

Jaihoon Kim

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RESEARCH INTERESTS

Generative AI, Diffusion model, Flow model, Discrete Diffusion

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)
Ph.D. in Computer Science
Daejeon, South Korea

Sep 2024 –
Advisor: Minhyuk Sung

Korea Advanced Institute of Science and Technology (KAIST)
M.S. in Computer Science
Daejeon, South Korea

2023 – Aug 2024
Advisor: Minhyuk Sung

Hanyang University
B.S. in Electrical Engineering
Seoul, South Korea

2015 – 2021

WORK EXPERIENCE

Amazon Web Services (Santa Clara, United States)
Research Scientist (Internship)

July 2025 – Nov 2025

Samsung Electronics (Hwasung, South Korea)
Cloud Engineer (Full Time)

July 2021 – Jan 2023

Samsung Electronics (Hwasung, South Korea)
Cloud Engineer (Internship)

July 2020 – July 2020

PUBLICATIONS

1. Demystifying Transition Matching: When and Why It Can Beat Flow Matching
Jaihoon Kim, Rajarshi Saha, Minhyuk Sung, Youngsuk Park
AISTATS 2026
2. Inference-time scaling for flow models via stochastic generation and rollover budget forcing
Jaihoon Kim*, Taehoon Yoon*, Jisung Hwang*, Minhyuk Sung (* equal contribution)
NeurIPS 2025
3. Moment-and Power-Spectrum-Based Gaussianity Regularization for Text-to-Image Models
Jisung Hwang, **Jaihoon Kim**, Minhyuk Sung
NeurIPS 2025
4. Moment-and Power-Spectrum-Based Gaussianity Regularization for Text-to-Image Models
Prin Phunyaphibarn, Phillip Y Lee, **Jaihoon Kim**, Minhyuk Sung
WACV 2026
5. StochSync: Stochastic Diffusion Synchronization for Image Generation in Arbitrary Spaces
Kyeongmin Yeo*, **Jaihoon Kim***, Minhyuk Sung (* equal contribution)
ICLR 2025
6. SyncTweedies: A General Generative Framework Based on Synchronized Diffusions
Jaihoon Kim*, Juil Koo*, Kyeongmin Yeo*, Minhyuk Sung (* equal contribution)
NeurIPS 2024

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7. Paired-Point Lifting for Enhanced Privacy-Preserving Visual Localization
Chunghwan Lee, **Jaihoon Kim**, Chanhyuk Yun, Je Hyeong Hong
CVPR 2023

PREPRINTS

8. MatLat: Material Latent Space for PBR Texture Generation
Kyeongmin Yeo, Yunhong Min, **Jaihoon Kim**, Minhyuk Sung
2025

TEACHING EXPERIENCE

CS479: Machine Learning for 3D Data Course Assistant	School of Computing, KAIST Spring 2025
CS492(D): Diffusion Models and Their Applications Course Assistant	School of Computing, KAIST Fall 2024
CS580: Computer Graphics Course Assistant	School of Computing, KAIST Spring 2024
CS479: Machine Learning for 3D Data Course Assistant	School of Computing, KAIST Fall 2023

SCHOLARSHIPS AND ACHIEVEMENTS

Master's Degree Outstanding Paper KAIST	Summer 2024
Grand Prix (2 nd place) x, X-Corps Festival Ministry of Science and ICT	Spring 2020
Honors University of Texas at Austin	Fall 2019
Dean's List Hanyang University	Spring 2019

ACADEMIC SERVICE

Reviewer ICLR 2024, 2025, 2026 NeurIPS 2024, 2025 ICCV 2025 CVPR 2026	
Pacific Graphics 2023 Student Delegate	Fall 2023

SKILLS

Programming Languages	Python, C++
Frameworks	PyTorch
Languages	Korean (Native), English (Fluent)