

Hyeonseok Moon

✉ (+82) 10-5124-2557 • ✉ glee889@korea.ac.kr • ✉ hyeonseokk.github.io
👤 hyeonseokk • 💬 hyeonseok-moon-nlp • 📠 queGQ5UAAAAJ

Research Area

- Language Resource
- Model Evaluation
- Benchmark
- Data Evaluation
- Large Language Model
- Machine Translation
- Language Generation
- Data Engineering

Education

Korea University (Seoul, Republic of Korea)	2021.03 – 2026.02
Ph.D.	
Major in Computer Science and Engineering - Advisor: Prof. Heuiseok Lim	
Korea University (Seoul, Republic of Korea)	2015.03 – 2021.02
Bachelor of Science and Engineering	
Major in Mathematics and Artificial Intelligence (Double Majors) - Advisor: Prof. Euisung Park	

Selected Publications

International Conference

Metric Calculating Benchmark: Code-Verifiable Complicate Instruction Following Benchmark for Large Language Models	2025
Hyeonseok Moon, Seongtae Hong, Jaehyung Seo, Heuiseok Lim	
<u>EMNLP 2025</u>	
LimaCost: Data Valuation for Instruction Tuning of Large Language Models	2025
Hyeonseok Moon, Jaehyung Seo, Seonmin Koo, Jinsung Kim, Young-kyoung Ham, jiwon moon, Heuiseok Lim	
<u>EMNLP 2025 Findings</u>	
The Impact of Negated Text on Hallucination with Large Language Models	2025
Jaehyung Seo, <u>Hyeonseok Moon</u> , Heuiseok Lim	
<u>EMNLP 2025</u>	
Call for Rigor in Reporting Quality of Instruction Tuning Data	2025
Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim	
<u>ACL 2025</u>	
Cross-Lingual Optimization for Language Transfer in Large Language Models	2025
Jungseob Lee, Seongtae Hong, <u>Hyeonseok Moon</u> , Heuiseok Lim	
<u>ACL 2025</u>	
Semantic Aware Linear Transfer by Recycling Pre-trained Language Models for Cross-lingual Transfer	2025
Seungyoon Lee, Seongtae Hong, <u>Hyeonseok Moon</u> , Heuiseok Lim	
<u>ACL 2025 Findings</u>	
Find the Intention of Instruction: Comprehensive Evaluation of Instruction Understanding for Large Language Models	2025
Hyeonseok Moon, Jaehyung Seo, Seungyoon Lee, Chanjun Park, Heuiseok Lim	
<u>NAACL 2025 Findings</u>	
FLEX: A Benchmark for Evaluating Robustness of Fairness in Large Language Models	2025
Dahyun Jung, Seungyoon Lee, <u>Hyeonseok Moon</u> , Chanjun Park, Heuiseok Lim	
<u>NAACL 2025 Findings</u>	
MIRAGE: A Metric-Intensive Benchmark for Retrieval-Augmented Generation Evaluation	2025
Chanhee Park, <u>Hyeonseok Moon</u> , Chanjun Park, Heuiseok Lim	
<u>NAACL 2025 Findings</u>	

MIGRATE: Cross-Lingual Adaptation of Domain-Specific LLMs through Code-Switching and Embedding Transfer

2025

Seongtae Hong, Seungyoon Lee, Hyeonseok Moon, Heuiseok Lim
COLING 2025

Translation of Multifaceted Data without Re-Training of Machine Translation Systems

2024

Hyeonseok Moon, Seungjun Lee, Seongtae Hong, Seungjum Lee, Chanjun Park, Heuiseok Lim
EMNLP 2024 Findings

Length-aware Byte Pair Encoding for Mitigating Over-segmentation in Korean Machine Translation

2024

Jungseob Lee, Hyeonseok Moon (*equal contribution*), Seungjun Lee, Chanjun Park, Sugyeong Eo, Hyunwoong Ko, Jaehyung Seo, Seungyoon Lee, Heuiseok Lim
ACL 2024 Findings

Generative Interpretation: Toward Human-Like Evaluation for Educational Question-Answer Pair Generation

2024

Hyeonseok Moon, Jaewook Lee, Sugyeong Eo, Chanjun Park, Jaehyung Seo, Heui-Seok Lim
EACL 2024 Findings

Hyper-BTS Dataset: Scalability and Enhanced Analysis of Back TranSCRIPTION (BTS) for ASR Post-Processing

2024

Chanjun Park, Jaehyung Seo, Seolhwa Lee, Junyoung Son, Hyeonseok Moon, Sugyeong Eo, Chanhee Lee, Heui-Seok Lim
EACL 2024 Findings

Leveraging Pre-existing Resources for Data-Efficient Counter-Narrative

2024

Generation in Korean
Seungyoon Lee, Chanjun Park, DaHyun Jung, Hyeonseok Moon, Jaehyung Seo, Sugyeong Eo, Heui-Seok Lim
LREC-COLING 2024

Detecting Critical Errors Considering Cross-Cultural Factors in English-Korean Translation

2024

Sugyeong Eo, Jungwoo Lim, Chanjun Park, Dahyun Jung, Seonmin Koo, Hyeonseok Moon, Jaehyung Seo, Heui-Seok Lim
LREC-COLING 2024

CHEF in the Language Kitchen: A Generative Data Augmentation Leveraging Korean Morpheme Ingredients

2023

Jaehyung Seo, Hyeonseok Moon, Jaewook Lee, Sugyeong Eo, Chanjun Park, Heui-Seok Lim
EMNLP 2023

KEBAP: Korean Error Explainable Benchmark Dataset for ASR and Post-processing

2023

Seonmin Koo, Chanjun Park, Jinsung Kim, Jaehyung Seo, Sugyeong Eo, Hyeonseok Moon, Heui-Seok Lim
EMNLP 2023

Post-hoc Utterance Refining Method by Entity Mining for Faithful Knowledge Grounded Conversations

2023

Yoonna Jang, Suhyune Son, Jeongwoo Lee, Junyoung Son, Yuna Hur, Jungwoo Lim, Hyeonseok Moon, Kisu Yang, Heuiseok Lim
EMNLP 2023

PEEP-talk: A situational dialogue-based chatbot for English education

2023

Seungjun Lee, Yoonna Jang, Chanjun Park, Jungseob Lee, Jaehyung Seo, Hyeonseok Moon, Sugyeong Eo, Seounghoon Lee, Bernardo Yahya, Heui-Seok Lim
ACL 2023 - Demo

Towards diverse and effective question-answer pair generation from children storybooks

2023

Sugyeong Eo, Hyeonseok Moon (*equal contribution*), Jinsung Kim, Yuna Hur, Jeongwook Kim, Songeun Lee, Changwoo Chun, Sungsoo Park, Heuiseok Lim
ACL 2023 Findings

Improving Formality-Sensitive Machine Translation Using Data-Centric Approaches and Prompt Engineering

2023

Seungjun Lee, Hyeonseok Moon, Chanjun Park, Heuiseok Lim
IWSLT 2023

QUAK: A synthetic quality estimation dataset for korean-english neural machine translation 2022
Sugyeong Eo, Chanjun Park, Hyeonseok Moon, Jaehyung Seo, Gyeongmin Kim, Jungseob Lee, Heuiseok Lim
COILING 2022

A dog is passing over the jet? a text-generation dataset for korean commonsense reasoning and evaluation 2022
Jaehyung Seo, Seounghoon Lee, Chanjun Park, Yoonna Jang, Hyeonseok Moon, Sugyeong Eo, Seonmin Koo, Heuiseok Lim
NAACL 2022 Findings

**KU X upstage's submission for the WMT22 quality estimation:
Critical error detection shared task** 2022
Sugyeong Eo, Chanjun Park, Hyeonseok Moon, Jaehyung Seo, HeuiSeok Lim
WMT 2022

Priming ancient Korean neural machine translation 2022
Chanjun Park, Seolhwa Lee, Jaehyung Seo, Hyeonseok Moon, Sugyeong Eo, Heui-Seok Lim
LREC 2022

Empirical Analysis of Noising Scheme based Synthetic Data Generation for Automatic Post-editing 2022
Hyeonseok Moon, Chanjun Park, Seolhwa Lee, Jaehyung Seo, Jungseob Lee, Sugyeong Eo, HeuiSeok Lim
LREC 2022

A Self-Supervised Automatic Post-Editing Data Generation Tool 2022
Hyeonseok Moon, Chanjun Park, Sugyeong Eo, Jaehyung Seo, SeungJun Lee, Heuiseok Lim
ICML 2022 - DataPerf Workshop

BTS: Back TranSCRIPTION for Speech-to-Text Post-Processor using Text-to-Speech-to-Text 2021
Chanjun Park, Jaehyung Seo, Seolhwa Lee, Chanhee Lee, Hyeonseok Moon, Sugyeong Eo, Heuiseok Lim
WAT2021 - ACL Workshop

Should we find another model?: Improving neural machine translation performance with one-piece tokenization method without model modification 2021
Chanjun Park, Sugyeong Eo, Hyeonseok Moon, HeuiSeok Lim
NAACL 2021 - industry track

International Journal
Exploiting Hanja-based Resources in Processing Korean Historic Documents written by Common Literati 2024
Hyeonseok Moon, Myunghoon Kang, Jaehyung Seo, Sugyeong Eo, Chanjun Park, Yeongwook Yang, Heuiseok Lim
IEEE Access

Doubts on the reliability of parallel corpus filtering 2023
Hyeonseok Moon, Chanjun Park, Seonmin Koo, Jungseob Lee, Seungjun Lee, Jaehyung Seo, Sugyeong Eo, Yoonna Jang, Hyunjoong Kim, Hyoung-gyu Lee, Heuiseok Lim
Expert Systems with Applications

Uncovering the Risks and Drawbacks Associated with the Use of Synthetic Data for Grammatical Error Correction 2023
Seonmin Koo, Chanjun Park, Seolhwa Lee, Jaehyung Seo, Sugyeong Eo, Hyeonseok Moon, Heuiseok Lim
IEEE Access

A survey on evaluation metrics for machine translation 2023
Seungjun Lee, Jungseob Lee, Hyeonseok Moon, Chanjun Park, Jaehyung Seo, Sugyeong Eo, Seonmin Koo, Heuiseok Lim
Mathematics

PU-GEN: Enhancing generative commonsense reasoning for language models with human-centered knowledge 2022
Jaehyung Seo, Dongsuk Oh, Sugyeong Eo, Chanjun Park, Kisoo Yang, Hyeonseok Moon, Kinam Park, Heuiseok Lim
Knowledge-Based Systems

An automatic post editing with efficient and simple data generation method 2022
Hyeonseok Moon, Chanjun Park, Jaehyung Seo, Sugyeong Eo, Heuiseok Lim
IEEE Access

AI for patents: A novel yet effective and efficient framework for patent analysis

2022

Junyoung Son, Hyeonseok Moon, Jeongwoo Lee, Seolhwa Lee, Chanjun Park, Wonkyung Jung, Heuiseok Lim
IEEE Access

Plain template insertion: korean-prompt-based engineering for few-shot learners

2022

Jaehyung Seo, Hyeonseok Moon, Chanhee Lee, Sugyeong Eo, Chanjun Park, Jihoon Kim, Changwoo Chun, Heuiseok Lim
IEEE Access

K-nct: Korean neural grammatical error correction gold-standard test set using novel error type classification criteria

2022

Seonmin Koo, Chanjun Park, Jaehyung Seo, Seungjun Lee, Hyeonseok Moon, Jungseob Lee, Heuiseok Lim
IEEE Access

Mimicking infants' bilingual language acquisition for domain specialized neural machine translation

2022

Chanjun Park, Woo-Young Go, Sugyeong Eo, Hyeonseok Moon, Seolhwa Lee, Heuiseok Lim
IEEE Access

Word-level quality estimation for Korean-English neural machine translation

2022

Sugyeong Eo, Chanjun Park, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim
IEEE Access

An empirical study on automatic post editing for neural machine translation

2021

Hyeonseok Moon, Chanjun Park, Sugyeong Eo, Jaehyung Seo, Heuiseok Lim
IEEE Access

Comparative analysis of current approaches to quality estimation for neural machine translation

2021

Sugyeong Eo, Chanjun Park, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim
Applied Sciences

Return on Advertising Spend Prediction with Task Decomposition-Based LSTM Model

2021

Hyeonseok Moon, Taemin Lee, Jaehyung Seo, Chanjun Park, Sugyeong Eo, Imatitikua D Aiyanyo, Jeongbae Park, Aram So, Kyoungwha Ok, Kinam Park
Mathematics

Comparative analysis of current approaches to quality estimation for neural machine translation

2021

Sugyeong Eo, Chanjun Park, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim
Applied Sciences

Collaborative Project

World Best LLM - with NC AI

2025.07 – now

Supported by National Research Foundation - Team Leader at Korea University

- Supervise LLM training process and Evaluating trained LLMs
- Evaluation data curation. Evaluation dashboard management
- Training data curation and management

LLM Assistant for Teaching Human Consultant

2024.07 – 2025.08

Supported by Creative Digital Lab - Project Manager at Korea University

- Training Large Language Models with Data Curation
- Data augmentation with a few human-annotated labels

Legal Domain Vertical LLM

2024.07 – 2025.07

Supported by KT - Project Manager at Korea University

- Training Large Language Models with Data Curation
- Data quality check for building domain specialized LLM
- Constructing data processing pipeline

NLP for Ancient Korean Common Literati Document

2022.06 – 2024.07

Supported by National Research Foundation - Project Manager at Korea University

- Named entity recognition and document analysis for ancient Korean documents
- Engaged in data construction process and setup annotation standard
- Related Publication: Exploiting Hanja-Based Resources in Processing Korean Historic Documents Written by Common Literati (IEEE Access)

Persona-based Dialogue with k-Nearest-Neighbor Approach	2023.05 – 2023.12
<i>Supported by NC Soft - Head Technician at Korea University</i>	
○ Research on the applicability of k-nearest neighbor approach in persona dialogue	
○ k-nearest neighbor, persona dialogue, language generation	
Domain Specialized Parallel Corpus Construction for Machine Translation	2022.06 – 2023.11
<i>Supported by NIA (with Minigate Corporation) - Project Manager at Korea University</i>	
○ Data evaluation and supervision in curation process	
○ Engaged in data construction process and setup annotation standard	
Automated Question-Answer pair Data Generation System	2022.03 – 2023.02
<i>Supported by Hyundai Motors - Head Technician at Korea University</i>	
○ Automated question-Answer pair generation framework, especially tailored to the educational purpose	
○ QA generation, Education domain	
○ Related Publication: Towards Diverse and Effective Question-Answer Pair Generation from Children Storybooks (ACL 2023 - findings)	
User Query based Recommendation System	2022.03 – 2023.01
<i>Supported by FLES corporation - Head Technician at Korea University</i>	
○ Commercial item recommendation systems based on the user preference	
○ Recommendation system, Information retrieval	
Fortune Telling Generation AI Project	2022.03 – 2023.01
<i>Supported by FLES corporation - Project Manager at Korea University</i>	
○ Fortune telling AI module. Encoder-Decoder generator along with LLM based generator system	
○ Language generation, Decoding strategy, Large language models	
○ Related Publication: SaJuTeller: Conditional Generation Deep-Learning based Fortune Telling Model (HCLT 2022)	
Parallel Corpus Filtering and Mining Research Project	2021.12 – 2022.07
<i>Supported by Naver Papago - Head Technician at Korea University</i>	
○ Analysis on parallel corpus filtering methods targeting Korean-English machine translation	
○ Parallel corpus filtering, Machine translation	
○ Related Publication: Doubts on the reliability of parallel corpus filtering (Expert Systems with Applications)	
Korean-Prompt-based Engineering for Few-shot Research Project	2022.05 – 2022.07
<i>Supported by Hyundai Motors - Researcher at Korea University</i>	
○ Few-shot prompting strategy for enhancing Korean understanding task performance	
○ Prompt engineering, Few shot, Language understanding	
○ Related Publication: https://ieeexplore.ieee.org/abstract/document/9913979	
Plain Template Insertion: Korean-Prompt-Based Engineering for Few-Shot Learners (IEEE Access)	
Information Retrieval system for Industrial Frequently Asked Question	2021.07 – 2022.03
<i>Supported by Data Voucher (O2O corporation) - Researcher at Korea University</i>	
○ Information retrieval system for frequently-asked QA systems	
○ Keyword Extraction, Information Extraction, Question Answering module	
Return on Advertising Spend (ROAS) Prediction Project	2021.07 – 2022.03
<i>Supported by BizSpring corporation - Head Technician at Korea University</i>	
○ Regression module for return-on-advertising-spend prediction	
○ Keyword Extraction, Return on Advertising Spend, Regression Model	
○ Related Publication: https://www.mdpi.com/2227-7390/10/10/1637	
Return on Advertising Spend Prediction with Task Decomposition-Based LSTM Model (Mathematics)	
Patent document processing Research Project	2021.06 – 2021.09
<i>Supported by LG Innotek - Head Technician at Korea University</i>	
○ Sentence extraction and key phrase extraction module for patent documents	
○ Automatic Summarization, Sentence classification, Information Extraction	
○ Related Publication: https://ieeexplore.ieee.org/abstract/document/9779775	
AI for Patents: A Novel Yet Effective and Efficient Framework for Patent Analysis (IEEE Access)	

Teaching

Teaching Assistant at Korea University	2023.09 – 2024.06
○ (DFE610-00) NLP for digital finance engineering	
○ (BDC101-00) Introduction to Natural Language Processing In Big Data	
○ (COSE461-02) Natural Language Processing	

Honors & Awards

Best Paper Award	2024
○ The 36th Annual Conference on Human & Cognitive Language Technology (HCLT2024)	
Best Paper Award	2023
○ The 35th Annual Conference on Human & Cognitive Language Technology (HCLT2023)	
1st place in WMT 2022 QE Task 3, 2022	2022
○ Seventh Conference on Machine Translation (WMT22) Quality Estimation Shared Task	
Best Paper Award	2022
○ The 34th Annual Conference on Human & Cognitive Language Technology (HCLT2022)	
Best Paper Award	2021
○ The 33rd Annual Conference on Human & Cognitive Language Technology (HCLT2021)	

Patent

Device and Method For Generation of Diverse Question-Answer Pair

- U.S. Patent Application No. 18/585,166

Device and Method for Generating Fortune Telling Model Based n Conditional Generation Deep-Learning

- South Korea Patent Granted No. 10-2790031
- South Korea Patent Application No. 10-2022-0158977

Task Decomposition Method based Prediction of Return on Advertising Spend and Device Performing the same

- South Korea Patent Granted No. 10-2790027
- South Korea Patent Application No. 10-2021-0156657

Device and Method for Parallel Corpus Filtering Based On Semantic Similarity

- South Korea Patent Granted No. 10-2593448
- South Korea Patent Application No. 10-2022-0151593

Device and Method for Generating of Training Data for Quality Estimation In Machine Translation

- South Korea Patent Granted No. 10-2593447
- South Korea Patent Application No. 10-2021-0156657

Device and Method for Automatic Evaluation of Call Center Agent Conversation

- South Korea Patent Application No. 10-2025-0100212

Performance Evaluation Method For Large Language Models Based On Intention Catching Capability

- South Korea Patent Application No. 10-2024-0169352

Diverse and Effective Question-Answer Pair Generation System for Education

- South Korea Patent Application No. 10-2023-0024355

Device And Method For Assessment Of Educational Question-Answering

- South Korea Patent Application No. 10-2023-0162875

Device and Method for Generating Training Data For Post Editing

- South Korea Patent Application No. 10-2021-0118924