HOIGI SEO M.S. & PH.D. STUDENT

(+82) 10-3222-3295
seohoiki3215@snu.ac.kr
https://seohoiki3215.github.io

EDUCATION

Seoul National University — Seoul, Republic of Korea
B.E. in Electrical and Computer Engineering — 2018 - 2024

Seoul National University — Seoul, Republic of Korea
Integrated M.S. and Ph.D. in Electrical and Computer Engineering — 2024 - Present
- Advisor: Prof. Se Young Chun
- Research area: Diffusion Generative Model, Multi-Modal Large Language Model, Efficient Generative Model

PUBLICATIONS (SELECTED)

1. On Epistemic Uncertainty of Visual Tokens for Object Hallucinations in Large Vision-Language Models.
Hoigi Seo*, D U Kang*, H Cho, J Lee & S Y Chun. NeurIPS, 2025. (*co-first authors)

2. Skrr: Skip and Re-use Text Encoder Layers for Memory Efficient Text-to-Image Generation.
Hoigi Seo*, W Jeong*, J Seo & S Y Chun. ICML, 2025. (*co-first authors)

3. Efficient Personalization of Quantized Diffusion Model without Backpropagation.
Hoigi Seo*, W Jeong*, K Lee & S Y Chun. CVPR & CVPRW, 2025. (*co-first authors)

4. Harmonization for a black-box deep learning model.
M Kim, H Jeong, **Hoigi Seo**, W Jeong, S Y Chun & J Lee. ISMRM (**Oral, Summa Cum Laude, AMPC select**), 2025

5. INTRA: Interaction Relationship-Aware Weakly Supervised Affordance Grounding.
J H Jang*, **Hoigi Seo*** & S Y Chun. ECCV & ECCVW (**Oral**), 2024. (*co-first authors)

6. BeyondScene: Higher-Resolution Human-Centric Scene Generation with Pretrained Diffusion.
G Kim*, H Kim*, **Hoigi Seo***, D U Kang* & S Y Chun. ECCV, 2024. (*co-first authors)

PREPRINTS

1. Geometrical Properties of Text Token Embeddings for Strong Semantic Binding in Text-to-Image Generation.
Hoigi Seo*, J Bang*, H Lee*, J Lee, B H Lee & S Y Chun. *arXiv preprint*, 2025. (*co-first authors)

2. Upsample What Matters: Region-Aware Latent Sampling for Accelerated Diffusion Transformers.
W Jeong*, K Lee*, **Hoigi Seo** & S Y Chun. *arXiv preprint*, 2025. (*co-first authors)

3. DITTO-NeRF: Diffusion-based Iterative Text To Omni-directional 3D Model.
Hoigi Seo*, H Kim*, G Kim* & S Y Chun. *arXiv preprint*, 2023. (*co-first authors)

PATENTS

1. **Training-free Industrial Defect Segmentation.**
S. Y. Chun, D. U. Kang, H. Kim, J. H. Jang, B. H. Lee, **Hoigi Seo.** Korean Patent, Filed. 2025.

2. **Device and Method For Affordance Grounding.**
S. Y. Chun, J. H. Jang, **Hoigi Seo.** Korean Patent, Filed. No. 10-2025-0029227, 2025.

3. **Device and Method for Extracting High-Dimensional Gene Features.**
S. Y. Chun, **Hoigi Seo**, H. Bae, D. U. Kang, H. Kim. Korean Patent, Filed. No. 10-2025-0014990, 2025.

4. **Higher-Resolution Human-Centric Scene Generation With Pretrained Diffusion.**
S. Y. Chun, G. Kim, H. Kim, **Hoigi Seo.** Korean Patent, Filed, No. 10-2024-0115484, 2024 / U.S. Patent Application, Filed, No. 19/019,060, 2025

AWARDS & HONORS	**Excellent Research Talent Fellowship** | Korea Research Foundation	2025 Fall
	Brain Korea 21 Scholarship | Korea Research Foundation	2025
	Brain Korea 21 Scholarship | Korea Research Foundation	2024
	Academic Excellence Scholarship | Seoul National University, ECE	2023

PROJECTS

ecDNA Detection (Project lead) \| Ministry of Science and ICT, ROK — 2023 - Present
Extra-chromosomal DNA (ecDNA) detection and associated gene discovery from FISH images and gene profiles.

AI for Human-Machine Teaming \| US Air Force & ROK IITP — 2025 - Present
Development of human-robot interaction (HRI) and decision-making that can enable robots to collaborate naturally with humans with hazy oracle.

Efficient Personalization \| Samsung Mobile Experience (MX) — 2024 - 2025
Memory and time efficient text-to-image synthesis and personalization for on-device deployment.

Industrial Defect Segmentation \| Samsung Device Solution (DS) — 2024 - 2025
Segmentation and detection of defects on wafer and industrial products.

SKILLS

Language: English (professional), Korean (native).

Programming Language: Python, C, C++, CUDA.

Deep Learning Framework: PyTorch, TensorFlow.

OTHER PUBLICATIONS

1. Mitigating Hallucinations in Large Vision-Language Models via Norm-Guided Visual Filtering
   H Cho, **Hoigi Seo**, D U Kang, J Lee & S Y Chun. Conference on Electronics, Semiconductor and AI, 2025.

2. Towards Personalization of Generative Models Via Zeroth-Order Optimization
   W Jeong, **Hoigi Seo**, & S Y Chun. Korea Signal Processing Conference, 2024.