Moontae Lee, Kyungjae Lee, Minjoon Seo

NAACL 2025 Main (Oral and Winner of best-paper award)

May 2024

Aligning to Thousands of Preferences via System Message Generalization

Seongyun Lee*, Sue Hyun Park*, Seungone Kim, Minjoon Seo

(*equal contribution)

NeurIPS 2024

[Paper] [Code]

Apr 2024

LG AI Research & KAIST at EHRSQL 2024: Self-Training Large Language Models with Pseudo-Labeled Unanswerable Questions for a Reliable Text-to-SQL System on EHRs

Yongrae Jo*, **Seongyun Lee***, Minju Seo*, Sung Ju Hwang, Moontae Lee

(*equal contribution)

NAACL 2024 ClinicalNLP Workshop (Oral)

Feb 2024

Prometheus-Vision: Vision-Language Model as a Judge for Fine-Grained Evaluation

Seongyun Lee*, Seungone Kim*, Sue Hyun Park, Geewook Kim, Minjoon Seo

(*equal contribution)

ACL 2024 Findings

[Paper] [Code]

Nov 2023

Volcano: Mitigating Multimodal Hallucination through Self-Feedback Guided Revision

Seongyun Lee, Sue Hyun Park, Yongrae Jo, Minjoon Seo

NAACL 2024 Main

[Paper] [Code]

Jun 2023

Zero-Shot Dense Video Captioning by Jointly Optimizing Text and Moment

Yongrae Jo, **Seongyun Lee**, Aiden SJ Lee, Hyunji Lee, Hanseok Oh, Minjoon Seo
Preprint

Nov 2022

LIQUID: A Framework for List Question Answering Dataset Generation

Seongyun Lee*, Hyunjae Kim*, Jaewoo Kang (*equal contribution)

AAAI 2023

[Paper] [Code] [Leaderboard]

EXPERIENCE

Apr 2025 — Aug 2025

Research Intern, LG AI Research

Seoul

Working on code generation LLM and AI Agent

Jun 2023 — Oct 2023

ML Research Intern, Twelve Labs

Seoul

Working on building a video-language model at ML Modeling Team

One of the main inventor of Video-Language Foundation Model ‘Pegasus-1’

Dec 2022 — Feb 2024

Research Intern, LK Lab, KAIST AI (Prof. Minjoon Seo)

Seoul

Working on validating various hypotheses related to video retrieval/captioning with advisor. Proposed some methods of zero-shot dense video captioning, conducted diverse experiments, visualized results. Finally, submitted a paper to the AI conference.

Jul 2021 — Dec 2022

Research Intern, DMIS Lab, Korea University (Prof. Jaewoo Kang)

Seoul

Participated in BioASQ challenge and took 2nd place in some batches. Following the challenge, studied the methodology of augmenting the data needed for list question answering, and submitted the paper to AAAI 2023.

AWARD

Apr 2024

1st place, Reliable Text-to-SQL Modeling on Electronic Health Records

NAACL 2024 ClinicalNLP Workshop Shared Task

Sep 2022

2nd place, BioASQ 10B Batch 3: semantic QA

	BioASQ 2022
Sep 2022	2nd place, BioASQ 10B collaborative: semantic QA
	BioASQ 2022
Mar 2020 — Feb 2024	National Science & Technology Scholarship (Full-ride scholarship)
