Seungwoo Yoo

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Academic Interests

AI for Science, Generative Modeling, Diffusion/Flow Models, 3D Machine Learning, Geometry Processing

Education

Korea Advanced Institute of Science and Technology (KAIST) — Feb. 2025 -
Ph.D. in Computer Science — Advisor: Minhyuk Sung

Korea Advanced Institute of Science and Technology (KAIST) — Aug. 2023 - Feb. 2025
M.S. in Computer Science — Advisor: Minhyuk Sung

Korea Advanced Institute of Science and Technology (KAIST) — Feb. 2019 - Aug. 2023
B.S. in Computer Science (Major) & Electrical Engineering (Minor)
Summa Cum Laude (GPA: 4.01 / 4.3)

Work Experience

KAIST Visual AI Group, School of Computing, KAIST — Jun. 2021 - Aug. 2023
Undergraduate Intern — Advisor: Minhyuk Sung

Publications

1. DiffusionRollout: Uncertainty-Aware Rollout Planning in Long-Horizon PDE Solving
   Seungwoo Yoo*, Juil Koo*, Daehyeon Choi*, Minhyuk Sung
   TMLR
2. PairFlow: Closed-Form Source-Target Coupling for Few-Step Generation in Discrete Flow Models
   Mingue Park*, Jisung Hwang*, **Seungwoo Yoo***, Kyeongmin Yeo, Minhyuk Sung
   ICLR 2026
3. BézierFlow: Learning Bézier Stochastic Interpolant Schedulers for Few-Step Generation
   Yunhong Min*, Juil Koo*, **Seungwoo Yoo**, Minhyuk Sung
   ICLR 2026
4. Proxy-Free Gaussian Splats Deformation with Splat-Based Surface Estimation
   Jaeyeong Kim, **Seungwoo Yoo**, Minhyuk Sung
   3DV 2026
5. Neural Green's Functions
   Seungwoo Yoo, Kyeongmin Yeo, Jisung Hwang, Minhyuk Sung
   NeurIPS 2025
6. Neural Pose Representation Learning for Generating and Transferring Non-Rigid Object Poses
   Seungwoo Yoo, Juil Koo, Kyeongmin Yeo, Minhyuk Sung
   NeurIPS 2024
7. As-Plausible-As-Possible: Plausibility-Aware Mesh Deformation Using 2D Diffusion Priors
   Seungwoo Yoo*, Kunho Kim*, Vladimir G. Kim, Minhyuk Sung (* denotes equal contribution.)
   CVPR 2024
8. SALAD: Part-Level Latent Diffusion for 3D Shape Generation and Manipulation
   Juil Koo*, **Seungwoo Yoo***, Minh Hieu Nguyen*, Minhyuk Sung (* denotes equal contribution.)
   ICCV 2023

Teaching Experience

CS479: Machine Learning for 3D Data — School of Computing, KAIST
Course Assistant — Spring 2026

CS492(C): Diffusion and Flow Models — School of Computing, KAIST
Course Assistant — Fall 2025

CS479: Machine Learning for 3D Data — School of Computing, KAIST
Course Assistant — Spring 2025

CS492(D): Diffusion Models and Their Applications — School of Computing, KAIST
Course Assistant — Fall 2024

CS580: Computer Graphics — School of Computing, KAIST
Course Assistant — Spring 2024

URP490: Undergraduate Research Participation Program — School of Computing, KAIST
Graduate Assistant — Spring 2024

CS479: Machine Learning for 3D Data — School of Computing, KAIST
Course Assistant — Fall 2023

CS380: Introduction to Computer Graphics — School of Computing, KAIST
Course Assistant — Spring 2023

CS492(A): Machine Learning for 3D Data — School of Computing, KAIST
Course Assistant — Spring 2022

Scholarships and Achievements

Graduate School National Presidential Science Scholarship
Korea Student Aid Foundation (KOSAF) — 2024

National Presidential Science Scholarship
Korea Student Aid Foundation (KOSAF) — 2019 - 2022

KAIST Global Leadership Award
KAIST — 2025

Outstanding TA Award
School of Computing, KAIST — Spring 2024, Fall 2024, Spring 2025

Outstanding Thesis Award
School of Computing, KAIST — 2025

CoE Leadership Award
College of Engineering, KAIST — Spring 2023

Grand Prix (1st place), Undergraduate Research Participation (URP) Program
Associate Vice President of Research, KAIST — Winter/Spring 2022

Dean's List
College of Engineering, KAIST — Spring 2020, Fall 2020, Fall 2021

Department Honors Scholarship
College of Engineering, KAIST — Fall 2020

Academic Service

Reviewer

ECCV	2026
ICLR	2026
CVPR	2026
ICML	2025
NeurIPS	2025
SIGGRAPH	2025
SIGGRAPH Asia	2025
3DV	2026
Eurographics	2025
IEEE Transactions on Visualization and Computer Graphics (TVCG)	2025
IEEE Transactions on Multimedia	2024

Pacific Graphics 2023

Student Delegate	Fall 2023

Skills

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