

Dongki Jung

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EDUCATION

University of Maryland, College Park

- Ph.D. in Computer Science
- Adviser: Prof. Dinesh Manocha

Aug 2024 – Present

Korea Advanced Institute of Technology (KAIST)

- M.S. in Electrical Engineering
- Adviser: Prof. Changick Kim

Feb 2019 – Feb 2021

Korea University

- B.S. in Electrical Engineering
- Auxiliary Police (mandatory military service)

Mar 2013 – Feb 2019
May 2014 – Feb 2016

EMPLOYMENT

NAVER LABS

- Spatial AI Team
- Robotics Vision Team
- Research Intern at Computer Vision Team

Mar 2022 – Aug 2024
Apr 2021 – Feb 2022
Sep 2020 – Mar 2021

RESEARCH INTERESTS

3D Reconstruction, Neural Rendering, and SfM

PUBLICATIONS

PREPRINTS

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

INTERNATIONAL CONFERENCES

- [1] **Dongki Jung**, Jaehoon Choi, Yonghan Lee, and Dinesh Manocha, “RPG360: Robust 360 Depth Estimation with Perspective Foundation Models and Graph Optimization”, *NeurIPS*, 2025.
- [2] **Dongki Jung***, Jaehoon Choi*, Yonghan Lee, Dinesh Manocha, “IM360: Textured Mesh Reconstruction for Large-scale Indoor Mapping with 360° Cameras,” *ICCV*, 2025. (* equal contribution)
- [3] **Dongki Jung**, Jaehoon Choi, Yonghan Lee, Somi Jeong, Taejae Lee, Dinesh Manocha, Suyong Yeon, “EDM: Equirectangular Projection-Oriented Dense Kernelized Feature Matching,” *CVPR*, 2025.
- [4] Obin Kwon, **Dongki Jung**, Youngji Kim, Soohyun Ryu, Suyong Yeon, Songhwa Oh, Donghwan Lee, “WayIL: Image-based Indoor Localization with Wayfinding Maps,” Accepted to *The IEEE International Conference on Robotics and Automation (ICRA)*, 2024.
- [5] 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,” Accepted to *The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)*, 2023.
- [6] Jaehoon Choi*, **Dongki Jung***, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, Donghwan Lee, “SelfTune: Metrically Scaled Monocular Depth Estimation through Self-Supervised Learning,” Accepted to *The IEEE International Conference on Robotics and Automation (ICRA)*, 2022. (* equal contribution)
- [7] **Dongki Jung***, Jaehoon Choi*, Yonghan Lee, Deokhwa Kim, Changick Kim, Dinesh Manocha, Donghwan Lee, “DnD: Dense Depth Estimation in Crowded Indoor Dynamic Scenes,” Accepted to *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021. (* equal contribution)
- [8] 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,” Accepted to *IEEE/CVF International Conference on Computer Vision (ICCV)*, 2021.

- [9] Jaehoon Choi, **Dongki Jung**, Yonghan Lee, Deokhwa Kim, Dinesh Manocha, and Donghwan Lee, “SelfDeco: Self-Supervised Monocular Depth Completion in Challenging Indoor Environments,” Accepted to *The IEEE International Conference on Robotics and Automation (ICRA)*, 2021.
- [10] Jaehoon Choi*, **Dongki Jung***, Donghwan Lee, Changick Kim, “SAFENet: Self-Supervised Monocular Depth Estimation with Semantic-Aware Feature Extraction,” Accepted to *The 34th Annual Conference on Neural Information Processing Systems Workshop (NeurIPSW)*, Vancouver, Canada, 2020. (* equal contribution)
- [11] **Dongki Jung**, Seunghan Yang, Jaehoon Choi, and Changick Kim, “Arbitrary Style Transfer Using Graph Instance Normalization,” Accepted to *The 27th IEEE International Conference on Image Processing (ICIP)*, Abu Dhabi, UAE, Oct. 22-28, 2020.
- [12] 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**
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 University of Maryland, College Park
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■ **Donghwan Lee**

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■ **Martin Humenberger**

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