# JAEHYEOK SHIM (심재혁)

# Curriculum Vitae

- Email: jh.shim.gg@gmail.com
- Homepage: https://kitsunetic.github.io
- Github: https://github.com/kitsunetic

# **EDUCATION**

Ph.D. Ulsan National Institute of Science & Technology (UNIST), Kores	a 2025/03 -
- Major: Artificial Intelligence	
- Advisor: Prof. Kyungdon Joo	
M.S. Ulsan National Institute of Science & Technology (UNIST), Korea	2021/09 - 2023/08
- Major: Artificial Intelligence	
- Advisor: Prof. Kyungdon Joo	
- Achievements:	
- Diffusion-Based Signed-Distance-Fields for 3D Shape Generation (CVPR 2023)	
B.S. Seoul National University of Science and Technology, Korea	2015/03 - 2021/08
- Major: Electrical and Information Engineering	
- Double Major: Unmanned Vehicles Software Program	
- Advisor: Prof. Yeejin Lee	
- Military service	2016/08 - $2018/05$
Experiences	
Adobe, United States	2025/03 - 2025/06
- Title: Research Scientist Intern	
- Mentor: Dr. Jaeshin Yoon	
Ulsan National Institute of Science & Technology (UNIST), Korea	2023/09 - 2025/02
- Title: Researcher	
- Mentor: Prof. Kyungdon Joo	
- Objective: Designing an effective latent model for 3D compression and gene	eration.
- Achievements:	
- DITTO: Dual and Integrated Latent Topologies for Implicit 3D Reconstruction	(CVPR 2024)
- ContactGen: Contact-Guided Interactive 3D Human Generation for Partners (A	AAI 2024)
Militery Service (South Korea)	2016/08 - 2018/05
- Title: Sergeant, Information Systems Specialist (Republic of Korea Army)	

### PUBLICACTIONS

#### DITTO: Dual and Integrated Latent Topologies for Implicit 3D Reconstruction

Jaehyeok Shim, Kyungdon Joo

[Project Page] [Paper] [Code] (CVPR 2024)

**DITTO** achieves state-of-the-art performance in point cloud to 3D mesh reconstruction by proposing novel network that combines strengths of point cloud latent and grid latent representations.

### ContactGen: Contact-Guided Interactive 3D Human Generation for Partners

Dongjun Gu, **Jaehyeok Shim**, Jaehoon Jang, Changwoo Kang, Kyungdon Joo [Project Page] [Paper] [Code] (AAAI 2024)

ContactGen proposes a human pose generative model based on human-to-human interaction. Given partner's pose, ContactGen generates human pose using Guided Diffusion with interaction guidance.

#### Diffusion-Based Signed-Distance-Fields for 3D Shape Generation

Jaehyeok Shim, Changwoo Kang, Kyungdon Joo [Project Page] [Paper] [Code] (CVPR 2023)

SDF-Diffusion proposes a 3D shape generative model based on TSDF voxels. Motivated by Cascade Diffusion, this paper introduces a coarse-to-fine 3D shape generation method, reducing the memory and computational cost of voxel representations.

## **ACADEMIC CONTRIBUTIONS**

Reviewer Activity: NeurIPS 2025	2025/05
Reviewer Activity: ICCV 2025	2025/04
Reviewer Activity: ACM Transactions on Image Processing (TIP)	2024/03

## **OPEN SOURCE PROJECTS**

#### kitsu [Github]

Code stack of Pytorch boilerplate codes including a DDP-based trainer similar to pytorch-lightning.

#### space-filling-pytorch [Github]

Library for Space Filling Curve (e.g., Hilbert-Curve, Z-Order) implementations based on Triton.

#### fast-GeM [Github]

Generalized Mean Pooling (GeM) implementation using Triton.

#### **GEGLU-triton** [Github]

Triton implementation of GEGLU.

## **AI COMPETITIONS**

KYOWON Group OCR Challenge, DACON, Korea. (Rank 7/430; top 2%)	2022/12
Ego-Vision Hand Gesture Recognition AI Contest, DACON, Korea. (Rank $3/290$ ; top 1%)	2021/06
News Topic Classification AI Contest, DACON, Korea. (Rank $3/256$ ; top 1%)	2021/05
Predicting Danger of System Log Messages, DACON, Korea. (Rank $2/152$ ; top 1%)	2021/04
Finding Human Key-Points from Motion Images, DACON, Korea. (Rank 1/156; top 1%)	2021/02