

Gyutak Hahn

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RESEARCH INTERESTS

Multi-modal learning, Computer Vision, 3D Vision, Generative model, Domain Generalization

EDUCATION

•Sejong University

Feb. 2019 – Present

B.S. in Intelligent Mechatronics Engineering ; GPA: 4.05(Major:4.24)/4.5

Seoul, Republic of Korea

RESEARCH EXPERIENCES

•Undergraduate Student at UTL Lab @ Korea Univ

May 2024 - Present

Universal Transfer Learning Lab, Donghyun Kim

Seoul

- Research on Domain Generalization of the Vision-Language Model
- Research on fine-tuning diffusion Models for Style transfer and VLM synthetic dataset generation

•Undergraduate Student at MINES Lab @ Sejong Univ

Jan 2023 - Dec. 2023

Machine Intelligence NEtworked Systems Lab, Hyungseok Kim

Seoul

- Research on image synthesis using transfer learning and GANs
- S.H. Pak¹, **G.T. Hahn**¹, S. Lee², H.S. Kim*, "StarGAN-TA : StarGAN with Transfer Learning for Improved Facial Expression Generation Performance", ICROS, (2023)
- Research on audio data augmentation and speech synthesis based on Diffusion

PROJECT EXPERIENCES

•Face Recognition Elevator @ Smarcle

Aug. 2022

Elevator embedded system operated by face recognition

Github

- Connecting facial & voice recognition AI with applications
- Devising an efficient elevator algorithm using artificial intelligence and applying it to Arduino coding

•StarGAN-TA @ MINES Lab

Jan. 2023 - Jun. 2023

StarGAN with Transfer Learning for Improved Facial Expression Generation Performanc

Github

- Improve performance with fine-tuning, activation function changes, and more

•Lenfit : AI Diet Assistant App @ 2023 Hanium ICT Mentoring

Mar. 2023 - Nov. 2023

AI-based app that tracks your movements to help user improve training

Gitlab

- Estimating Exercise Performance Using Pose Estimation
- Lead the overall structure of how data communicates and works in the app.

•Develop a Fashion outfit Recommendation Service

Jun. 2023 - Sep. 2023

Fashion recommendation service using LLM model, image generation model, and segmentation model

Github

- Developing a semantic segmentation model using the Deeofashion2 dataset
- Visualize outfit recommendations using image-generating AI

•Development of Speech Conversion System

Jul. 2023 - Dec. 2023

Apps with speech synthesis artificial intelligence models developed on Diffusion

- Research on data augmentation with Diff-Wave
- Research on voice conversion using Diff-SVC

•RESTED : AI Self-rehabilitation Therapy Assistant

Oct. 2023 - Dec. 2023

Self-rehabilitation services with object detection, generative AI, hand gesture recognition models, and more

Github

- Proactively develop the various AI model
- Building cognitive rehabilitation with object detection and GANs

•WriteNow

Jun. 2024 - JUL. 2024

Mobile documentation tool app with LLM

GitHub

- Fine-tuning LLM for document content
- Develop document automation algorithms based on user input

•Mote

Nov. 2024

Meeting Assistant App with STT model

GitHub

- Fine-tuning STT model for Korean-specific transformations
- Developing an Algorithm for Speaker Diarization

HONORS AND AWARDS

- 4th Prize**, SW Coding Contest, Sejong University, Korea 2019
- Grand Prize**, Algorithm competitions, Smarcle 2022
- Selected**, Hanium ICT Mentoring 2023
- Grand Prize**, 16th Annual Creative Design Competition, Sejong Univ 2023
- Grand Prize**, 2024 Academic competitions, Department of IME 2024

TEACHING EXPERIENCES

•Sejong University, Lecture Teaching Assistant

- C programming (2022-2024)
- Data Structure (2023)
- Algorithm (2023)

•Mentoring Project, Mentor

- C programming (2022)
- Machine Learning (2024)

SKILLS

- **Programming:** Python, C
- **Tools/Frameworks:** Deep Learning Framework(Pytorch, Tensorflow), Libraries(OpenCV, Scikit-Learn, etc), Shell Script, Git, Latex

KEY COURSES TAKEN

- **Mathematics:** Linear Algebra, Basic Calculus, Discrete Maths, Probability & Statistics
- **Computer Science:** Operating System, Computer Structure
- **AI:** Machine Learning, Deep Learning, Machine Vision

EXTRA CURRICULARS

- Cadet**, 42 Seoul Jul. 2022 - Mar. 2023
 - Exploring Computer Science and Structure with C, C++, and Shell
- LG Aimers**, LG Jul. 2023 - Aug. 2023
 - Dive deeper into AI and explore different fields
- NAVER AI RUSH**, Naver Aug. 2023 - Nov. 2023
 - Leading projects with Hyperclova X