Ziseok Lee

Integrated Masters with PhD Program
Department of Biomedical Sciences
Seoul National University

Research Interests

Generative Models, AI4Science, Computer Vision

Education

Seoul National University 2025.03 - present

Masters-PhD Program in Biomedical Sciences advised by Prof. Kyungsu Kim

Seoul National University 2021.03 - 2025.02

B.S. in Mathematical Sciences (Major), B.S. in Computer Science and Engineering (Double Major)
GPA 4.22/4.30 (Summa Cum Laude)

Research Experience

Student Researcher at AIBL (Probabilistic Generative Models for Biomolecule Generation and Drug Design) 2024.10 - present

Undergraduate Research Assistant at SNU MLLAB (Blackbox Optimization) 2024.07 - 2024.09

Undergraduate Research Assistant at CTA Lab (NP-hard Subgraph Matching Algorithms with Safety Conditions for Reduced Candidate Space) 2024.01 - 2024.08

Undergraduate Research Assistant at HYKE Group (Collective Motion in the Vicsek Particle Model, Hyperbolic Conservation Laws with Nonlocal Relaxation) 2022.12 - 2023.07

Awards & Scholarships

AI SeoulTech Graduate Scholarship (Seoul Scholarship Foundation) 2025

B.S. Degree Honors: Summa Cum Laude (Seoul National University) 2025

Presidential Science Scholarship (Korea Student Aid Foundation) 2023-2024

Dean's List (Department of Mathematical Sciences, SNU) 2023-2024

Professor Heo Sik Scholarship (Department of Mathematical Sciences, SNU) 2022

Gwanak Foundation Scholarship (Gwanak Foundation) 2021

Teaching Experience

Teaching Assistant for [Introduction to Data Science] (Assisted Professor Kyungsu Kim in teaching a second-year undergraduate course, supporting students through discussion sessions.) 2025.03 - 2025.06

Teaching Assistant for [Calculus 1] (Taught a course on Calculus 1. Was awarded **Excellent TA** and gave a case presentation.) 2024.03 - 2024.06

Student-Directed Seminar [Understanding the Brain as a Complex System] (Organized and taught a student-directed seminar integrating theoretical neuroscience, network science, deep learning, biology, and psychology to understand the brain as a complex, entangled system.) 2023.09 - 2023.12

Peer Tutoring [Calculus Tutoring for First Year Students] (Taught a tutoring class for "Differential and Integral Calculus 1" during the Spring semester of 2023.) 2023.03 - 2023.06

Publications

* Equal contribution, † Corresponding Author

Conference Papers

Early Timestep Zero-Shot Candidate Selection for Instruction-Guided Image Editing, Joowon Kim*, Ziseok Lee*, Donghyeon Cho, Sanghyun Jo, Yeonsung Jung, Kyungsu Kim†, Eunho Yang†, Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV) (2025)

Workshop Papers

HybridLinker: Topology-Guided Posterior Sampling for Enhanced Diversity and Validity in 3D Molecular Linker Generation, Minyeong Hwang, Ziseok Lee, Kwang-Soo Kim, Kyungsu Kim†, Eunho Yang†, ICML 2025 Generative AI and Biology (GenBio) Workshop (2025)

Preprints

TRACE: Your Diffusion Model is Secretly an Instance Edge Detector, Sanghyun Jo*, Ziseok Lee*, Wooyeol Lee, Jonghyun Choi, Jaesik Park†, Kyungsu Kim†, arXiv preprint arXiv:2503.07982 (2025)

ISAC: Training-Free Instance-to-Semantic Attention Control for Improving Multi-Instance Generation, Sanghyun Jo*, Wooyeol Lee*, Ziseok Lee*, Kyungsu Kim†, arXiv preprint arXiv:2505.20935 (2025)

Academic Services

[2025.04] Assisted Professor Kyungsu Kim in reviewing submissions in the field of computer vision for ICCV 2025.

[2025.03] Assisted Professor Kyungsu Kim in reviewing two submissions in the field of flow matching for ICML 2025.

Biography

Ziseok Lee is a graduate student in the Department of Biomedical Sciences at Seoul National University. He is a member of the Artificial Intelligence and Biomedical Informatics Lab (AIBL) under the supervision of Professor Kyungsu Kim. He received his B.S. degree in the Department of Mathematical Sciences with a double major in the Department of Computer Science and Engineering at Seoul National University in 2025. His research interests include generative models (e.g., stochastic interpolants) and their applications to computer vision and biomedical science, particularly molecule generation for drug design.