Dong Ju Mun

Ph.D. Candidate, Electrical and Computer Engineering
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RESEARCH INTERESTS

My research develops generative models — diffusion- and flow-based methods — into reliable solvers for ill-posed inverse problems in imaging, spanning natural images, lensless cameras, and medical MRI. I am particularly interested in the sampling dynamics that make these priors trustworthy reconstructors.

- Diffusion / flow-based generative models for imaging inverse problems
- Guidance and stochasticity scheduling for posterior sampling
- Zero-shot / training-free restoration under severe degradation
- Generative harmonization and domain adaptation for medical imaging

EDUCATION

Ph.D. in Electrical and Computer Engineering — Mar. 2022 – Feb. 2028
Seoul National University, Seoul, South Korea
Intelligent Computational Imaging Lab · Advisor: Prof. Se Young Chun

B.S. in Landscape Architecture & Rural Systems Engineering — Mar. 2015 – Feb. 2022
Seoul National University, Seoul, South Korea
Minor in Electrical and Computer Engineering

RESEARCH PROJECTS

Advanced Non-Bayer Demosaicing Network — Oct. 2025 – Sep. 2027
Lead Researcher · Samsung Electronics, Device Solutions (DS) Division

Image Quality Enhancement for Defect Inspection in Semiconductor Processes — Mar. 2022 – Feb. 2025
Researcher · Samsung Electronics, Device Solutions (DS) Division

PUBLICATIONS

† denotes equal contribution.

First Author

1. J. Bang†, **D. J. Mun**†, H. Seo, S. Hong, and S. Y. Chun, "Triadic Dynamics Aware Diffusion Posterior Sampling for Inverse Problems: Optimizing Guidance and Stochasticity Schedules," **International Conference on Machine Learning (ICML)**, 2026. [arXiv] [Code] [Project]
2. H. Lee†, **D. J. Mun**†, H. Lee†, K. C. Lee, S. Hong, G. Kim, S. A. Lee, and S. Y. Chun, "Fidelity-Preserving Zero-Shot Diffusion Models for Highly Ill-Posed Inverse Problems in Lensless Imaging," **Image and Vision Computing (IMAVIS)**, 2025.
3. M. Kim†, **D. J. Mun**†, H. Jeong, H. Park, H. Lee, S. Y. Chun, and J. Lee, "A Target-Free Harmonization Method for MRI," Submitted to **IEEE Transactions on Medical Imaging**, 2026.

Co-Author

1. H. C. Lee, **D. J. Mun**, J. H. Lee, H. W. Lee, and S. Y. Chun, "Zero-Shot Diffusion Models for Demosaicing in Bayer and Non-Bayer Image Sensors," International Conference on Electronics, Information, and Communication (ICEIC), Jan. 2025.
2. M. J. Kim, **D. J. Mun**, H. H. Jeong, H. C. Lee, S. Y. Chun, and J. H. Lee, "Harmonization for a Black-Box Model using Disentanglement-Based Generator and Bayesian Optimization," International Society for Magnetic Resonance in Medicine (ISMRM), May 2026 **(Oral, Summa Cum Laude)**.
3. J. Bang, D. Choi, **D. J. Mun**, and S. Y. Chun, "FLINT: Coupling Proximal Initialization and Bounded Stochasticity for Flow-Matching Inverse Problems," Submitted to **Neural Information Processing Systems (NeurIPS)**, 2026.