Haeri Kim

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EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)　　　　2019 - 2021
M.S. in Electrical Engineering
Thesis: Diagnosing Data Samples for Robust GAN Training
Advisor: Prof. Hey Won Chung

Korea Advanced Institute of Science and Technology (KAIST)　　　　2014 - 2019
B.S. in Electrical Engineering

WORK EXPERIENCE

Samsung Research　　　　Jul 2021 - present
– AI Solution Team (AI Research Engineer)
– Research topics: On-device ASR, Streaming ASR, Context-aware ASR, Multilingual ASR

LG CNS　　　　Jun 2017 - Jul 2017
– New Technology Development Team (Internship)
– Research topics: Object tracking

PUBLICATIONS

*: Equal contribution

<u>Conference Papers</u>

A More Accurate Internal Language Model Score Estimation for the Hybrid Autoregressive Transducer
Kyungmin Lee*, <u>Haeri Kim</u>*, Sichen Jin, Jinhwan Park, Youngho Han
INTERSPEECH, 2023

Self-Diagnosing GAN: Diagnosing Underrepresented Samples in Generative Adversarial Networks
Jinhee Lee*, <u>Haeri Kim</u>*, Youngkyu Hong*, Hye Won Chung
Conference on Neural Information Processing Systems (NeurIPS), 2021

<u>Under Review</u>

BBPE16: UTF-16-Based Byte-Level Byte-Pair Encoding for Improved Multilingual Speech Recognition
Hyunsik Kim*, <u>Haeri Kim</u>*, Munhak Lee, Kyungmin Lee
Submitted to *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, 2026

PROJECTS

Speech Large Language Models (SpeechLLMs)　　　　May 2025 - present
- Research and development of methods to integrate a speech encoder with a large language model (LLM) for end-to-end training and multi-modal understanding

Multilingual ASR model　　　　Jan 2024 - present

- Research and development of a multilingual ASR model that unifies multiple monolingual ASR systems into a single model
- Reduce total model footprint by replacing 23+ language-specific ASR models with a unified model

Galaxy S24 speech translation system Jan 2023 - Dec 2023

- Development of streaming on-device ASR models for Galaxy S24 speech translation system
- Training and optimization of streaming ASR models for multiple languages
- [Related article](#)

Samsung Bespoke AI (On-Device ASR model for home appliances) Mar 2022 - Dec 2022

- Development of light-weight ASR models for home appliances
- Research and development of a language model (LM) fusion algorithm to enhance context awareness
- Research and development of a spell correction algorithm for improved recognition of named entities
- Model adaptation for home appliance domains such as washing machines and refrigerators
- [Related article](#)

Data valuation for generative models Mar 2020 - Jun 2021

- Research on devising data valuation measures for generative models
- Focused on Generative Adversarial Network (GAN) and utilized training dynamics to diagnose training data

Human face tracking using multi-domain network Jun 2017 - Jul 2017

- Researched state-of-the-art object tracking technology and implemented it for human face tracking

PATENT

Multilingual Speech Recognition Method and Device
Kyungmin Lee, <u>Haeri Kim</u>, Jinhwan Park, Hyeongmin Oh
PCT/KR2024/016938, 2024

Electronic device for performing speech recognition and control method thereof
Kyungmin Lee, Jaeyoung Roh, Jonguk Yoo, Youngho Han, <u>Haeri Kim</u>
PCT/KR2023/017891, 2023

Self-Diagnosing Generative Adversarial Networks to Diagnose and Emphasize Underrepresented Samples
Hye Won Chung, Jinhee Lee, <u>Haeri Kim</u>, Youngkyu Hong
KR Patent 10-2022-0032061, 2022

TEACHING & TUTORING

Teaching Assistant

- Information Theory (EE623) Sep 2020 - Dec 2020
- Probability and Introductory Random Processes (EE210) Mar 2020 - Jun 2020
- Signals and Systems (EE202) Sep 2019 - Dec 2019

Tutor

- Programming Structure for Electrical Engineering (EE209)   Sep 2019 - Feb 2020
- Introduction to Programming (CS101)   Mar 2018 - Jun 2018

SKILLS

Programming Languages	Python, C, C++, MATLAB
Libraries	PyTorch, TensorFlow, NumPy, pandas, scikit-learn, Matplotlib