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, Nokyung 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

Nokyung 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 (expected)
Graduate Research Assistant (Advisor: Prof. Jinkyu Kim)
- 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