Donghwan Kim

PhD student in 3D AI

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RESEARCH INTERESTS

3D AI, Computer Vision, Human Pose Estimation, 3D Reconstruction

PROFILE

My dream is making people (also including me) happy. I feel happy in tackling challenging problems and exploring innovative ways to solve them. To make people happy, I am interested in research topics that enhance entertainment experiences particularly in fields such as AR/VR, telepresence, and creative content generation. Recently, my research has focused on 3D human reconstruction and human pose and shape estimation.

EDUCATION

- Computer Science, KAIST @ Daejeon, South Korea — PhD student, Feb. 2025 - current.

  Supervisor: Prof. Tae-Kyun Kim

- Computer Science, KAIST @ Daejeon, South Korea — Master's degree, Feb. 2023 - Feb. 2025.

  Supervisor: Prof. Tae-Kyun Kim

- Computer Science, KAIST @ Daejeon, South Korea — Bachelor's degree, Feb. 2018 - Aug. 2022.

PUBLICATIONS

- **D. Kim**, T-K Kim, "Multi-hypotheses Conditioned Point Cloud Diffusion for 3D Human Reconstruction from Occluded Images", **NeurIPS 2024**, Vancouver, Canada
- W. Cho, J. Lee, M. Lee, M. Kim, T. Woo, **D. Kim**, T. Ha, H. Lee, J. Ryu, W. Woo, T-K Kim, "GraspNet: A Comprehensive Hand-Object Grasp Dataset with All Grasping Taxonomies, Diverse Hand Poses and Shapes, and 3D Annotations", **ECCV 2024**, Milano, Italy

- J. Lee, J. Jang, **D. Kim**, M. Sung, T-K Kim, “FourierHandFlow: Neural 4D Hand Representation Using Fourier Query Flow”, **NeurIPS 2023**, New Orleans, United States

WORK EXPERIENCE

AI Researcher @PLUME.D — Feb. 2023 -Dec. 2024

- Worked part-time in seed startup which aim real-time 3D avatar rendering solution with full-body pose estimation.
- Improved generalization of 2D-to-3D pose uplifting with training on synthetic random camera projection.
- Implemented video-based SMPL-X estimation pipeline with diffusion models.

Unity Developer @PLUME.D — Jan. 2022 -Feb. 2023

- Worked in seed startup which aim real-time 3D avatar rendering solution with full-body pose estimation.
- Implemented avatar rendering from 2.5D full-body keypoints with single web cam in real-time.

Internship in Human pose team @Vision AI Lab, NCSOFT — Mar. 2021 - Aug. 2021

Supervisor: Sungbum Park

- Developed GUI tool for multi-view camera calibration and multi-view camera capture.