

# Jeongwoo Shin

PhD Student  
Seoul National University  
swwss@snu.ac.kr  
+82-10-9555-9713

## EDUCATION

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| Mar. 2024 ~<br>Present   | <b>Seoul National University</b><br>Graduate School of Data Science<br><i>Advisor: Joonseok Lee</i><br><i>Ph.D. Student</i><br>GPA: 3.7 / 4.3                                                                                                                                                           | Seoul,<br>Korea |
| Mar. 2022 ~<br>Feb. 2024 | <b>Seoul National University</b><br>Graduate School of Data Science<br><br>Thesis: Self-Guided Masked Autoencoder<br><i>Advisor: Joonseok Lee</i><br><i>M.S. in Data Science</i><br>GPA: 3.98 / 4.3                                                                                                     | Seoul,<br>Korea |
| Mar. 2016 ~<br>Feb. 2022 | <b>Seoul National University</b><br>Department of Landscape Architecture and Rural System<br>Engineering<br><br>Thesis: Adsorptive Removal of Methylene Blue from Aqueous<br>Solution Using Carbon Nanospheres<br><i>B.S. in Landscape Architecture and Rural System Engineering</i><br>GPA: 3.59 / 4.3 | Seoul,<br>Korea |

## RESEARCH INTERESTS

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- Generative Modeling, Diffusion, Flow Matching
- Reward-Finetuning Diffusion Models
- Stochastic Optimal Control
- Diffusion/Flow Model Distillation
- Long Video Generation

## PUBLICATIONS

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- **Jeongwoo Shin\***, Dongsoo Shin\*, Yuchen Zhu, Wei Guo, Yongxin Chen, Joonseok Lee †, Jaewoong Choi †, Jaemoo Choi †, "Efficient Adjoint Matching for Fine-tuning Diffusion Models." **Under review** NeurIPS 2026. [\[arXiv\]](#)
- Youngyoon Choi\*, Kihyun Kim\*, **Jeongwoo Shin † (co-advser)**, Joonseok Lee †, "Diverse Motion

Customization via Control-based Dynamic Optimization." **Under review NeurIPS 2026.**

- Suho Ryu, **Jeongwoo Shin**, Joonseok Lee †, "No More Hit-and-Hope: Optimal Initial Noise Forging via Noise Shuffling." **Under review NeurIPS 2026.**
- Seunghoon Yi, Youngwoo Cho, Jaehoon Hahm, **Jeongwoo Shin**, Soo Kyung Kim †, Jaegul Choo †, Joonseok Lee †, Hongkee Yoon †, "Optimal Crystal Flow for Fast and Reliable Crystal Generation." **Under review NeurIPS 2026.**
- **Jeongwoo Shin**, Jinhwan Sul, Joonseok Lee †, Jaewoong Choi †, Jaemoo Choi †, "Efficient Generative Modeling beyond Memoryless Diffusion via Adjoint Schrödinger Bridge Matching." **ICML 2026.**
- Sunghyun Kim\*, Jaehoon Hahm\*, **Jeongwoo Shin**, Joonseok Lee †, "Equivariant Latent Alignment via Flow Matching under Group Symmetries". **ICML 2026.**
- Junho Lee\*, **Jeongwoo Shin\* (co-first author)**, Hyungwook Choi, Joonseok Lee †, "Latent Diffusion Models with Masked AutoEncoders". **ICCV 2025.**
- **Jeongwoo Shin**, Inseo Lee, Junho Lee, Joonseok Lee †. "Self-Guided Masked Autoencoder." **NeurIPS 2024.**

## INDUSTRY EXPERIENCE

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- Collaborative Project with Samsung Electronics Co., Ltd., (Nov 2023 – Sep 2024)
  - Refined Data Collection using Large Multi-Modal Foundation Models for Personalized Search & Generation

## SPONSORED RESEARCH

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- National Research Foundation of Korea (NRF), Ministry of Education, (Sep 2025 - Aug 2026)
  - Optimal Latent Space for Effective Image Generation

## TEACHING ASSISTANT

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- Machine Learning and Deep Learning 1 (spring, 2023)

## SKILLS AND TECHNIQUES

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- Python, C, C++, PyTorch, TensorFlow
- Multi-GPU distributed training
- Fluent in English