Hwanhee Lee (이환희)

Assistant Professor @ Chung-Ang University

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Employment

Chung-Ang University *Seoul, Korea*
Assistant Professor *Mar. 2023 - Current*
- Department of Artificial Intelligence/Graduate School of Artificial Intelligence (Language Intelligence Lab.)

Seoul National University *Seoul, Korea*
Postdoctoral Researcher *Sep. 2022 - Feb. 2023*
- Senior Researcher, Automation and Systems Research Institute

NAVER CLOVA AI Research *Seongnam, Korea*
Research Intern *Aug. 2021 - Jan. 2022*
- NAVER AI LAB Language Research Team
- Working with Dr. Hwaran Lee, Dr. Kang Min Yoo, and Prof. Joonsuk Park
- Theme: Factual Consistency Evaluation and Optimization for Abstractive Summarization
- Published a paper at NAACL 2022

Research Interests Natural Language Processing - Truthfulness and Safety of Language Models
Current Focus Knowledge-aware Language Generation, Retrieval-Augmented Generation, Hallucination Mitigation of Language Models

Education

Seoul National University *Seoul, Korea*
Ph.D of Electrical and Computer Engineering *Aug. 2022*
- Machine Intelligence Laboratory (Advisor: Prof. Kyomin Jung)
- Thesis: Factual Consistency Evaluation for Conditional Text Generation Systems
  (Committee: Kyuseok Shim, Kyomin Jung, Taesup Moon, Seung-won Hwang (SNU), and JinYeong Bak (SKKU))
- Distinguished Ph.D. Dissertation Award

Seoul National University *Seoul, Korea*
Bachelor of Electrical and Computer Engineering *Feb. 2017*

Scholarships & Awards

Outstanding Area Chair
Awarded by EMNLP 2024 *Nov. 2024*

Adobe Research Gift
Granted by Adobe Research ($28,000) *May. 2024, June. 2023*

Distinguished Ph.D. Dissertation Award
Awarded by Dept. of Electrical and Computer Engineering, Seoul National University *Aug. 2022*

Youlchon AI STAR Scholarship
Granted by Nongsim Youlchon Foundation *Sep. 2021*

Scholarship of Electronics, Electrical and Computer Engineering
Granted by Foundation for Electronics, Electrical and Computer Engineering at Seoul National University *Mar. 2018*

National Science & Technology Scholarship (Full-tuition)
Granted by Korea Student Aid Foundation *Mar. 2013 - Feb. 2017*

Publications

International Conferences

Keep Security! Benchmarking Security Policy Preservation in Large Language Model Contexts Against Indirect Attacks in Question Answering

Hwan Chang*, Yumin Kim*, YongHyeon Jun, Hwanhee Lee†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2025**)

ToDi: Token-wise Distillation via Fine-Grained Divergence Control

Seongryong Jung, Suwan Yoon, DongGeon Kim, Hwanhee Lee†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2025**)

How Do Large Vision-Language Models See Text in Image? Unveiling the Distinctive Role of OCR Heads

Ingeol Baek, Hwan Chang, Sunghyun Ryu, Hwanhee Lee†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2025**)

SAFE-SQL: Self-Augmented In-Context Learning with Fine-grained Example Selection for Text-to-SQL

Jimin Lee, Ingeol Baek, Byeongjeong Kim, Hyunkyung Bae, Hwanhee Lee†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2025**)

Event-Driven Storytelling with Multiple Lifelike Humans in a 3D scene

Donggeun Lim, Jinseok Bae, Inwoo Hwang, Seungmin Lee, Hwanhee Lee, Young Min Kim

- International Conference on Computer Vision (**ICCV 2025**)

Exploring Persona Sentiment Sensitivity in Personalized Dialogue Generation

Yonghyun Jun, Hwanhee Lee†

- The 63rd Annual Meeting of the Association for Computational Linguistics (**ACL 2025**)

Dynamic Label Name Refinement for Few-Shot Dialogue Intent Classification

Gyutae Park, Ingeol Baek, ByeongJeong Kim, Joongbo Shin, Hwanhee Lee†

- The 63rd Annual Meeting of the Association for Computational Linguistics (**ACL 2025**)

Dynamic Order Template Prediction for Generative Aspect-Based Sentiment Analysis

Yonghyun Jun, Hwanhee Lee†

- The 63rd Annual Meeting of the Association for Computational Linguistics (**ACL 2025**)

Which Retain Set Matters for LLM Unlearning? A Case Study on Entity Unlearning

Hwan Chang, Hwanhee Lee†

- Findings of the Association for Computational Linguistics: ACL 2025 (**Findings of ACL 2025**)

Investigating Language Preference of Multilingual RAG systems

Jeonghyun Park, Hwanhee Lee†

- Findings of the Association for Computational Linguistics: ACL 2025 (**Findings of ACL 2025**)

AdvisorQA: Towards Helpful and Harmless Advice-seeking Question Answering with Collective Intelligence

Minbeom Kim, Hwanhee Lee, Joonsuk Park, Hwaran Lee, Kyomin Jung

- Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2025**)

Probing-RAG: Self-Probing to Guide Language Models in Selective Document Retrieval

Ingeol Baek, Hwan Chang, Byeongjeong Kim, Jimin Lee, Hwanhee Lee†

- Findings of the Association for Computational Linguistics: NAACL 2025 (**Findings of NAACL 2025**)

FIZZ: Factual Inconsistency Detection by Zoom-in Summary and Zoom-out Document

Joonho Yang, Seunghyun Yoon, Byeongjeong Kim, Hwanhee Lee†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2024**)

IterCQR: Iterative Conversational Query Reformulation with Retrieval Guidance

Yunah Jang, Kang-il Lee, Hyunkyung Bae, <u>Hwanhee Lee</u>†, Kyomin Jung†

- Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2024**)

LifeTox: Unveiling Implicit Toxicity in Life Advice

Minbeom Kim, Jahyun Koo, <u>Hwanhee Lee</u>, Joonsuk Park†, Hwaran Lee, Kyomin Jung†

- Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2024**)

KoCoSa: Korean Context-aware Sarcasm Detection Dataset

Yumin Kim*, Heejae Suh*, Mingi Kim*, Dongyeon Won*, <u>Hwanhee Lee</u>†

- The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (**COLING 2024**)

Kosmic: Korean Text Similarity Metric Reflecting Honorific Distinctions

Yerin Hwang, Yongil Kim, Hyunkyung Bae, Jeesoo Bang, <u>Hwanhee Lee</u>†, Kyomin Jung†

- The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (**COLING 2024**)

Asking Clarification Questions to Handle Ambiguity in Open-Domain QA

Dongryeol Lee, Segwang Kim, Minwoo Lee, <u>Hwanhee Lee</u>, Joonsuk Park, Sang-Woo Lee, Kyomin Jung

- Findings of the Association for Computational Linguistics: EMNLP 2023 (**Findings of EMNLP 2023**)

Dialogizer: Context-aware Conversational-QA Dataset Generation from Textual Sources

Yerin Hwang*, Yongil Kim*, Hyunkyung Bae, <u>Hwanhee Lee</u>†, Jeesoo Bang, Kyomin Jung†

- Conference on Empirical Methods in Natural Language Processing (**EMNLP 2023**)

Critic-Guided Decoding for Controlled Text Generation

Minbeom Kim, <u>Hwanhee Lee</u>, Kang Min Yoo, Joonsuk Park, Hwaran Lee, Kyomin Jung

- Findings of the Association for Computational Linguistics: ACL 2023 (**Findings of ACL 2023**)

Task-specific Compression for Multi-task Language Models using Attribution-based Pruning

Nakyeong Yang, Yunah Jang, <u>Hwanhee Lee</u>, Seohyeong Jung, and Kyomin Jung

- Findings of the Association for Computational Linguistics: EACL 2023 (**Findings of EACL 2023**)

Masked Summarization to Generate Factually Inconsistent Summaries for Improved Factual Consistency Checking

<u>Hwanhee Lee</u>, Kang Min Yoo, Joonsuk Park, Hwaran Lee, and Kyomin Jung

- Findings of the Association for Computational Linguistics: NAACL 2022 (**Findings of NAACL 2022**)

QACE: Asking Questions to Evaluate an Image Caption

<u>Hwanhee Lee</u>, Thomas Scialom, Seunghyun Yoon, Frank Dernoncourt, and Kyomin Jung

- Findings of the Association for Computational Linguistics: EMNLP 2021 (**Findings of EMNLP 2021**)

CrossAug: A Contrastive Data Augmentation Method for Debiasing Fact Verification Models

Minwoo Lee, Seungpil Won, Juae Kim, <u>Hwanhee Lee</u>, Cheonum Park, and Kyomin Jung

- 30th ACM International Conference on Information and Knowledge Management (**CIKM 2021**)

UMIC: An Unreferenced Metric for Image Captioning via Contrastive Learning

<u>Hwanhee Lee</u>, Seunghyun Yoon, Frank Dernoncourt, Trung Bui, and Kyomin Jung

- The Joint Conference of the 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (**ACL 2021**)

Entangled Bidirectional Encoder to Autoregressive Decoder for Sequential Recommendation

Taegwan Kang, <u>Hwanhee Lee</u>, Byeongjin Choe, and Kyomin Jung

- International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR 2021**)

KPQA: A Metric for Generative Question Answering Using Keyphrase Weights

<u>Hwanhee Lee</u>, Seunghyun Yoon, Frank Dernoncourt, Doo Soon Kim, Trung Bui, Joongbo Shin, and Kyomin Jung

- Annual Conference of the North American Chapter of the Association for Computational Linguistics (**NAACL 2021**)

Attentive Modality Hopping Mechanism for Speech Emotion Recognition

SEUNGHYUN YOON, SUBHADEEP DEY, HWANHEE LEE, AND KYOMIN JUNG

- IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP 2020**)

Improving Neural Question Generation Using Answer Separation

YANGHOON KIM, HWANHEE LEE, JOONGBO SHIN, AND KYOMIN JUNG

- Thirty-Third AAAI Conference on Artificial Intelligence (**AAAI 2019**)

International Journal

Cross-Lingual Summarization for Low-Resource Languages using Multilingual Retrieval-Based In-Context Learning

GYETAE PARK, JEONGHYUN PARK, HWANHEE LEE†

- Applied Sciences, 2025

Crafting the Path: Robust Query Rewriting for Information Retrieval

INGEOL BAEK, JIMIN LEE, JOONHO YANG, HWANHEE LEE†

- IEEE Access, 2025

REMDoC: Reference-free Evaluation for Medical Document Summaries via Contrastive Learning

JIMIN LEE, INGEOL BAEK, HWANHEE LEE†

- IEEE Access, 2024

Improving Abstractive Dialogue Summarization Using Keyword Extraction

CHONGJAE YOO AND HWANHEE LEE†

- Applied Sciences, 2023

Gated Relational Target-aware Encoder and Local Context-aware Decoder for Target-oriented Opinion Words Extraction

TAEGWAN KANG, SEGWANG KIM, HYEONGU YUN, HWANHEE LEE, AND KYOMIN JUNG

- IEEE Access, 2022

Preprint/Under Review

Hallucinate at the Last in Long Response Generation: A Case Study on Long Document Summarization

JOONHO YANG, SEUNGHYUN YOON, HWAN CHANG, BYEONGJEONG KIM, HWANHEE LEE†

- arXiv (2505.15291)

Personality Editing for Language Models through Relevant Knowledge Editing

SEOJIN HWANG, YUMIN KIM, BYEONGJEONG KIM, HWANHEE LEE†

- arXiv (2502.11789)

MultiLexNorm++: Lexical Normalization Beyond Indo-European Languages

WEERAYUT BUAPHET, THANH-NHI NGUYEN, RISA KONDO, TOMOYUKI KAJIWARA, YUMIN KIM, JIMIN LEE, HWANHEE LEE, HOLY LOVENIA, PEERAT LIMKONCHOTIWAT, SARANA NUTANONG, ROB VAN DER GOOT

- TALLIP Under-review

Chronological Passage Assembling in RAG framework for Narrative Text

BYEONGJEONG KIM, JEONGHYUN PARK, JOONHO YANG, HWANHEE LEE†

- Under-review

Selective Demonstration Retrieval for Improved Implicit Hate Speech Detection

YUMIN KIM, HWANHEE LEE†

- arXiv (2504.12082)

Leveraging Fine-grained Error Correction in Korean Speech Recognition for Consultation Services

YONGHYUN JUN, JIMIN LEE, HWAN CHANG, DONGHO SHIN, SEOLAH KIM, HWANHEE LEE†

- Engineering Applications of Artificial Intelligence Under Review

Conversational Query Reformulation with the Guidance of Retrieved Documents

Jeonghyun Park, Hwanhee Lee†

- Knowledge-based Systems Under Review - arXiv (2407.12363)

Workshop Papers & Other International Conferences

Logistic Regression-Based Example Selection for Enhanced Few-Shot Learning in Intent Classification

Gyutae Park, Hwanhee Lee†

- IEEE International Conference on Consumer Electronics (**IEEE ICCE 2025**)

Dynamically Managing a Prompt Pool via Self-Enhancement in Continual Learning

Hayun Lee, Kiseong Hong, Hwanhee Lee, Sungho Suh, Eunwoo Kim

- NeurIPS 2024 Workshop on Adaptive Foundation Models (**NeurIPS-W 2024**)

Low-Resource Cross-Lingual Summarization through Few-Shot Learning with Large Language Models

Gyutae Park, Seojin Hwang, Hwanhee Lee†

- ACL Workshop on Technologies for Machine Translation of Low-Resource Languages (**ACL-W 2024**)

Factual Error Correction for Abstractive Summaries Using Entity Retrieval

Hwanhee Lee, Cheoneum Park, Seunghyun Yoon, Trung Bui, Franck Dernoncourt, Juae Kim and Kyomin Jung

- EMNLP Workshop on Generation, Evaluation & Metrics (**EMNLP-W 2022**)

Improving Multiple Documents Grounded Goal-Oriented Dialog Systems via Diverse Knowledge Enhanced Pre-trained Language Model

Yunah Jang, Dongryeol Lee, Hyung Joo Park, Taegwan Kang, Hwanhee Lee, Hyunkyung Bae, and Kyomin Jung

- ACL Workshop on Document-grounded Dialogue and Conversational Question Answering (**ACL-W 2022**)

Learning to Select Question-Relevant Relations for Visual Question Answering

Jaewoong Lee, Heejoon Lee, Hwanhee Lee, and Kyomin Jung

- NAACL Workshop on Multimodal Artificial Intelligence Workshop (**NAACL-W 2021**)

Relevance Similarity Scorer and Entity Guided Reranking for Knowledge Grounded Dialog System

Hyunkyung Bae, Minwoo Lee, Ahhyeon Kim, and Hwanhee Lee, Cheongjae Lee, Cheonum Park, Donghyeon Kim, and Kyomin Jung

- AAAI Workshop on Dialog System Technology Challenge (**AAAI-W 2021**)

ViLBERTScore: Evaluating Image Caption Using Vision-and-Language BERT

Hwanhee Lee, Seunghyun Yoon, Frank Dernoncourt, Doo Soon Kim, Trung Bui, and Kyomin Jung

- EMNLP Workshop on Evaluation and Comparison of NLP Systems (**EMNLP-W 2020**)

Multimodal Semantic Transformer Network with Retrieval Style Word Generator

Hwanhee Lee, Seunghyun Yoon, Frank Dernoncourt, Doo Soon Kim, Trung Bui, and Kyomin Jung

- AAAI Workshop on Dialog System Technology Challenge (**AAAI-W 2020**)

Attention-based Convolutional Neural Networks for Multi-label Emotion Classification

Yanghoon Kim, Hwanhee Lee, and Kyomin Jung

- NAACL Workshop on Semantic Evaluation 2018 (**NAACL-W 2018**)

Research Projects

Driving Purchases with a Next-generation OWO Retail System that Combines Hyper-personalized Fashion AI Agents and Realistic Virtual Fittings

Funded by the Ministry of Trade, Industry and Energy, Co-PI   *July. 2025 - Dec. 2028*

- Developing Conversational Fashion AI Agent

Development of an LLM System for Financial Transactions

Funded by Seoul Business Agency, Co-PI   *Sep. 2025 - Aug. 2026*

- Developing Transaction Classification System with RAG

LLM based Claim Report Generation

Funded by Doosan Enerbility, PI *Jun. 2025 - May. 2026*

- Claim Report Generation with Agentic RAG System

Development of an LLM System for Financial Transactions

Funded by the Ministry of SMEs and Startups, Co-PI *May. 2025 - Dec. 2025*

- Developing Transaction Classification System with RAG

Risk Assessment of Construction Site based on LLMs

Funded by Doosan Enerbility, PI *Jun. 2024 - May. 2025*

- Risk Assessment and Prediction with Large Language Models

Improvement of Speech Recognition Rate Using LLMs

Funded by Seoul 120 Dasan Call Foundation, PI *April. 2024 - Dec. 2024*

- Detecting Errors of ASR System for Dialogue Data with Large Language Models

RAG based Conversational Question Answering System

Funded by URP, Co-PI *Mar. 2024 - Dec. 2024*

- Developing ConvQA System for Real Estate Domain

Anomaly Detection in Fuel Cell

Funded by Doosan Fuel Cell, PI *June. 2023 - May. 2024*

- Developing Anomaly Detection System for Full Cell

Factual Error Correction on Grounded Text Generation Systems

Funded by Adobe Research (Research Gifts, 2023-2024) *May. 2023 - Current*

- Developed Factual Error Detection and Correction System for Abstractive Summarization Systems
- Published a Paper at EMNLP 2024

Credibility of Large-scale Language Models and their Application to Knowledge Based Dialogue Models

Funded by NAVER CLOVA AI Research *June. 2021 - Feb. 2023*

- Developing Factual Consistency Evaluation and Optimization System
- Developing a Personalized Dialog System
- Published a Paper at NAACL 2022, ACL 2023, EMNLP 2023

Knowledge-Grounded Conversational Question Answering System

Funded by Hyundai Motors Group AIRS Company *Sep. 2020 - Sep. 2021*

- Constructed Korean Conversational QA Dataset
- Published a Paper at AAAI 2021 Workshop

Evaluation Metric for Grounded Text Generation Systems

Funded by Adobe Research *Dec. 2019 - Jan. 2021*

- Developed Evaluation Metrics for Generative QA and Image Captioning
- Published Four Papers at ACL 2021, NAACL 2021, EMNLP 2021 and EMNLP 2020 Workshop

Deep Learning Based Context-awareness Dialog System

Funded by Samsung Advanced Institute of Technology *May. 2019 - May. 2020*

- Developed a Multimodal Dialog System
- Published a Paper at AAAI 2020 Workshop

Global Internet Big Text Data Monitoring

Funded by Ministry of Trade, Industry and Energy *Jan. 2018 - June. 2020*

- Developed Open Domain QA System and Question Generation System
- Published a Paper at AAAI 2019

Deep Learning Based Recommendation System

FUNDED BY LAONTRIP   *Mar. 2017 - Dec. 2017*

• Developed a Package Tour Recommendation System

Deep Learning Based Fraud Detection System

FUNDED BY KOREA CREDIT BUREAU   *Mar. 2017 - Sep. 2017*

• Developed a Fraud Detection System for Credit Card

Academic Services

Organizing Committee

IJCNLP-AACL 2023 (D&I CHAIR)

Area Chair

ACL 2024-2025, EMNLP 2024-2025, NAACL 2024-2025, COLING 2025, KCC 2024, KSC 2023, IEIE 2023

Reviewer

ACL 2021-2023, EMNLP 2020-2023, COLING 2022-2024, AAAI 2021, NeurIPS 2023-2025

Advisor

SOFTWARE POLICY & RESEARCH INSTITUTE   *Aug. 2022 - Mar. 2023*

• Technical Advising on Hyperscale Language Models

Selected Invited Talks

KAIST   *Daejeon, Korea*

COGNITIVE AND REASONING CAPABILITIES OF HYPERSCALE AI   *Mar. 2025*

Adobe Research   *San Jose, CA, USA*

TOWARD TRUTHFUL AND SAFE LANGUAGE MODELS   *Jan. 2025*

HCLT-KACL 2024   *Seongnam, Korea*

TOWARD TRUTHFUL AND SAFE LANGUAGE MODELS   *Oct. 2024*

Hanyang University   *Seoul, Korea*

HALLUCINATION OF LARGE LANGUAGE MODELS   *March. 2024*

Korea Institute of Science and Technology Information   *Daejeon, Korea*

RECENT RESEARCH ON FACTUAL CONSISTENCY AND APPLICATIONS TO SCIENTIFIC DOMAIN   *January. 2024*

KAIST   *Daejeon, Korea*

RESEARCH ON TEXT GENERATION SYSTEMS   *Oct. 2023*

Korea Electronics Technology Institute   *Seongnam, Korea*

LARGE LANGUAGE MODELS CHATGPT: HOW IT WORKS AND HOW TO USE   *July. 2023*

Eötvös Loránd University   *Budapest, Hungary*

RESEARCH ON TEXT GENERATION SYSTEMS   *July. 2023*

Chung-Ang University   *Seoul, Korea*

LARGE LANGUAGE MODELS CHATGPT: HOW IT WORKS AND HOW TO USE   *April. 2023*

LG AI Research   *Seoul, Korea*

FACTUAL CONSISTENCY OF TEXT GENERATION SYSTEMS   *Jan. 2023*

BrainLink 2022   *Incheon, Korea*

FACTUAL CONSISTENCY OF TEXT GENERATION SYSTEMS   *Oct. 2022*

Korea Electronics Technology Institute   *Seongnam, Korea*

FACTUAL CONSISTENCY OF TEXT GENERATION SYSTEMS   *Aug. 2022*

Teaching Experiences

Objected Oriented Programming
Chung-Ang University
Lecturer
Spring 2025, Spring 2024

Embedded Artificial Intelligence
Chung-Ang University
Lecturer
Fall 2025, Fall 2024, Fall 2023

Artificial Intelligence Design
Chung-Ang University
Lecturer
Fall 2025, Fall 2024, Fall 2023

Advanced Natural Language Processing: Large Language Models
Chung-Ang University
Lecturer
Sparing 2025, Spring 2024, Spring 2023

Probability and Random Process
Chung-Ang University
Lecturer
Spring 2023

Machine Learning
Seoul National University
Teaching Assistant
Spring 2019, Spring 2018

Programming Methodology
Seoul National University
Teaching Assistant
Spring 2022, Spring 2020, Spring 2017

Seminar on Deep Learning
Seoul National University
Teaching Assistant
Fall 2019

Introduction to IoT, Artificial Intelligence, Big Data
Seoul National University
Teaching Assistant
Fall 2019, Spring 2019, Fall 2018

Electrical Engineering Research Project
Seoul National University
Teaching Assistant
Fall 2020