

# Curriculum Vitae

Hwan Heo

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## RESEARCH INTEREST

Computer Vision  
Neural Rendering; Radiance Fields & Gaussian Splatting  
Visual Scene Understanding

## EDUCATION

**Master's degree in Computer Science & Engineering** Sep 2020 - Feb 2023  
**Korea University, Advisor: Prof. Hyunwoo J. Kim**

**Bachelor's degree in Computer Science & Engineering** Mar 2015 - Aug 2020  
**Korea University, Advisor: Prof. HeuiSeok Lim**

## EXPERIENCE

**AI Researcher** Feb 2024 - present  
**NCSOFT Graphics AI Lab, 3D Generation Team**

- 3D Asset Generation; 3D Latent Diffusion & Texture Synthesis

**AI Researcher** Mar 2023 - Feb 2024  
**NCSOFT Vision AI Lab, Neural Rendering Team**

- Accelerated NeRF Face Avatar w/ Multi-Camera
- Neural Rendering scene in Graphical Engine


**AI Researcher, Intern** Jul 2022 - Dec 2022  
**NAVER AI Lab, Mentor: Ph.D. Jin-Hwa Kim**


- NeRF Research Project: Robust Camera Pose Refinement for Multi-Resolution Hash Encoding [ICML '23]


## PUBLICATION

- [1] **CaPa: Carve-n-Paint Synthesis for Efficient 4K Textured Mesh Generation**  
**H. Heo, J. Kim, S. Lee, J. Wi, J. Choi, S. Ahn\*** [under review] 🔗
- [2] **DreamSurfels: Generative Gaussian Surfels for Geometrically Accurate 3D Content Creation**  
**H. Heo, S. Ahn\*** [ICTC2024, oral, domestic conference]
- [3] **Robust Camera Pose Refinement for Multi-Resolution Hash Encoding**  
**H. Heo, T. Kim, J. Lee, J. Lee, S. Kim, H. J. Kim\*, JH. Kim\*** [ICML 2023] 🔗


[4] **Semantic-aware Occlusion Filtering Neural Radiance Fields in the Wild**  
*J. Lee, I. Kim, H. Heo, H. J. Kim\** [preprint] 


[5] **Domain Generalization Emerges from Dreaming**  
*H. Heo, Y. Oh, J. Lee, H. J. Kim\** [preprint] 

[6] **Consistency Learning via Decoding Path Augmentation for Transformers in Human Object Interaction Detection**  
*J. Park, S. Lee, H. Heo, H. Choi, H. J. Kim\** [CVPR 2022] 

[7] **Temporally Sparse Adversarial Perturbations on Videos**  
*H. Heo, D. Ko, J. Lee, Y. Hong\*, H. J. Kim\** [IEEE Access 2021] 

**PROJECT**      *Object Detection for Diagnosis of Infectious Diseases*      Aug 2020 - Jul 2022  
Korea University and Korea University Guro Hospital

*AI-based 3D Rendering in Game & Graphic Engine*       May 2023 -  
Dec 2023  
NCSoft Research

*3D Asset Generation; 3D Latent Diffusion & Texture Synthesis*       Jul  
2024 - Dec 2024  
NCSoft Research

**COMPUTER SKILLS**      *Languages & Software:* Python, PyTorch, CUDA

**PROFESSIONAL ACTIVITIES**      *Technical Assistant*

- Object Detection Tutorial in KCCV 2022
- Object Detection, Adversarial Attack and GAN Tutorial in Korea University-LG Electronics Winter AI Workshop 2022

*Teaching Assistant*

- Artificial Intelligence (COSE361) in 2021 spring and 2022 spring

*Reviewers*

- Computer Vision and Pattern Recognition (CVPR)
- European Conference on Computer Vision (ECCV)
- Neural Information Processing Systems (NeurIPS)