

# Curriculum Vitae

Heuseok Lim

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## PERSONAL DATA

**Phone:** +82-2-3290-2396  
**Mobile:** +82-10-5546-4794  
**Facsimile:** +82-2-3290-2396  
**Homepage:** <http://nlp.korea.ac.kr>  
**E-mail:** [limhseok@korea.ac.kr](mailto:limhseok@korea.ac.kr)



**Work Address:**

- 311 Aegineung Student Center, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul, Korea

**Present Position:**

- Professor, Dept. of Computer Science and Engineering, College of Informatics, Korea University  
- Head Director, Human-inspired AI Research, Korea University

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## ACADEMIC POSITIONS

**2020-Present** Chief Director, Human-inspired AI Research, Korea University, Korea

**2008-Present** Professor, Dept. of Computer Science and Engineering, Korea University, Korea

**2011-2012** Visiting Scholar, Dept. of Computer Science, Univ. of Colorado Boulder, USA

**2004-2008** Associate Professor, Dept. of Computer Information Software, Hanshin University, Korea

**1999-2004** Assistant Professor, Dept. of Information Communication, Baekseok University, Korea

## EDUCATION

Ph.D. in Computer Science, Korea University, 1997.

M.A. in Computer Science, Korea University, 1994.

B.A. in Computer Science, Korea University, 1992.

## Research Interests

Natural Language Processing

Artificial Intelligence & Machine Learning

Brain-Computer Interface

Computer Science Education

Information Retrieval

## Publications

I have published more than 500 papers of international journals and international conferences. Please refer to Google Scholar for Heuseok Lim ([Link](#))

## Representative Publications

K-HALU: Multiple Answer Korean Hallucination Benchmark for Large Language Models (**ICLR 2025**)

*Jaehyung Seo, Heuseok Lim*

CoME: An Unlearning-based Approach to Conflict-free Model Editing (**NAACL 2025**)

*Dahyun Jung, Jaehyung Seo, Jaewook Lee, Chanjun Park, Heuseok Lim*

MIRAGE: A Metric-Intensive Benchmark for Retrieval-Augmented Generation Evaluation (**NAACL 2025-findings**)

*Chanhee Park, Hyeonseok Moon, Chanjun Park, Heuseok Lim*

FLEX: A Benchmark for Evaluating Robustness of Fairness in Large Language Models (**NAACL 2025-findings**)

*Dahyun Jung, Seungyoon Lee, Hyeonseok Moon, Chanjun Park, Heuseok Lim*

Find the Intention of Instruction: Comprehensive Evaluation of Instruction Understanding for Large Language Models (**NAACL 2025-findings**)

*Hyeonseok Moon, Jaehyung Seo, Seungyoon Lee, Chanjun Park, Heuseok Lim*

MIGRATE: Cross-Lingual Adaptation of Domain-Specific LLMs through Code-Switching and Embedding Transfer (**COLING 2025**)

*Seongtae Hong, Seungyoon Lee, Hyeonseok Moon, Heuseok Lim*

An analysis on language transfer of pre-trained language model with cross-lingual post-training (**Expert Systems with Applications, 2024**)

*Suhyune Son, Chanjun Park, Jungseob Lee, Midan Shim, Chanhee Lee, Yoonna Jang, Jaehyung Seo, Jungwoo Lim, Heuseok Lim*

PANDA: Persona Attributes Navigation for Detecting and Alleviating Overuse Problem in Large Language Models (**EMNLP 2024**)

*Jinsung Kim, Seonmin Koo, Heuseok Lim*

Where am I? Large Language Models Wandering between Semantics and Structures in Long Contexts (**EMNLP 2024**)

*Seonmin Koo, Jinsung Kim, YoungJoon Jang, Chanjun Park, Heuseok Lim*

Search if you don't know! Knowledge-Augmented Korean Grammatical Error Correction with Large Language Models (**EMNLP 2024-findings**)

*Seonmin Koo, Jinsung Kim, Chanjun Park, Heuseok Lim*

Translation of Multifaceted Data without Re-Training of Machine Translation Systems (**EMNLP 2024-findings**)

*Hyeonseok Moon, Seungyoon Lee, Seongtae Hong, Seungjun Lee, Chanjun Park, Heuiseok Lim*

Revisiting Under-Represented Knowledge of Latin American Literature in Large Language Models (**ECAI 2024**)

*Jinsung Kim, Seonmin Koo, Heuiseok Lim*

Length-aware Byte Pair Encoding for Mitigating Over-segmentation in Korean Machine Translation (**ACL 2024-findings**)

*Jungseob Lee, Hyeonseok Moon, Seungjun Lee, Chanjun Park, Sugyeong Eo, Hyunwoong Ko, Jaehyung Seo, Seungyoon Lee, Heuiseok Lim*

Towards Precise Localization of Critical Errors in Machine Translation (**ACL 2024-findings**)

*Dahyun Jung, Sugyeong Eo, Heuiseok Lim*

KoCommonGEN v2: A Benchmark for Navigating Korean Commonsense Reasoning Challenges in Large Language Models (**ACL 2024-findings**)

*Jaehyung Seo, Jaewook Lee, Chanjun Park, Seongtae Hong, Seungjun Lee, Heuiseok Lim*

Detecting Critical Errors Considering Cross-Cultural Factors in English-Korean Translation (**LREC-COLING 2024**)

*Sugyeong Eo, Jungwoo Lim, Chanjun Park, Dahyun Jung, Seonmin Koo, Hyeonseok Moon, Jaehyung Seo, Heuiseok Lim*

Leveraging Pre-existing Resources for Data-Efficient Counter-Narrative Generation in Korean (**LREC-COLING 2024**)

*Seungyoon Lee, Chanjun Park, DaHyun Jung, Hyeonseok Moon, Jaehyung Seo, Sugyeong Eo, Heuiseok Lim*

Ask, Assess, and Refine: Rectifying Factual Consistency and Hallucination in LLMs with Metric-Guided Feedback Learning (**EACL 2024**)

*Dongyub Lee, Eunhwan Park, Hodong Lee, Heuiseok Lim*

Hyper-BTS Dataset: Scalability and Enhanced Analysis of Back TranScription (BTS) for ASR Post-Processing (**EACL 2024-findings**)

*Chanjun Park, Jaehyung Seo, Seolhwa Lee, Junyoung Son, Hyeonseok Moon, Sugyeong Eo, Chanhee Lee, Heuiseok Lim*

Generative Interpretation: Toward Human-Like Evaluation for Educational Question-Answer Pair Generation (**EACL 2024-findings**)

*Hyeonseok Moon, Sugyeong Eo, Chanjun Park, Jaehyung Seo, Heuiseok Lim*

KEBAP: Korean Error Explainable Benchmark Dataset for ASR and Post-processing (**EMNLP 2023**)

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

CHEF in the Language Kitchen: A Generative Data Augmentation Leveraging Korean Morpheme Ingredients (**EMNLP 2023**)

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

Post-hoc Utterance Refining Method by Entity Mining for Faithful Knowledge Grounded Conversations  
(EMNLP 2023)

*Yoonna Jang, Suhyune Son, Jeongwoo Lee, Junyoung Son, Yuna Hur, Jungwoo Lim, Hyeonseok Moon, Kisu Yang, Heui-Seok Lim*

CReTIHC: Designing Causal Reasoning Tasks about Temporal Interventions and Hallucinated Confoundings  
(EMNLP 2023-findings)

*Changwoo Chun, SongEun Lee, Jaehyung Seo, Heui-Seok Lim*

Beyond Candidates: Adaptive Dialogue Agent Utilizing Persona and Knowledge (EMNLP 2023-findings)

*Jungwoo Lim, Myunghoon Kang, Jinsung Kim, Jeongwook Kim, Yuna Hur, Heui-Seok Lim*

Explore the Way: Exploring Reasoning Path by Bridging Entities for Effective Cross-Document Relation  
Extraction (EMNLP 2023-findings)

*Junyoung Son, Jinsung Kim, Jungwoo Lim, Yoonna Jang, Heui-Seok Lim*

Doubts on the reliability of parallel corpus filtering (**Expert Systems with Applications, 2023**)

*Hyeonseok Moon, Chanjun Park, Seonmin Koo, Jungseob Lee, Seungjun Lee, Jaehyung Seo, Sugyeong Eo, Yoonna Jang, Hyunjoong Kim, Hyoung-gyu Lee, Heuiseok Lim*

Towards Diverse and Effective Question-Answer Pair Generation from Children storybooks (ACL 2023-  
findings)

*Sugyeong Eo, Hyeonseok Moon, Jinsung Kim, Yuna Hur, Jeongwook Kim, SongEun Lee, Changwoo Chun, Sungsoo Park, Heuiseok Lim*

PEEP Talk: A Situational Dialogue-based Chatbot for English Education (ACL 2023-findings)

*Seungjun Lee, Yoonna Jang, Chanjun Park, Jungseob Lee, Jaehyung Seo, Hyeonseok Moon, Sugyeong Eo, Seounghoon Lee, Bernardo Yahya, Heuiseok Lim*

## Award and Honors

Seoktop Technology Award, Korea University, 2025

Best Paper Award, The 36th Annual Conference on Human and Cognitive Language Technology (HCLT),  
2024

Excellent Paper Award, The 36th Annual Conference on Human and Cognitive Language Technology  
(HCLT), 2024 (4 papers)

Excellence Award, Competition for best practices of industry-academia cooperation, Ministry of Education,  
2024

Seoktop Technology Award, Korea University, 2024

Best Paper Award, The 35th Annual Conference on Human and Cognitive Language Technology (HCLT),  
2023

Ministry of Science and ICT Award, ICT Challenge 2023

Seoktop Technology Award, Korea University, 2023

Ministry of Science and ICT Award, ICT Challenge, 2022

Seoktop Technology Award, Korea University, 2022

Excellence Award, Competition for best practices of industry-academia cooperation, Ministry of Education, 2021

Best Paper Award, the 33th Annual Conference on Human and Cognitive Language Technology (HCLT), 2021

Seoktop Technology Award, Korea University, 2021

Institute for Information & communication Technology Planning & evaluation IITP Award, ICT Colloquium, 2020

Seoktop Technology Award, Korea University, 2020

The Research Grant, The Okawa Foundation for Information and Telecommunications, 2020

Grand Award, AI for Accessibility Hackathon, Microsoft Korea, 2019

Grand Award, ITRC Global Makeathon, Ministry of Science and ICT, 2019

Best Paper Award, the 31th Annual Conference on Human and Cognitive Language Technology (HCLT), 2019

Participation Prize, Korean Language Information Processing System Competition, Korean Institute of Information Scientists and Engineers, 2019

Bronze Prize, Korean Language Information Processing System Competition, Korean Institute of Information Scientists and Engineers, 2018

Excellence Award, Samsung AI Forum, 2018

Gold Prize, Korean Language Information Processing System Competition, Korean Institute of Information Scientists and Engineers, 2017

Best Paper Award, The Korea Convergence Society, 2012

Achievement Award, Korea Society for Internet Information, 2012

Researcher Award, KAIS(Korea Academia-Industrial cooperation Society), 2009

## **Books and Book chapters**

2023. 05 Natural Language Processing Bible - Principles of ChatGPT

2019. 12 Natural Language Processing Bible - Theory, Applied System, Deep Learning

2017. 03 Computational Thinking for Novice

2011.09 Search Engine: Information Retrieval in Practice

2010.08 Please help! We've got the iPhone 4

2010.05 Please help! We've got the iPhone 3

2010.03 Data Structures and Algorithm Analysis in C++

2009.04 The Handbook of East Asian Psycholinguistics, Edited by Chungmin Lee, Cambridge University Press

## **COMMITTEES**

2022.10 The 1st Workshop on Customized Chat Grounding Persona and Knowledge(COLING 2022), Workshop Chair

2018.03 ~ 2023.02 The International Conference on Interdisciplinary research on Computer Science, Psychology and Education (ICICPE), General Chair

2015.07 The 5<sup>th</sup> International Conference on Convergence Technology, Program Committee  
2013.07~2014.07 The International Conference on Convergence Technology, Program Chair  
2010.03~2012.06 The 50<sup>th</sup> Annual Meeting of the ACL(ACL2012), Local Arrangements Committee  
2011.03 ~ 2011.12 International Conference on Internet, Program Chair  
2010.08 ~ 2011.06 The 6<sup>th</sup> Europe Asia Pacific International Conference on Information Science and Technology, (EAPIC-IST2011), Program Chair  
2010.08 ~ 2010.10 Conference of Korean Association of Computer Education, Program Chair  
2010.03 ~ 2010.12 International Conference on Internet, Workshop Chair  
2009.03 ~ 2009.12 International Conference on Internet, Publication Chair  
2009.12 ~ 2009.12 The Korea Academia-industrial cooperation Society, Direct Assistance Chair  
2009.10 ~ 2009.12 Korean Society for Internet Information Conference, General Chair  
2009.12 ~ Present Korea Copyright Commission, Advisory Member  
2009.03 ~ 2010.02 Korean Society for Internet information, Editorial Board

## **TEACHING**

### **Machine Learning & Natural Language Processing**

The lecture was for the theory and practice from basic to advanced machine learning and natural language processing.

### **AI-ML-Deep Learning based NLP**

This course is a practical lecture on the theory of AI / ML / DL of natural language processing and the recent techniques of the paper.

### **Based on natural language processing and deep learning**

Core theories and analysis methodologies needed to solve problems by leading AI and Big Data projects.

### **AI/ML/DL & NLP**

The basics of AI / ML / DL application of natural language processing and how they are applied to real life.

### **Natural Language Processing and Language Intelligence Basic Curriculum**

The basics of Deep Learning technology for natural language processing along while focusing on recent research.

### **AI Machine Learning Basic Curriculum**

This curriculum consists of the basic theories of machine learning, machine learning tool kit learning, and practical examples for practical application.

### **Natural Language Processing Applications**

Covers the basics of Deep Learning technology for natural language processing along while focusing on recent research papers to understand latest trends in advanced technology.

### **Educational Data Mining**

Review the current techniques for educational data mining. Understanding fundamental principles of educational data mining and its applications.

### **Information Retrieval**

This class covers basic theories of information retrieval and techniques to implement a practical information retrieval engine. The topics are information retrieval models, text processing techniques, indexing techniques,

information theories, and applications of IR, which are vital to data mining and big data analysis.

### **Natural Language Processing**

This class covers the advanced topics in natural language processing including statistic language processing, language modeling, and machine translation.

## **Patents**

### **International Patent**

Device and method of post-hoc utterance refining by entity mining for faithful knowledge grounded conversations, 2024

Device and method for generation of diverse question-answer pair, 2024

Device and method for extracting dialogue-based relation extraction based on utterance-level computation over graph structure, 2024

Device and method for extracting dialogue-based relation using cloze-style masking with prompts for entity types and relational information, 2023

Method and device for determining similarity of programming codes based on cross-validation ensemble and filtering strategy, 2023

Method for generating training data and method for post-processing of speech recognition using the same, 2022

Dialogue performing system, apparatus and method thereof, 2021

Apparatus, method and system for determining answer regarding question. 2021

Method of building training data of machine translation. 2020

Apparatus and method for providing changeable controller user interface based of user information and contents attribute, 2017

System for mining biometric data to predict programmer expertise and task difficulty, 2017

### **Domestic Patent(registration)**

Apparatus of obtaining response based on semantic similarity and method thereof, 2025

Device and method for generating fortune telling model based on conditional generation deep-learning, 2025

Task decomposition method based prediction of return on advertising spend and device performing the same, 2025

Apparatus of generating query and method thereof, 2025

Korean relation extraction model and method with entity position information, 2024

Method and device of code similarity judgment of programming languages based on cross-validated ensemble and filtering strategy, 2024

Pet service recommending electronic apparatus and recommending method therefor based on 2-filtering, 2024

Device and method for generating optimal translation subtitle using quality estimation, 2024

Named entity recognition apparatus and method thereof, 2024

Device and method for constructing dataset in Korean document-level relation extraction, 2024

Device and method for parallel corpus filtering based on semantic similarity, 2023

Device and method for generating of training data for quality estimation in machine translation, 2023

Apparatus and method for generating language based on commonsense reasoning, 2023

Apparatus for corpus processing, apparatus and method and machine translation, 2023

Method for generating training data and method for post-processing of speech recognition using the same, 2023

Noise canceling device for companion animal and method using same, 2023  
 Apparatus, method and system for determining answer regarding question, 2023  
 Generating method of model measuring document similarity and measuring method for document similarity using the same, 2023  
 Dialogue performing system, apparatus and method thereof, 2023  
 Apparatus and method for outputting image corresponding to language, 2023  
 Device and method for correcting Korean spelling 2022  
 Method of translating ancient Korean using machine translation 2022  
 Method of building training data of machine translation 2022  
 Correction performance evaluation metrics of neural network machine translation and method of constructing the same, 2022  
 Device and method for automatic fake news detection, 2021  
 Apparatus, method and system for processing dialogue with regard to image, 2021  
 Device for automatic question answering, 2021  
 Method and apparatus for modeling based on cognitive response of smart senior, 2020  
 Device and method for providing personalized UX/UI service for broadcast standard, 2019  
 Method and apparatus for sharing experience based on internet of things, 2018  
 Method and apparatus for mediation of food delivery, 2018  
 Method and apparatus for spotting fake news using collective intelligence, 2018  
 Customized screening method and apparatus using collective emotions, 2018  
 Smart chair based on IoT and method of analysis of seated posture, apparatus and method for managing smart chair, 2018  
 Method and apparatus for managing loan based on the internet of things, 2017  
 Smart flowerpot based on internet of thing and management system for the same, 2017  
 System for judging attention concentration of online learning and method the same, 2017  
 Method for composing automatically to humanities data, 2017  
 Method and apparatus for interpretation of dreams by using collective intelligence, 2017  
 System and method for a learning course automatic generation, 2017  
 Method for developing based on user's participating, 2017  
 Method for intelligent learning managing, 2017  
 Mento recommend method using electronic desk, 2016  
 Cognitive abilities measurement apparatus and cognitive abilities measurement method, 2013  
 System and method for studying foreign language based on cognitive function of learners, 2012  
 Diagnosis system and method of cognitive function for foreign language learners, 2012  
 System and method for performing learning challenges for foreign language learners, 2011  
 System of generating intelligent end word based on realistic language using aspect, 2011  
 Apparatus for diagnosing anomia, 2008

#### **Domestic Patent**

Device and method for detecting negation blindness in large language models, 2025  
 Device and method for confidence-based efficient multiagent collaboration, 2025  
 Device and method for document chunking and device and method for question-answering using the same, 2025  
 Styledfs based document chunking, 2025  
 Device and method for automated moving image subtitle generation, 2025  
 Cluster-based mixture-of-experts training system, 2024



Method for extracting programming capability in large language models, 2024

Device and method of generating domain-specific automatic speech recognition model, 2024

Self-referential assessment method for generative commonsense causal reasoning, 2024

Device and method for identifying detailed errors in machine translation, 2024

Performance evaluation method for large language models based on intention catching capability, 2024

External knowledge-enhanced device and method for Korean grammatical error correction, 2024

Device and method for detecting persona overuse problem in conversational situations, 2024

Device and method of providing mental healthcare service for older people, 2023

Device and method of predicting cognitive function and psychological distress using autobiographical memory, 2023

Device and method for generating Korean commonsense knowledge graph using large language model, 2023

Device and method for generation using super in-context learning, 2023

Device and method for image-text retrieval based on contrastive language-image pre-training-adaptor, 2023

Language model generating method by reinforcement learning from human feedback without human labor, 2023

Device and method for synonyms/antonyms-based data augmentation for training ToEIC problems solving model, 2023

Device and method for Korean data augmentation based on contrastive learning and morpheme combination, 2023

Device and method for explainable fake news detection using question answer pair generation, 2023

Device and method for persona-knowledge grounded dialogue for candidate-free situation, 2023

Device and method for constructing a dataset to detect critical errors in machine translation, 2023

Device and method of post-hoc utterance refining by entity mining for faithful knowledge grounded conversations, 2023

Device and method for assessment of educational question-answering, 2023

Device and method for generating a Korean grammatical error correction dataset based on synthetic data, 2023

Device and method of tracing knowledge using difficulty information for English proficiency assessment, 2023

Device and method for cross-document relation extraction using reasoning path extension, 2023

Ai-based interactive book recommendation Chatbot, 2023

Diverse and effective question-answer pair generation system for education, 2023

A colloquial-based translation model for simultaneous translation, 2022

Device and method for extracting dialogue-based relation extraction based on utterance-level computation over graph structure, 2022

TOEIC model using data augmentation techniques, 2022

Device and method for benchmark dataset robustness analysis using loss-adjusted, 2022

Device and method for domain adaptation tokenization, 2022

Device and method for detecting machine translation critical error based on prompt, 2022

Device and method for generating conversational model using knowledge and persona, 2022

Device and method for extracting dialogue-based relation using cloze-style masking with prompts for entity types and relational information, 2022

Device and method for generating Korean language model with cross-lingual post training, 2022

Device and method for detecting fake news utilizing user information, 2022

Device and method for numerically-aware machine reading comprehension question and answer, 2022

Device and method for generating Korean commonsense reasoning dataset, 2022

Contrastive learning-based word sense disambiguation model to understand lexical semantic networks, 2022  
Method and apparatus for generating a conversation based on a user's persona and knowledge data, 2021  
Device and method for generating dialogue based on pre-trained language model, 2021  
Development of Korean relationship extraction model reflecting Korean characteristics, 2021  
Device and method for generating training data for automatic post editing, 2021  
Improving speech recognition performance using TTS in domain-specific environment, 2021  
Multi-domain autonomous growth AI-based dialogue system, 2020  
Multi-modal message aggregation for Korean visual question answering, 2020  
Methods for resolving challenges in multi-class Korean sentiment analysis, 2020  
Cross-lingual transfer of pre-trained transformers, 2020  
Punctuation mark filler on Korean sentences using deep learning, 2020  
Fast punctuation mark filler on Korean sentences using convolutional neural network, 2020  
Autonomous driving robot for measuring radioactivity, 2020  
Deep learning based multi-modal emotion recognizer, 2020  
Meaningful representations using symbolic graphs, 2020  
Zero-shot image sub classification via isolated features, 2019  
Artificial intelligence based verbal speech recognition, 2019  
Cross-validated ensemble methods, 2019  
Priority based user order identification system, 2019  
Domain adaptive training Bert for response selection, 2019  
An analytical framework for automatically extracting formal information from unstructured security intelligence report, 2019  
Unsupervised automatic document summarization using deep sentence representation, 2019  
System of automatic summary and personal information management for privacy policy, 2019  
Noise canceling necklace for pets using machine learning, 2019  
An interactive approach to word sense disambiguation using word vector similarity, 2019  
Method of intelligent preferred fashion recommendation using user profiling, 2019  
An adaptive computational thinking game, 2019  
Global relation extraction model for Korean documents, 2018  
Method and system for outputting customized content using profile based on online activity of smart senior, and smart senior portal management server using the same, 2018  
Terminal apparatus and method for searching image using deep learning, 2018  
Method for recommending preferred fashion using user profiling, 2018  
Apparatus and method for recommending customized content for smart senior, 2018  
Device and method for providing a personalized banner advertising platform, 2017  
Method and apparatus for cognitive modeling for user, 2017  
Emotion-based sound control device and control method, 2017  
Minimum learning judgement method and minimum learning judgement device, 2016  
System for developing moot model, 2016  
Apparatus and method for providing custom banner advertise platform, 2016  
Method and apparatus for rating the reputation of digital contents, 2016  
Personalized UX/UI providing device for broadcast standard and method thereof, 2016  
Apparatus and method for providing changeable controller user interface based of user information and contents attribute, 2016  
System for mining biometric data to predict programmer expertise and task difficulty, 2016  
Method for stabilizing deep neural network using residual network, 2016

Method and system for preventing bank fraud, 2015  
 Tagging method and system based on task for digital study contents, 2015  
 Method and system of feeling share using text expression for user terminal, method and system of sympathy game using text expression for user terminal, 2015  
 Tag information collecting method and system for digital contents, 2015  
 Profile generating method of user terminal, 2015  
 Application recommend method for user on demand, 2014  
 Wisdom construction method, 2014  
 Apparatus and method of measuring personality based on brain wave, 2011  
 Emotional response measurement apparatus and emotional response measurement method, 2011  
 Apparatus and method for playing a game using a brain wave, 2010  
 System and method for generating learning challenges for foreign language learners, 2009

## **Technology Transfers Agreements**

Device and method for generating interactive model using knowledge and persona, 2025  
 Uptempo-large language model, 2025  
 Document preprocessing technology for embedding construction, 2025  
 Food delivery intermediation method and device, 2024  
 Uracle-vector embedding construction and similarity search source technology development, 2024  
 Uracle-large language model, 2024  
 Vector embedding construction and similarity search source technology development, 2024  
 Vector embedding construction and similarity search source technology development and prompting know-how, 2024  
 Integrated data analytics and optimization technology for building advanced metadata-driven recommendation systems, 2023  
 Gaon-Large Language model, 2023  
 Foundational technology of question-answering utilizing search-augmented generation technique, 2023  
 Foundational technology of question-answering based on Retrieval-Augmented Generation (RAG), 2023  
 Qode-Large Language Model, 2023  
 Customization technology of Deep Learning models, 2023  
 Development of an interactive book recommendation terminal through AI-based voice analysis, 2023  
 Online comment reputation classification system, 2022  
 Development of Sentence-based Semantic Similarity Search technology model, 2022  
 System and Method for Studying Foreign Language Based On Cognitive Function of Learners, 2022  
 Online Comment Reputation Inquiry System, 2022  
 Foundational technology of artificial intelligence matching, 2022  
 Artificial intelligence recommendation algorithm, 2022  
 Advanced development of MRC question-answering technology, 2022  
 User classification model and artificial intelligence technology for predicting marketing performance (membership registration, purchase conversion, etc.) and advertising solutions, 2022  
 Natural language processing technology for AI Avatar, 2022  
 Advanced development of MRC question-answering technology, 2021  
 Advanced development of MRC question-answering technology and AI-based VOD recommendation algorithm technology, 2021  
 System and Method for Performing Learning Challenges for Foreign Language Learners, 2021  
 Topic recommendation technology through user profiling, 2021

Online reputation inquiry system for pet service providers (hospitals, pharmacies, grooming, cafes, etc.), 2021  
Intelligent emotional analysis and conversation technology linked to human olfactory care system, 2021  
Foundational technology of deep learning-based automatic question-answering system, 2021  
Method and Apparatus for Managing Loan based on the Internet of Things, 2021  
IoT-based loan management method and device, 2021  
System for Judging Attention Concentration of Online Learning and Method the Same, 2021  
Natural language chatbot service for lifelong health check-ups, 2021  
Similar document search technology using deep learning, 2020  
Morphological analysis technology and named entity recognition technology for natural language summarization processing, 2020  
Deep learning-based automatic question-answering system technology, 2020  
Deep learning-based automatic question-answering system foundational technology, 2020  
Cerebral blood flow image recognition and interpretation result dialog source technology, 2020  
Article similarity recommendation and key phrase extraction technology within documents, 2020  
Image search terminal device and method using deep learning, 2020  
Learning-based query processing technology, 2020  
Noise canceling necklace for pets using machine learning, 2019  
Intelligent dementia rehabilitation training technology, 2019  
Natural language-image cross-modal embedding and search technology, 2019  
Neural network compression technology using parameter coefficients, 2019  
Intelligent classification technology, 2019  
Korean entity name recognizer and dependency parser, 2019  
Smart Chair based on IOT and Method of Analysis of Seated Posture, Apparatus and Method for Managing Smart Chair, 2019  
Voice-based Korean and English similar word matching technique, 2019  
Intelligent Fashion Image Retrieval System, 2019  
Korean Object Identification System Using Deep Learning Technique, 2018  
Online content recommendation technology using deep learning techniques, 2018  
Korean Object Identification System Using Deep Learning Technique, 2017  
Content recommendation system using deep learning technique, 2017  
Multi-modal information indexing technology in video, 2016  
Recommendation system using user contents consumption information, 2016  
Recommendation model using the hysteresis Markov model, 2016  
Search technology dedicated to digital content, 2015  
Online Collaborative Learning Platform, 2015  
Responsive web-based social learning service platform, 2014