

# 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** 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 to enhance the performance and robustness of cardioplegia and mortality prediction models using electronic health records 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](#).

**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

**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

**National Scholarship (Full B.S.)**, KAIST

2017 – 2021

## PATENTS

**Test-Time Adaptation for Automatic Speech Recognition via Sequential-Level Generalized Entropy Minimization**

Eunho Yang, **Changhun Kim**, Joonhyung Park and Hajin Shim

Patents in United States and South Korea

## SKILLS

### Programming Skills

Programming Languages: C/C++, Java, Python, HTML/CSS/JavaScript, SQL

Libraries/Frameworks: PyTorch, TensorFlow, Node.js, Android Studio

### Languages

Advanced in English and Native in Korean