Changhun Kim

(+82) 10-3264-6509 chan9hun.k1m@gmail.com https://drumpt.github.io

Research Interests

Generalizable Deep Learning: Test-Time Adaptation, Meta-Learning, Zero-Shot Learning
Generative Models: Diffusion Models, Text-to-{Image, 3D, Speech} Generation
Bayesian Machine Learning: Bayesian Deep Learning, Bayesian Nonparametrics

Education

Korea Advanced Institute of Science and Technology (KAIST) Daejeon, South Korea

M.S. in Artificial Intelligence Mar. 2022 – Feb. 2024

- Thesis: Test-Time Adaptation for Automatic Speech Recognition via Sequential-Level Generalized Entropy Minimization
- Advisor: Eunho Yang
- GPA: 4.25/4.3, 4.0/4.0, 99.5% (Department Salutatorian, Top 0.7% of all Departments)

B.S. in Computer Science and Mathematics (Double Major) Mar. 2017 – Feb. 2022

- Magna Cum Laude with Honors in Engineering
- GPA: 3.92/4.3, 3.81/4.0, 96.2% (Top 9% in the Department)

Publications

*: Equal Contribution

Stable-TTS: Stable Speaker-Adaptive Text-to-Speech Synthesis via Prosody Prompting under Limited Target Samples

Wooseok Han*, Minki Kang*, **Changhun Kim** and Eunho Yang
Under Review

CloudFixer: Test-Time Adaptation for 3D Point Clouds via Diffusion-Guided Geometric Transformation

Hajin Shim*, **Changhun Kim*** and Eunho Yang
Under Review

SGEM: Test-Time Adaptation for Automatic Speech Recognition via Sequential-Level Generalized Entropy Minimization [paper][code]

Changhun Kim, Joonhyung Park, Hajin Shim and Eunho Yang
Conference of the International Speech Communication Association (INTERSPEECH), 2023
Oral Presentation, 348/2293=15.2%

Research Experience

Medical AI Division, AITRICS Seoul, South Korea

Machine Learning Researcher Nov. 2023 – Present

- Conduct research on large language model and test-time adaptation for time series analysis, with a particular emphasis on biomedical signal analysis, in collaboration with Prof. Eunho Yang.

Machine Learning and Intelligence Laboratory, KAIST Daejeon, South Korea

Master's Student Mar. 2022 – Feb. 2024

- Explore modality-specific test-time adaptation strategies on diverse tasks, such as 3D point cloud classification, zero-shot transfer of vision-language models, automatic speech recognition, and tabular classification under Prof. Eunho Yang.

Research Intern Jun. 2021 – Feb. 2022

- Investigate a style matching denoiser for automatic speech recognition under the supervision of Prof. Eunho Yang.

Vehicular Intelligence Laboratory, KAIST Daejeon, South Korea

Research Intern Oct. 2019 – Aug. 2020

- Research a deep reinforcement learning system for AI soccer, and develop rule-based and deep

learning AI soccer code generators under the guidance of Prof. Dongsoo Har.

Work Experience

MLOps Squad, DeepNatural AI — Seoul, South Korea

Machine Learning Engineer Intern — Sep. 2020 – Feb. 2021

- Construct diverse machine learning systems, including speaker verification and diarization framework, Duchenne smile classifier, and medical product recommender system.

Big Data Center, Netmarble — Seoul, South Korea

Data Engineer Intern — Jun. 2019 – Aug. 2019

- Develop log-based real-time OLAP service for Seven Knights mobile game.

Honors and Awards

Best MLILAB Member for 2022 – 2023, KAIST	Jul. 2023
Dongwon Scholarship (Full M.S.), KAIST	2022 – 2023
Magna Cum Laude, College of Engineering, KAIST	Feb. 2022
Silver Prize, Korean Undergraduate Mathematics Competition	Jan. 2022
Overseas Exchange Scholarship, Mirae Asset	Dec. 2019
Representative of Student Exchange Ambassador, KAIST	Nov. 2019
Honor Student, College of Engineering, KAIST	Sep. 2019
Convergence AMP Scholarship, KAIST	Mar. 2019
Winner, Science Quiz, KAIST-POSTECH Science War	Sep. 2018
Participation Prize, Urban Design Competition, CEE, KAIST	Dec. 2017
National Scholarship (Full B.S.), KAIST	2017 – 2021

Skills

Programming Skills

Programming Languages: C/C++, Java, Python, SQL
Libraries/Frameworks: PyTorch, TensorFlow

Languages

Advanced in **English** and Native in **Korean**