Dongki Jung

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EDUCATION

University of Maryland, College Park

- Ph.D. in Computer Science — Aug 2024 – Present
  - Adviser: Prof. Dinesh Manocha

Korea Advanced Institute of Technology (KAIST)

- M.S. in Electrical Engineering — Feb 2019 – Feb 2021
  - Adviser: Prof. Changick Kim

Korea University

- B.S. in Electrical Engineering — Mar 2013 – Feb 2019
  - Auxiliary Police (mandatory military service) — May 2014 – Feb 2016

EMPLOYMENT

NAVER LABS

- Spatial AI Team — Mar 2022 – Aug 2024
- Robotics Vision Team — Apr 2021 – Feb 2022
- Research Intern at Computer Vision Team — Sep 2020 – Mar 2021

RESEARCH INTERESTS

3D Reconstruction, SfM, Foundation Model, and Neural Rendering

PUBLICATIONS

PREPRINTS

[1] Jaehoon Choi, **Dongki Jung**, Yonghan Lee, Sungmin Eum, Dinesh Manocha, and Heesung Kwon, "UAVTwin: Neural Digital Twins for UAVs using Gaussian Splatting", *Submitted.*

INTERNATIONAL CONFERENCES

[1] **Dongki Jung**, Jaehoon Choi, Yonghan Lee, Dinesh Manocha, "MoRe: Monocular Geometry Refinement via Graph Optimization for Cross-View Consistency", ***WACV***, 2026.

[2] Jaehoon Choi, **Dongki Jung**, Christopher Maxey, Sungmin Eum, Yonghan Lee,Dinesh Manocha, and Heesung Kwon, "UAV4D: Dynamic Neural Rendering of Human-Centric UAV Imagery using Gaussian Splatting", ***AAAI***, 2026

[3] **Dongki Jung**, Jaehoon Choi, Yonghan Lee, and Dinesh Manocha, "RPG360: Robust 360 Depth Estimation with Perspective Foundation Models and Graph Optimization", ***NeurIPS***, 2025.

[4] **Dongki Jung***, Jaehoon Choi*, Yonghan Lee, Dinesh Manocha, "IM360: Textured Mesh Reconstruction for Large-scale Indoor Mapping with 360° Cameras," ***ICCV***, 2025. (* equal contribution)

[5] **Dongki Jung**, Jaehoon Choi, Yonghan Lee, Somi Jeong, Taejae Lee, Dinesh Manocha, Suyong Yeon, "EDM: Equirectangular Projection-Oriented Dense Kernelized Feature Matching," ***CVPR***, 2025.

[6] Obin Kwon, **Dongki Jung**, Youngji Kim, Soohyun Ryu, Suyong Yeon, Songhwai Oh, Donghwan Lee, "WayIL: Image-based Indoor Localization with Wayfinding Maps," ***ICRA***, 2024.

[7] Jaehoon Choi, **Dongki Jung**, Taejae Lee, Sangwook Kim, Youngdong Jung, Dinesh Manocha, Donghwan Lee, "TMO: Textured Mesh Acquisition of Objects with a Mobile Device by using Differentiable Rendering," ***CVPR***, 2023.

[8] **Dongki Jung***, Jaehoon Choi*, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, Donghwan Lee, "SelfTune: Metrically Scaled Monocular Depth Estimation through Self-Supervised Learning," ***ICRA***, 2022. (* equal contribution)

[9] **Dongki Jung***, Jaehoon Choi*, Yonghan Lee, Deokhwa Kim, Changick Kim, Dinesh Manocha, Donghwan Lee, "DnD: Dense Depth Estimation in Crowded Indoor Dynamic Scenes," ***ICCV***, 2021. (* equal contribution)

[10] Taekyung Kim, Jaehoon Choi, Seokeon Choi, **Dongki Jung**, Changick Kim, "A Few Depth Points are All You Need for Multi-view Stereo: A Novel Semi-supervised Learning Method for Multi-view Stereo," ***ICCV***, 2021.

[11] Jaehoon Choi, **Dongki Jung**, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, and Donghwan Lee, "SelfDeco: Self-Supervised Monocular Depth Completion in Challenging Indoor Environments," ***ICRA***, 2021.

[12] **Dongki Jung***, Jaehoon Choi*, Donghwan Lee, Changick Kim, "SAFENet: Self-Supervised Monocular Depth Estimation with Semantic-Aware Feature Extraction," ***NeurIPSW***, 2020. (* equal contribution)

[13] **Dongki Jung**, Seunghan Yang, Jaehoon Choi, and Changick Kim, "Arbitrary Style Transfer Using Graph Instance Normalization," ***ICIP***, 2020.

[14] Yonghan Lee, Jaehoon Choi, **Dongki Jung**, Jaeseong Yun, Soohyun Ryu, Dinesh Manocha, Suyong Yeon, "Mode-GS: Monocular Depth Guided Anchored 3D Gaussian Splatting for Robust Ground-View Scene Rendering," *arXiv* 2024.

[15] Seunghan Yang, Youngeun Kim, **Dongki Jung**, Changick Kim, "Partial Domain Adaptation Using Graph Convolutional Networks," *arXiv* 2020.

CHALLENGES

INTERNATIONAL CHALLENGES

[1] **3rd place** in the Track 3: City-Scale Multi-Camera Vehicle Tracking at **AI City Challenge** held in *IEEE Conference on Computer Vision and Pattern Recognition* Workshop 2020

PROJECT EXPERIENCE

- ATM vandalism action recognition — Mar 2018 – Jun 2018
  - Research internship at *Korea University*. Funded by *Nautilus HYOSUNG*
  - Aimed at making the ATM vandalism dataset with own annotation and object detection with YOLOv2
- 3D Object Recognition Algorithm for Indoor and Outdoor Scenes — May 2019 – Sep 2020
  - Research project at *KAIST*. Funded by *LG Electronics Co., Ltd*
  - Aimed at Developing the 2D object detection and depth estimation for cross-modality of RGB and FIR images.
- Dense mapping (SfM/Neural SDF) for indoor scene reconstruction — Dec 2022 – Aug 2024
  - Research project at *NAVER LABS*
  - Developed a fully automated pipeline for textured mesh using omnidirectional camera
  - served for a real estate property tours

PATENTS

- Dongki Jung, Donghwan Lee, Yonghan Lee, Deokhwa Kim, "Method and System for Training Monocular Depth Estimation Models," Korean Patent No. 10-2023-0064188
- Eight pending patents in South Korea.

TEACHING

- University of Maryland College Park, Teaching Assistant — Aug 2024 – Present
  - CMSC351 – Algorithms

AWARDS & SCHOLARSHIPS

- Academic Achievement Award, Korea University
  - Semester High Honors in the first Semester of 2016
  - Semester High Honors in the second Semester of 2016
  - Semester High Honors in the first Semester of 2017
  - Semester High Honors in the second Semester of 2017
  - Great Honor in Winter 2018 Graduation
- KU Alumni Scholarships
  - the second Semester of 2016
- YooJung Scholarship Foundation
  - the first and second Semesters of 2017
  - the first and second Semesters of 2018

LANGUAGES

- Korean: Native language
- English: Business Level

SKILLS

Python, C++, ROS, Docker, LaTeX, MATLAB, PyTorch, TensorFlow,

REFERENCES

- **Dinesh Manocha**
  Professor of Computer Science and Professor of Electrical and Computer Engineering
  University of Maryland, College Park
  dmanocha@umd.edu
- **Donghwan Lee**
  Vision Group Leader at NAVER LABS
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■ **Martin Humenberger**
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