

Daewon Chae

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Research Interest

My long-term research goal is to develop capable and robust AI agents. To achieve this, my current research focuses on advancing generative foundation models, such as large language models (LLMs) and text-to-image diffusion models. Specifically, I have focused on exploring the property of generative modeling (e.g., next-token prediction) and developing effective post-training methods (e.g., RL fine-tuning) for generative foundation models.

Education

Korea University

Mar. 2023 – Present

M.S. in Computer Science and Engineering

- Advisor : Prof. Jinkyu Kim
- GPA: 4.44/4.50

Korea University

Mar. 2017 - Aug. 2022

B.E. in Electrical Engineering

- Overall GPA: 4.09/4.50, Major GPA: 4.22/4.50

Publications

* : equal contributions

[P7] ENTP: Encoder-only Next Token Prediction

Ethan Ewer*, Daewon Chae*, Thomas Zeng*, Jinkyu Kim, Kangwook Lee

Under Review at International Conference on Machine Learning (ICML), 2025

[P6] VersaPRM: Multi-Domain Process Reward Model via Synthetic Reasoning Data

Thomas Zeng, Shuibai Zhang, Shutong Wu, Christian Classen, Daewon Chae, Ethan Ewer, Minjae Lee, Heeju Kim, Wonjun Kang, Jackson Kunde, Ying Fan, Jungtaek Kim, Hyung Il Koo, Kannan Ramchandran, Dimitris Papailiopoulos, Kangwook Lee

Under Review at International Conference on Machine Learning (ICML), 2025

[P5] DiffExp: Efficient Exploration in Reward Fine-tuning for Text-to-Image Diffusion Models

Daewon Chae*, June Suk Choi*, Jinkyu Kim, Kimin Lee

AAAI Conference on Artificial Intelligence (AAAI), 2025

[P4] InstructBooth: Instruction-following Personalized Text-to-Image Generation

Daewon Chae, Nokyoung Park, Jinkyu Kim, Kimin Lee

ICML Workshop on Foundation Models in the Wild (ICMLW), 2024

[P3] Clustering-based Image-Text Graph Matching for Domain Generalization

Nokyoung Park, Daewon Chae, Jeongyong Shim, Sangpil Kim, Eun-Sol Kim, Jinkyu Kim

International Conference on Pattern Recognition (ICPR), 2024

[P2] Text-driven Prototype Learning for Few-Shot Class-Incremental Learning

Seongbeom Park*, Haeji Jung*, Daewon Chae, Hyunju Yun, Sungyoon Kim, Suhong Moon, Seunghyun Park, Jinkyu Kim

International Conference on Pattern Recognition (ICPR), 2024

[P1] Re-ID Technology for V2I based Cooperative Driving Protocol

Junhyek Jang, Kitaeg Lim, Sanghun Yoon, Daewon Chae, Soohyun Jang

International Conference on Ubiquitous and Future Networks (ICUFN), 2023

Experience

Lee Lab, University of Wisconsin-Madison

Jul. 2024 - Sep. 2024

Visiting Researcher (Advisor: Prof. Kangwook Lee)

- Conducted research on design choices for next-token prediction models ([P7])

Vision and AI Lab, Korea University

Mar. 2023 - Aug. 2025

Graduate Research Assistant (Advisor: Prof. Jinkyu Kim)

(expected)

- Conducted research on reinforcement learning for text-to-image diffusion models in collaboration with Prof. Kimin Lee at KAIST ([P5], [P4])
- Conducted research on domain generalization and continual learning ([P3], [P2])

Korea Electronics Technology Institute

Oct. 2022 - Feb. 2023

Assistant Researcher (Mentor: Soohyun Jang)

- Developed RE-ID algorithm for cooperative driving protocol in a multi-camera setting ([P1])

High-quality DNN Text-to-Speech (HDTS) Team, NAVER Corp

Sep. 2021 - Feb. 2022

Research Intern (Mentor: Eunwoo Song)

- Conducted research on deep learning based voice conversion algorithm

Music and Audio Research Group, Seoul National University

Dec. 2020 - Feb. 2021

Research Intern (Mentor: Juheon Lee)

- Conducted research on Korean singing voice synthesis system

Honors and Awards

Scholarship

Hyundai On-dream Future Industrial Talent Scholarship

2023 - 2024

Hyundai Motor Chung Mong-Koo Foundation

- Full tuition and living expenses support for graduate studies

Cheonman Scholarship

2017 - 2022

Cheonman Scholarship Foundation

- Full tuition and living expenses support for undergraduate studies

Awards

Image Sound matching AI Competition, 2nd place (\$1500 as awards)

2022

National Information Society Agency (NIA)

Korean STT AI Competition, 5th place (\$3000 as awards)

2022

National Information Society Agency (NIA) and Hyundai Motor

Multi-Camera Multi-Object Tracking Challenge, 3rd place (\$500 as awards)

2022

Korean Conference on Computer Vision (KCCV) Workshop organized by 42dot

Teaching & Leadership Experience

Teaching Assistant: Data Science (COSE471), Korea University

Spring 2023

Club President: EE programming club (One and Zero), Korea University

2020 - 2021

Academic Services

Reviewer: NeurIPS 2024, AISTATS 2025, ICML2025