

# Changhun Kim

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## 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 (Advisor: Prof. Eunho Yang)    Mar. 2022 – Feb. 2024  
▪ 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  
▪ GPA: 3.92/4.3, 3.81/4.0, 96.2% (Magna Cum Laude, Top 9% in the Department)

## PUBLICATIONS

\*: Equal Contribution

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

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

**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

**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

**AITRICS**    Seoul, South Korea  
Machine Learning Researcher (Advisor: Prof. Eunho Yang)    Nov. 2023 – Present  
▪ Conduct research on enhancing the accuracy and robustness of cardiac arrest and major adverse event prediction models using electronic health records.

**Machine Learning and Intelligence Lab, KAIST**    Daejeon, South Korea  
Master's Student (Advisor: Prof. Eunho Yang)    Mar. 2022 – Feb. 2024  
▪ Explore modality-specific test-time adaptation strategies to mitigate data distribution shifts on diverse tasks, such as 3D point cloud classification, zero-shot transfer of vision-language models, automatic speech recognition, and tabular classification.  
Research Intern (Advisor: Prof. Eunho Yang)    Jun. 2021 – Feb. 2022  
▪ Investigate a style matching denoiser for automatic speech recognition.

**Vehicular Intelligence Lab, KAIST**    Daejeon, South Korea  
Research Intern (Advisor: Prof. Dongsoo Har)    Oct. 2019 – Aug. 2020  
▪ Research a deep reinforcement learning system for AI soccer, and develop rule-based and deep learning AI soccer code generators.

## WORK EXPERIENCE

**DeepNatural**    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.

**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	<b>Best MLILAB Member for 2022 – 2023</b> , KAIST	Jul. 2023
	<b>Dongwon Scholarship (Full M.S.)</b> , KAIST	2022 – 2023
	<b>Silver Prize</b> , Korean Undergraduate Mathematics Competition	Jan. 2022
	<b>Overseas Exchange Scholarship</b> , Mirae Asset	Dec. 2019
	<b>Representative of Student Exchange Ambassador</b> , KAIST	Nov. 2019
	<b>Honor Student</b> , College of Engineering, KAIST	Sep. 2019
	<b>Convergence AMP Scholarship</b> , KAIST	Mar. 2019
	<b>Winner</b> , Science Quiz, KAIST-POSTECH Science War	Sep. 2018
	<b>National Scholarship (Full B.S.)</b> , KAIST	2017 – 2021
PATENTS	<b>Test-Time Adaptation for Automatic Speech Recognition via Sequential-Level Generalized Entropy Minimization</b>	
	Eunho Yang, <b>Changhun Kim</b> , Joonhyung Park and Hajin Shim	
	Patents in United States and South Korea	
SKILLS	<b>Programming Skills</b>	
	Programming Languages: C/C++, Java, Python, HTML/CSS/JavaScript, SQL	
	Libraries/Frameworks: PyTorch, TensorFlow, Node.js, Android Studio	
	<b>Languages</b>	
	Advanced in English and Native in Korean	