

Jaesik Park

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401 Ho, 301 Dong, 1 Gwanak-ro, Gwanak-gu, Seoul, Republic of Korea (08826)

WORKING EXPERIENCES

Assistant Professor

CSE and IPAI, Seoul National University (SNU)

- Principal Investigator of Visual and Geometric Intelligence Lab.

Seoul, Republic of Korea

Sep. 2023 – Present

Associate Professor

CSE and GSAI, Pohang University of Science and Technology (POSTECH)

Pohang, Republic of Korea

Sep. 2022 – Aug. 2023

Assistant Professor

CSE and GSAI, Pohang University of Science and Technology (POSTECH)

Pohang, Republic of Korea

April. 2019 – Aug. 2022

- Advised about 20 masters and Ph.D. students
- Selected as one of the POSTECH's Representative Research Achievements (2021)
- Received Outstanding Online Class Award (2020) and the Best EduTech Award (2021)

Staff Research Scientist

Intelligent Systems Lab, Intel (Manager: Dr. Vladlen Koltun)

Santa Clara, CA, USA

Dec. 2015 – March 2019

- Advised intern students from Stanford University, U.C. Berkeley, and Carnegie Mellon University
- Co-creator of Open3D**: open-sourced 3D vision library that is built from scratch (**10.8+1.8k GitHub stars**)

EDUCATION

Ph.D. and M.S. in Electrical Eng.

Korea Advanced Institute of Science and Technology (KAIST)

Daejeon, Republic of Korea

Feb. 2009 – Aug. 2015

- Ph.D. thesis: Image-based 3D Modeling via Constrained Optimization (Advisor: Prof. In So Kweon, Co-advisor: Dr. Yu-Wing Tai)
- Master's thesis: Upsampling Low-resolution Image using Heterogeneous High-resolution Image (Advisor: Prof. In So Kweon)

B.E. in Media Communication Eng.

Hanyang University (Summa cum laude)

Seoul, Republic of Korea

March. 2005 – Feb. 2009

PUBLICATIONS

International

- [1] Minguk Kang, Richard Zhang, Connelly Barnes, Sylvain Paris, Suha Kwak, **Jaesik Park**, Eli Shechtman, Jun-Yan Zhu, and Taesung Park
Distilling Diffusion Models into Conditional GANs
European Conf. on Computer Vision (**ECCV**), 2024
- [2] Jungeon Kim, Soongjin Kim, **Jaesik Park**, and Seungyong Lee
Deep Cost Ray Fusion for Sparse Depth Video Completion
European Conf. on Computer Vision (**ECCV**), 2024
- [3] Nahyuk Lee, Juhong Min, Junha Lee, Seungwook Kim, Kanghee Lee, **Jaesik Park**, and Minsu Cho
3D Geometric Shape Assembly via Efficient Point Cloud Matching
Int. Conf. on Machine Learning (**ICML**), 2024
- [4] Changwoon Choi, Jaeah Lee, **Jaesik Park**, and Young Min Kim
3Doodle: Compact Abstraction of Objects with 3D Strokes
ACM Special Interest Group on Graphics and Interactive Techniques (**SIGGRAPH**), 2024
(Accepted as a journal track paper)
- [5] Seoyeon Kim, Minguk Kang, Dongwon Kim, **Jaesik Park**, and Suha Kwak
Extending CLIP's Image-Text Alignment to Referring Image Segmentation
Annual Conf. of the North American Chapter of the Assoc. for Computational Linguistics (**NAACL**), 2024

- [6] Ashish Kumar, Daneul Kim, **Jaesik Park**, and Laxmidhar Behera
Pick-or-Mix: Dynamic Channel Sampling for ConvNets
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2024
- [7] Chunghyun Park, Seungwook Kim, **Jaesik Park**, and Minsu Cho
Learning $SO(3)$ -Invariant Semantic Correspondence via Local Shape Transform
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2024
- [8] Ashish Kumar, **Jaesik Park**, and Laxmidhar Behera
High-Speed Stereo Visual SLAM for Low-Powered Computing Devices
IEEE Robotics and Automation Letters (**RAL**), vol. 9, issue 1, 2024
(invited to the **ICRA2024 oral** presentation)
- [9] Seungjoo Shin and **Jaesik Park**
Binary Radiance Fields
Conf. on Neural Information Processing Systems (**NeurIPS**), 2023
(Received 30th **HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp.)
- [10] MinGuk Kang, Joonghyuk Shin, and **Jaesik Park**
StudioGAN: A Taxonomy and Benchmark of GANs for Image Synthesis
Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2023
- [11] Jaesung Choe, Christopher Choy, **Jaesik Park**, In So Kweon, and Animashree Anandkumar
Spacetime Surface Regularization for Neural Dynamic Scene Reconstruction
Int. Conf. on Computer Vision (**ICCV**), 2023
- [12] Joonghyuk Shin, Minguk Kang, and **Jaesik Park**
Fill-Up: Balancing Long-Tailed Data with Generative Models
2306.07200 (arXiv), 2023
- [13] Seoyeon Kim, Minguk Kang, and **Jaesik Park**
RISCLIP: Referring Image Segmentation Framework using CLIP
2306.08498 (arXiv), 2023
- [14] Seungwook Kim, Chunghyun Park, Yoonwoo Jeong, **Jaesik Park**, and Minsu Cho
Stable and Consistent Prediction of 3D Characteristic Orientation via Invariant Residual Learning
Int. Conf. on Machine Learning (**ICML**), 2023
- [15] Minguk Kang, Jun-Yan Zhu, Richard Zhang, **Jaesik Park**, Eli Shechtman, Sylvain Paris, and Taesung Park
Scaling up GANs for Text-to-Image Synthesis
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2023
(Accepted as a highlight paper (review score 5,5,5) - top 2.5% among 9,155 submissions)
- [16] Kwonyoung Ryu, Soonmin Hwang, and **Jaesik Park**
Instant Domain Augmentation for LiDAR Semantic Segmentation
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2023
- [17] Kanghee Lee, Junha Lee, and **Jaesik Park**
Learning to Register Unbalanced Point Pairs
3D Vision and Robotics **CVPR workshop**, 2023
- [18] Jinoh Cho, Minguk Kang, Vibhav Vineet, and **Jaesik Park**
Instance-Aware Image Completion
AI for Content Creation (AI4CC) **CVPR workshop**, 2023
- [19] Rongrong Gao, Tian-Zhu Xiang, Chenyang Lei, **Jaesik Park**, and Qifeng Chen
Scene-level Point Cloud Colorization with Semantic-and-Geometric-aware Networks
IEEE Int. Conf. on Robotics and Automation (**ICRA**), 2023
- [20] Seungjoo Shin*, Min Woo Kim*, Kyong Hwan Jin, Kwang Moo Yi, Yoshiki Kohmura, Tetsuya Ishikawa, Jung Ho Je, and **Jaesik Park**
Deep 3D Reconstruction of Synchrotron X-ray Computed Tomography for Intact Lungs
published by Nature Research (**Scientific Reports**), 2023
(*Equal contribution)

- [21] Seokjun Ahn, Jungtaek Kim, Minsu Cho, and **Jaesik Park**
Sequential Brick Assembly with Efficient Constraint Satisfaction
2210.01021 (arXiv), 2022
- [22] Hyomin Kim, Hyeonseo Nam, Jungeon Kim, **Jaesik Park**, and Seungyong Lee
LaplacianFusion: Detailed 3D Clothed-Human Body Reconstruction
ACM Special Interest Group on Graphics and Interactive Techniques (**SIGGRAPH Asia**), 2022
(Accepted as a journal track paper)
- [23] Yoonwoo Jeong*, Seungjoo Shin*, Junha Lee*, Christopher Choy, Animashree Anandkumar, Minsu Cho, and **Jaesik Park**
PeRFception: Perception using Radiance Fields
Conf. on Neural Information Processing Systems (**NeurIPS**) Datasets and Benchmarks Track, 2022
(*Equal contribution)
- [24] Nayeong Kim, Sehyun Hwang, Sungsoo Ahn, **Jaesik Park**, and Suha Kwak
Learning Debaised Classifier with Biased Committee
Conf. on Neural Information Processing Systems (**NeurIPS**), 2022
- [25] Seunghyuk Cho, Juyong Lee, **Jaesik Park**, and Dongwoo Kim
A Rotated Hyperbolic Wrapped Normal Distribution for Hierarchical Representation Learning
Conf. on Neural Information Processing Systems (**NeurIPS**), 2022
- [26] Seungwook Kim, Yoonwoo Jeong, Chunghyun Park, **Jaesik Park**, and Minsu Cho
SeLCA: Self-Supervised Learning of Canonical Axis
Symmetry and Geometry in Neural Representations (NeurReps), **NeurIPS workshop**, 2022
- [27] Jiye Kim, Seungbeom Lee, Dongwoo Kim, Sungsoo Ahn, and **Jaesik Park**
Substructure-Atom Cross Attention for Molecular Representation Learning
AI for Science: Progress and Promises (AI4Science) **NeurIPS workshop**, 2022
- [28] Juyong Lee*, Seokjun Ahn*, and **Jaesik Park**
Style-Agnostic Reinforcement Learning
European Conf. on Computer Vision (**ECCV**), 2022
(*Equal contribution)
- [29] Jaesung Choe*, Chunghyun Park*, Francois Rameau, **Jaesik Park**, and In So Kweon
PointMixer: MLP-Mixer for Point Cloud Understanding
European Conf. on Computer Vision (**ECCV**), 2022
(*Equal contribution)
- [30] Jaewon Kam, Jungeon Kim, Soongjin Kim, **Jaesik Park**, and Seungyong Lee
CostDCNet: Cost Volume based Depth Completion for a Single RGB-D Image
European Conf. on Computer Vision (**ECCV**), 2022
- [31] Jinhwi Lee, Jungtaek Kim, Hyunsoo Chung, **Jaesik Park**, and Minsu Cho
Learning to Assemble Geometric Shapes
Int. Joint Conf. on Artificial Intelligence (**IJCAI**), 2022
- [32] Hyunmin Lee and **Jaesik Park**
Instance-wise Occlusion and Depth Orders in Natural Scenes
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2022
- [33] Chunghyun Park, Yoonwoo Jeong, Minsu Cho, and **Jaesik Park**
Fast Point Transformer
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2022
- [34] Jaebong Jeong, Janghun Jo, Sunghyun Cho, and **Jaesik Park**
3D Scene Painting via Semantic Image Synthesis
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2022
- [35] Jungeon Kim, Hyomin Kim, Hyeonseo Nam, **Jaesik Park**, and Seungyong Lee
TextureMe: High-quality Textured Scene Reconstruction in Real-time
ACM Transactions on Graphics (**ToG**), 2022
(also presented at **SIGGRAPH2022**)

- [36] Jaesung Choe, Byeongin Joung, Francois Rameau, **Jaesik Park**, and In So Kweon
Deep Point Cloud Reconstruction
Int. Conf. on Learning Representations (**ICLR**), 2022
- [37] Jae Shin Yoon, Zhixuan Yu, **Jaesik Park**, and Hyun Soo Park
HUMBI: A Large Multiview Dataset of Human Body Expressions and Benchmark Challenge
Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2021
- [38] Junha Lee, Christopher Choy, and **Jaesik Park**
Putting 3D Spatially Sparse Networks on a Diet
2112.01316 (arXiv), 2021
- [39] Wei Dong*, Kwonyoung Ryu*, Michael Kaess, and **Jaesik Park**
Revisiting LiDAR Registration and Reconstruction: A Range Image Perspective
2112.02779 (arXiv), 2021
(*Equal contribution)
- [40] Jinsoo Choi, **Jaesik Park**, and In So Kweon
Self-Supervised Real-time Video Stabilization
British Machine Vision Conference (**BMVC**), 2021
- [41] Minguk Kang, Woohyeon Shim, Minsu Cho, and **Jaesik Park**
Rebooting ACGAN: Auxiliary Classifier GANs with Stable Training
Conf. on Neural Information Processing Systems (**NeurIPS**), 2021
- [42] Hyunsoo Chung, Jungtaek Kim, Boris Knyazev, Jinhwi Lee, Graham W. Taylor, **Jaesik Park**, and Minsu Cho
Brick-by-Brick: Combinatorial Construction with Deep Reinforcement Learning
Conf. on Neural Information Processing Systems (**NeurIPS**), 2021
- [43] Yoonwoo Jeong, Seokjun Ahn, Christopher Choy, Animashree Anandkumar, Minsu Cho, and **Jaesik Park**
Self-Calibrating Neural Radiance Fields
Int. Conf. on Computer Vision (**ICCV**), 2021
- [44] Junha Lee, Seungwook Kim, Minsu Cho, and **Jaesik Park**
Deep Hough Voting for Robust Global Registration
Int. Conf. on Computer Vision (**ICCV**), 2021
- [45] Hyomin Kim, Jungeon Kim, Jaewon Kam, **Jaesik Park***, and Seungyong Lee*
Deep Virtual Markers for Articulated 3D Shapes
Int. Conf. on Computer Vision (**ICCV**), 2021
(*Joint corresponding authors, **Oral** Presentation, 3.4% acceptance rate)
- [46] Hyunmin Lee and **Jaesik Park**
STAD: Stable Video Depth Estimation
IEEE Int. Conf. on Image Processing (**ICIP**), 2021
- [47] Taewon Jin, Taesoo Park, Ina Park, **Jaesik Park***, and Ji Hoon Shim*
Accelerated Crystal Structure Prediction of Multi-elements Random Alloy using Expandable Features
published by Nature Research (**Scientific Reports**), 2021
(*Joint corresponding authors)
- [48] Hyomin Kim, Jungeon Kim, Hyeonseo Nam, **Jaesik Park**, and Seungyong Lee
Spatiotemporal Texture Reconstruction for Dynamic Objects Using a Single RGB-D Camera
42nd Annual Conference of the European Association for Computer Graphics (**EuroGraphics**), 2021
- [49] Jinsoo Choi, **Jaesik Park**, and In So Kweon
High-quality Frame Interpolation via Tridirectional Inference
Winter Conf. on Applications of Computer Vision (**WACV**), 2021
- [50] Minguk Kang and **Jaesik Park**
ContraGAN: Contrastive Learning for Conditional Image Generation
Conf. on Neural Information Processing Systems (**NeurIPS**), 2020

- [51] Jungtaek Kim, Hyunsoo Chung, Minsu Cho, and **Jaesik Park**
Combinatorial 3D Shape Generation via Sequential Assembly
Machine Learning for Engineering Modeling, Simulation, and Design (ML4Eng), **NeurIPS workshop**, 2020
- [52] Jinhwi Lee*, Jungtaek Kim*, Hyunsoo Chung, **Jaesik Park**, and Minsu Cho
Fragment Relation Networks for Geometric Shape Assembly
Learning Meets Combinatorial Algorithms (LMCA), **NeurIPS workshop**, 2020
(*Equal contribution)
- [53] Zhixuan Yu, Jaeshin Yoon, Inkyu Lee, Prashanth Venkatesh, **Jaesik Park**, Jihun Yu, and Hyunsoo Park
HUMBI: A Large Multiview Dataset of Human Body Expressions
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2020
- [54] Christopher Choy, Junha Lee, Rene Ranftl, **Jaesik Park**, and Vladlen Koltun
High-Dimensional Convolutional Networks for Geometric Pattern Recognition
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2020
(**Oral Presentation**, 5.7% acceptance rate)
- [55] Yue Wu, Rongrong Gao, **Jaesik Park**, and Qifeng Chen
Future Video Synthesis with Object Motion Predictions
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2020
- [56] Christopher Choy*, **Jaesik Park***, and Vladlen Koltun
Fully Convolutional Geometric Features
Int. Conf. on Computer Vision (**ICCV**), 2019
(*Equal contribution)
- [57] Jungeon Kim, Hyomin Kim, **Jaesik Park**, and Seungyong Lee
Global Texture Mapping for Dynamic Objects
Pacific Graphics (**PG**), 2019
- [58] Wei Dong, **Jaesik Park**, Yi Yang, and Michael Kaess
GPU Accelerated Robust Scene Reconstruction
IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (**IROS**), 2019
- [59] Hae-Gon Jeon, **Jaesik Park**, Gyeongmin Choe, Jinsun Park, Yunsu Bok, Yu-Wing Tai, and In So Kweon
Depth from a Light Field Image with Learning-based Matching Costs
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2019
- [60] Maxim Tatarchenko*, **Jaesik Park***, Vladlen Koltun, and Qian-Yi Zhou
Tangent Convolutions for Dense Prediction in 3D
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2018
(*Equal contribution. **Spotlight Oral Presentation**)
- [61] Qian-Yi Zhou, **Jaesik Park**, and Vladlen Koltun
Open3D: A Modern Library For 3D Data Processing
1801.09847 (arXiv), 2018
- [62] Byungtae Ahn, Dong-Geol Choi, **Jaesik Park**, and In So Kweon
Real-time Head Pose Estimation using Multi-task Deep Neural Network
Robotics and Autonomous Systems (**RAS**), 2018
- [63] **Jaesik Park**, Qian-Yi Zhou, and Vladlen Koltun
Colored Point Cloud Registration Revisited
Int. Conf. on Computer Vision (**ICCV**), 2017
- [64] Arno Knapitsch, **Jaesik Park**, Qian-Yi Zhou, and Vladlen Koltun
Tanks and Temples: Benchmarking Large-Scale Scene Reconstruction
ACM Special Interest Group on Graphics and Interactive Techniques (**SIGGRAPH**), 2017
- [65] Gyeongmin Choe, **Jaesik Park**, Yu-Wing Tai, and In So Kweon
Refining Geometry from Depth Sensors using IR Shading Images
International Journal of Computer Vision (**IJCV**), 2017

- [66] Seong heum Kim, Yu Wing Tai, Joon Young Lee, **Jaesik Park**, and In So Kweon
Category Specific Salient View Selection via Deep Convolutional Neural Networks
Computer Graphics Forum (**CGF**), 2017
- [67] **Jaesik Park**, Sudipta N. Sinha, Yasuyuki Matsushita, Yu-Wing Tai, and In So Kweon
Robust Multiview Photometric Stereo using Planar Mesh Parameterization
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), 2016
- [68] Qian-Yi Zhou, **Jaesik Park**, and Vladlen Koltun
Fast Global Registration
European Conf. on Computer Vision (**ECCV**), 2016
(**Oral Presentation**, 1.8% acceptance rate)
- [69] **Jaesik Park**, Yu-Wing Tai, Sudipta N. Sinha, and In So Kweon
Efficient and Robust Color Consistency for Community Photo Collections
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2016
- [70] Hyowon Ha, Sunghoon Im, **Jaesik Park**, Hae-Gon Jeon, and In So Kweon
High-quality Depth from Uncalibrated Small Motion Clip
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2016
(**Oral Presentation**, 3.9% acceptance rate)
- [71] Inwook Shim, Seunghak Shin, Yunsu Bok, Kyungdon Joo, Dong-Geol Choi, Joon-Young Lee, **Jaesik Park**, Jun Ho Oh, and In So Kweon
Vision System and Depth Processing for DRC-HUBO+
IEEE Int. Conf. on Robotics and Automation (**ICRA**), 2016
(Depth processing algorithm of Team KAIST (winner of DARPA robotics challenge finals 2015))
- [72] Seong-Heum Kim, Yu-Wing Tai, **Jaesik Park**, and In So Kweon
Multi-view Object Extraction with Fractional Boundaries
IEEE Transaction on Image Processing (**TIP**), 2016
- [73] Hyowon Ha, **Jaesik Park**, and In So Kweon
Dense Depth and Albedo from a Single-shot Structured Light
Int. Conf. on 3D Vision (**3DV**), 2015
- [74] Hae-Gon Jeon, **Jaesik Park**, Gyeongmin Choe, Jinsun Park, Yunsu Bok, Yu-Wing Tai, and In So Kweon
Accurate Depth Map Estimation from a Lenslet Light Field Camera
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2015
- [75] SoonMin Hwang, **Jaesik Park**, Namil Kim, Yukyung Choi, and In So Kweon
Multi-modal Pedestrian Detection: Benchmark Dataset and Baselines
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2015
- [76] **Jaesik Park**, Hyeongwoo Kim, Yu-Wing Tai, Michael S. Brown, and In-So Kweon
High Quality Depth Map Upsampling and Completion for RGB-D Cameras
IEEE Transaction on Image Processing (**TIP**), 2014
- [77] Byungtae Ahn, **Jaesik Park**, and In So Kweon
Real-time Head Orientation from a Monocular Camera using Deep Neural Network
Asian Conf. on Computer Vision (**ACCV**), 2014
- [78] Jinsoo Choi, Byungtae Ahn, **Jaesik Park**, and In So Kweon
GMM-based Saliency Aggregation for Calibration-free Gaze Estimation
Int. Conf. on Image Processing (**ICIP**), 2014
- [79] Gyeongmin Choe*, **Jaesik Park***, Yu-Wing Tai, and In So Kweon
Exploiting Shading Cues in Kinect IR Images for Geometry Refinement
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2014
(*Equal contributions. Received 20th **HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp.)
- [80] **Jaesik Park**, Sudipta N. Sinha, Yasuyuki Matsushita, Yu-Wing Tai, and In So Kweon
Calibrating a Non-isotropic Near Point Light Source using a Plane
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2014

- [81] **Jaesik Park**, Sudipta N. Sinha, Yasuyuki Matsushita, Yu-Wing Tai, and In So Kweon
Multiview Photometric Stereo using Planar Mesh Parameterization
Int. Conf. on Computer Vision (**ICCV**), 2013
(Received 19th **HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp.)
- [82] **Jaesik Park**, Tae Hyun Oh, Jiyoung Jung, Yu-Wing Tai, and In So Kweon
Tensor Voting Approach for Multi-View 3D Scene-flow Estimation and Refinement
European Conf. on Computer Vision (**ECCV**), 2012
- [83] **Jaesik Park**, Joon-Young Lee, Yu-Wing Tai, and In So Kweon
Modeling Photo Composition and Its Application to Photo Re-arrangement
Int. Conf. on Image Processing (**ICIP**), 2012
- [84] **Jaesik Park**, Yu-Wing Tai, and In-So Kweon
Identigram/Watermark removal using cross-channel correlation
Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2012
- [85] Jiyoung Jung, Yekeun Jeong, **Jaesik Park**, Hyowon Ha, J. D. Kim, and In-So Kweon
A Novel 2.5D Pattern for Extrinsic Calibration of ToF and Camera Fusion System
IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (**IROS**), 2011
- [86] **Jaesik Park***, Hyeongwoo Kim*, Yu-Wing Tai, Michael S. Brown, and In-So Kweon
High Quality Depth Map Upsampling for 3D-TOF Cameras
Int. Conf. on Computer Vision (**ICCV**), 2011
(*Equal contributions)

Domestic

- [1] Nahyuk Lee, Juhong Min, Junha Lee, Seungwook Kim, Kanghee Lee, **Jaesik Park**, and Minsu Cho
3차원 기하학적 조립을 위한 효율적인 점 구름 매칭
제 36회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2024
- [2] Joonghyuk Shin, MinGuk Kang, and **Jaesik Park**
생성모델을 활용한 데이터 불균형 문제의 완화 기법
제 36회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2024
- [3] Seunguk Do, Gu Lee, and **Jaesik Park**
비디오로부터 효율적인 래디언스 필드 기반의 사람 아바타 복원
제 36회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2024
- [4] Kwonyoung Ryu, Jinmo Kim, Soonmin Hwang, and **Jaesik Park**
다시점 이미지와 회전형 라이더를 활용한 열린 어휘집합의 CLIP 특징점 생성과 3차원 의미론적 물체분할
제 36회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2024
- [5] Kanghee Lee and **Jaesik Park**
점 군집 정합을 위한 특이대응점 기반 구조적 매칭 기법
제 36회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2024
- [6] Dongmin You, Kanghee Lee, and **Jaesik Park**
Multi-way 3D Registration using a Transformer Network
한국인공지능학회 추계학술대회, Nov. 2023
- [7] Jiye Kim, Seungbeom Lee, Dongwoo Kim, Sungsoo Ahn, and **Jaesik Park**
분자 표현학습을 위한 하부구조 인식 그래프 트랜스포머
한국멀티미디어학회 추계학술대회, Nov. 2022
- [8] Kanghee Lee, Junha Lee, and **Jaesik Park**
비균등 점군집 정합을 위한 계층적인 매칭 모듈
한국멀티미디어학회 추계학술대회, Nov. 2022
- [9] Jinoh Cho, Minguk Kang, and **Jaesik Park**
맥락에 부합하는 영상 완성 기법
한국멀티미디어학회 추계학술대회, Nov. 2022

- [10] Seokjun Ahn, Jinwhi Lee, Jungtaek Kim, Suhyeon Jeong, Seungwook Kim, **Jaesik Park**, and Minsu Cho
탐색 알고리즘을 활용한 순차적 조각 조립
제 34회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2022
- [11] Jaewon Kam, Jungeon Kim, Soongjin Kim, **Jaesik Park**, and Seungyoung Lee
실내 깊이 완성을 위한 3D 합성곱 기반의 절두체 합성곱
제 34회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2022
- [12] Wonjun Jin, Soongjin Kim, **Jaesik Park**, Seungyoung Lee, and Sunghyun Cho
GC-NeRF: 형상 제약을 활용한 효율적인 NeRF 학습
제 34회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2022
- [13] Junha Lee, Seungwook Kim, Minsu Cho, and **Jaesik Park**
계층적 허프 변환을 통한 포인트 클라우드 정합
제 33회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2021
(Received The Gold Prize)
- [14] Hyunmin Lee and **Jaesik Park**
일관된 비디오 템스 맵 추정을 위한 시간 어텐션 모듈
제 33회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2021
(Received The Silver Prize)
- [15] Hyunsoo Chung, Jungtaek Kim, Jinhwi Lee, **Jaesik Park**, and Minsu Cho
강화학습을 이용한 그래프 표현 기반의 3차원 물체 생성
제 33회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2021
- [16] Jungeon Kim, Hyomin Kim, **Jaesik Park**, and Seungyong Lee
동적 객체에 대한 전역 텍스처 맵 생성
제 32회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2020
- [17] Jungeon Kim, Hyomin Kim, **Jaesik Park**, and Seungyong Lee
메시 피라미드를 활용한 3차원 비강체 모델 텍스처 맵 생성
한국컴퓨터그래픽스학회, July 2019
- [18] Min-Hyun Kim, **Jaesik Park**, and In So Kweon
깊이 영상 처리를 위한 학습기반 신뢰도 추정 및 재질 분류
제 27회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2014
- [19] Junsik Kim, Kyungdon Joo, Tae-Hyun Oh, **Jaesik Park**, and In So Kweon
시야 공유가 없는 다중 카메라를 이용한 사람 추적
제 27회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2014
- [20] SoonMin Hwang, **Jaesik Park**, Namil Kim, Yukyung Choi, and In So Kweon
컬러-열영상 퓨전을 통한 강인한 보행자 검출 기법
제 27회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2014
- [21] Hae-Gon Jeon, **Jaesik Park**, Gyeongmin Choe, Jinsun Park, Yunsu Bok, Yu-Wing Tai, and In So Kweon
마이크로 렌즈 기반의 휴대용 라이트필드 카메라를 이용한 정확한 깊이 정보 추정방법
한국멀티미디어학회 춘계학술발표대회, May 2014
(Received the Best Paper Award)
- [22] Gyeongmin Choe, **Jaesik Park**, Hyowon Ha, and In So Kweon
키넥트 깊이 정밀도 개선을 위한 적외선 패턴 영상의 스테레오 정합
2013년도 한국 멀티미디어 학회 춘계학술 발표대회 논문집 제 16권 1호, May 2013
- [23] **Jaesik Park**, Tae Hyun Oh, Jiyoung Jung, Yu-Wing Tai, and In So Kweon
다시점 영상기반 3차원 움직임 추정기법
제 25회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2013
- [24] **Jaesik Park**, Yu-Wing Tai, and In So Kweon
컬러 영상의 홀로그램 및 워터마크 제거 기법
제 25회 영상처리 및 이해에 관한 워크샵 (IPIU), Feb. 2013
(Received the Best Paper Award)

PROGRAM COMMITTEE

- **Area Chair**, Conf. on Neural Information Processing Systems (**NeurIPS**), 2024
- **Lead Area Chair**, European Conf. on Computer Vision (**ECCV**), 2024
- **Associate Editor**, Int. Conf. on Robotics and Automation (**ICRA**), 2024
- **Area Chair**, Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2024
- **Technical Papers Committee**, ACM (**SIGGRAPH Asia**), 2023
- **Area Chair**, Conf. on Neural Information Processing Systems (**NeurIPS**), 2023
- **Area Chair**, Int. Conf. on Computer Vision (**ICCV**), 2023
- **Associate Editor**, Int. Conf. on Robotics and Automation (**ICRA**), 2023
- **Area Chair**, Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2023
- **Area Chair**, European Conf. on Computer Vision (**ECCV**), 2022
- **Associate Editor**, IEEE Int. Conf. on Robotics and Automation (**ICRA**), 2022
- **Associate Editor**, IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (**IROS**), 2021
- **Area Chair**, Machine Vision Applications (MVA) conference, 2021
- **Area Chair**, Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2021
- **Area Chair**, Int. Conf. on Computer Vision (**ICCV**), 2021
- **Senior Program Committee**, Int. Joint Conf. on Artificial Intelligence (**IJCAI**), 2021
- **Senior Program Committee**, Assoc. for the Advancement of Artificial Intelligence (**AAAI**), 2021
- **Area Chair**, Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2020
- **Senior Program Committee**, Int. Joint Conf. on Artificial Intelligence (**IJCAI**), 2020
- **Area Chair**, Int. Conf. on Computer Vision (**ICCV**), 2019
- **Session Chair**, Int. Conf. on Computer Vision (**ICCV**), 2019
- Have been served as a reviewer for international conferences, such as **CVPR**, **ICCV**, **ECCV**, **ICLR**, **NeurIPS**, **AAAI**, **ICRA**, **IROS**, **SIGGRAPH**, **SIGGRAPH Asia**, **BMVC**, **3DV**, **ACCV**, **WACV**, and so on.
- Have been served as a reviewer for international journals, such as **TPAMI**, **TIP**, **TVCG**, **TRO**, **IJCV**, **CVIU**, **SPL**, **IVC**, **Neurocomputing**, and so on.

AWARDS

- **30th HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp., Feb. 2024
- **Representative ICT RnD Projects** in Recent Five Years (ICT RnD 사업 성과 중 우수과제), IITP (정보통신기획평가원), Republic of Korea, May 2022
- **CSE Young Scholar**, POSTECH Computer Science Engineering Department, Apr. 2022
- **Google Cloud Platform Credit Award**, Google LLC, USA, March 2022
- **28th HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp., Feb. 2022
- **Best EduTech Class Award**, POSTECH, *Awarded to the one online class among 480 classes*, Nov. 2021
- **Representative Research Achievements**, POSTECH, July 2021
- **Qualcomm Gift Grant**, Qualcomm Corporation, Dec. 2020
- **The 16th Samsung EM Paper Contest (Silver Prize)**, Samsung Electro-Mechanics, Dec. 2020
- **Outstanding Online Class**, Awarded to five classes among 170 classes, POSTECH, July 2020
- **Faculty Support Program**, Intel Corporation, June 2020

- **Google Season of Docs**, Google Corporation, *Technical writer support for Open3D*, Apr. 2019
- **Qualcomm Gift Grant**, Qualcomm Corporation, Sep. 2019
- Research Velocity Challenge Award, Intel Corporation, Dec. 2018
- Depth Estimation Challenge: Robustness Champion, CVPR workshop on Light Fields for Comp. Vis., July 2017
- **Qualcomm Innovation Award**, Qualcomm Korea Corp., March 2016
- CVPR 2015 Doctoral Consortium, IEEE CVPR, Apr. 2016
- **Honor Prize**, KAIST, *Annual Ph.D. Research Progress Evaluation*, May 2016
- Best Paper Award, Korea Multimedia Society, *2015 Spring Annual Conference*, May 2016
- **Honor Prize**, KAIST, *Annual Ph.D. Research Progress Evaluation*, May 2015
- **20th HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp., Feb. 2014
- **19th HumanTech Paper Award (Silver Prize)**, Samsung Electronics Corp., Feb. 2013
- Best Paper Award, 25th Workshop on Image Processing and Image Understanding (IPIU2013), Feb. 2013
- Bronze Prize, Samsung Techwin research center conference, Feb. 2012
- Excellent Intern Award, Microsoft Research Asia, Dec. 2012
- **Microsoft Research Asia Fellowship**, Microsoft, *Awarded to 11 Ph.D. students in the top Asian universities.*, Nov. 2011
- **Summa Cum Laude**, Hanyang University, *GPA 4.31/4.5*, Feb. 2009
- **Full Scholarship**, Jeong-Su Scholarship Foundation, Aug. 2006
- **Scholarship for Undergraduate Students**, The Korea Foundation for Advanced Studies (KFAS), June 2006
- **Full scholarship**, Hanyang University, Aug. 2005

PATENTS

- 손상된 이미지를 복원하는 방법, 이를 위한 장치, 및 이미지 재구성 방법, Patent No. 10-2023-0191340, Republic of Korea (Application granted)
- 대조 학습과 적대적 생성 신경망을 활용한 이미지 생성 및 편집 방법과 장치, Patent No. 10-2021-0076556, Republic of Korea (Application granted)
- Tangent Convolutions for 3D Data, US10572770B2, (Application granted)
- 깊이 정보 획득 장치 및 깊이 정보 획득 방법 (Depth Map Acquisition Device And Depth Map Acquisition Method), Patent No. 1018520850000, Republic of Korea, (Application granted)
- 삼차원 영상 정보 획득 방법 및 이를 구현한 컴퓨팅 장치 (Method For Acquiring Three Dimensional Image Information, And Computing Device Implementing The Same Method), Patent No. 1017652570000, Republic of Korea (Application granted)
- 전경 추출 방법 및 장치 (Foreground Area Extracting Method and Apparatus), Patent No. 10-2015-0084331, Republic of Korea.
- 다중 객체 추적 방법 및 이를 위한 장치 (Method Of Tracking Multiple Objects And Apparatus For The Same), Patent No. 10-2015-0070569, Republic of Korea
- 깊이 센서와 적외선 음영 영상을 이용한 고품질 3차원 정보 획득 장치 및 방법 (Device and method for obtaining accurate 3D information using depth sensor and infrared shading cues), Patent No. 1017079390000, Republic of Korea. (Application granted)
- 가려짐이 있는 환경에서 이동표적의 위치를 추정하는 방법 (Method for Estimating Location of Moving Target in Occluded Tracking Environment), Patent No. 1012883880000, Republic of Korea. (Application granted)
- 컬러 이미지의 채널간 상관관계를 이용하는 워터마크 제거 방법 (Method for removing watermark using cross-channel correlation of color image), Patent No. 1013952840000, Republic of Korea. (Application granted)

TEACHING

- 4190.407 Algorithm, Spring, 2024
- M2177.008600 Introduction to AI, Spring, 2024
- M3309.001800 Topics in Machine Learning: Basics and Applications on Generative AI, Fall, 2023
- CSED233 Data Structure, Spring, 2023
- AIGS537 Artificial Intelligence Data Science, Spring, 2023
- CSED703F Topics in AI: 3D Vision, Fall, 2022
- AIGS101 Artificial Intelligence Basis II, Fall, 2022
- CSED233 Data Structure, Spring, 2022
- AIGS101 Artificial Intelligence Basis I, Spring, 2022
- AIGS101 Artificial Intelligence Basis II, Fall, 2021
- CSED703F Topics in AI: 3D Vision, Fall, 2021
- AIGS101 Artificial Intelligence Basis I, Spring, 2021
- CSED538/AIGS538 Deep learning, **Awarded as the Best EduTech Class** by POSTECH, Spring, 2021
- AIGS101, Artificial Intelligence Basis II, Fall, 2020
- CSED100, Introduction to Computer Science Engineering, Fall, 2020
- CSED703F, 3D Vision, Fall, 2020
- CSED800/AIGS800, CSE/GSAI Colloquium, Fall, 2020
- AIGS101, Artificial Intelligence Basis I, Spring, 2020
- AIGS537/CSED537, Artificial Intelligence and Data Science Spring, Spring, 2020
- CSED233, Data Structure, **Awarded as the Outstanding Online Class** by POSTECH, Spring, 2020
- CSED703F-01 3D Vision, Fall, 2019

FUNDING

- *Compositional Video Synthesis from 4D layout guidance with LLM*, Microsoft Research Asia, IITP, 2024.05-2025.04
- 단일영상을 활용한 처음 보는 물체의 3차원 모양 복원, Hyundai Motor Group, 2023.09-2024.08
- 라이다 객체 검출 성능 개선을 위한 학습기술 개발, Hyundai Motor Group, 2023.06-2024.05
- 과학기술정보통신부, 실내외 장면을 위한 3차원 복원 및 인식, 중견연구자 지원사업, Ministry of Science and ICT, Republic of Korea, 2023.03-2026.02
- 과학기술정보통신부, 비정형 영상을 활용하는 cm급 오차공간 복원 기술, Ministry of Science and ICT, Republic of Korea, 2023.03-2025.12
- 효율적인 뉴럴 렌더링 모델 개발, Samsung Advanced Institute of Technology, 2022.12-2023.11
- 3D Point Cloud 기반의 환경 인식 기술 개발, LG Electronics, 2022.06-2022.12
- 일상의 다층적 시각상식에 기반한 시공간 이해 및 생성 인공지능 개발, IITP (정보통신기획평가원), Republic of Korea, 2022.04-2023.12
- 3D reconstruction system, Osstem Implant, Republic of Korea, 2022.07-2023.06
- *Discovering Visual Common Sense*, Qualcomm, USA, 2022.03-2023.03
- *High-fidelity 3D Reconstruction*, Intel Corp., USA, 2022.03-2023.03
- *Google Cloud Platform Credit Award*, Google LLC, USA, 2022.03
- 과학기술정보통신부, 인공지능혁신허브 연구개발, Ministry of Science and ICT, Republic of Korea, 2021.09-current

- *High-quality 3D reconstruction*, Osstem Implant, Republic of Korea, 2021.07-2021.12
- 문화체육관광부, 포스텍-한예중 문화기술선도대학원, Ministry of Culture, Sports and Tourism, Republic of Korea, 2021.06-2023.12
- *Camera localization*, Samsung Electronics Corp., 2021.05-2022.05
- 과학기술정보통신부, 시각적 상식에 기반한 영상 인페인팅, Ministry of Science and ICT, Republic of Korea, 2021.05-2024.05
- *LiDAR data augmentation*, Hyundai Motor Group, 2021.03-2021.09
- *InstaOrder dataset collection*, Select Star, Republic of Korea, 2021.03-2021.11
- *Team Open3D. Contributed Nearest Neighbor Module*, Intel Corp., USA, 2020.04-2022.02
- *3D content creation*, Microsoft Reserach Asia, People's Republic of China, 2020.06-2021.06
- *3D human capturing system*, ETRI, Republic of Korea, 2020.03-2020.10
- 과학기술정보통신부 신진연구자 지원사업 + 신진연구 최초혁신실험실, Ministry of Science and ICT, Republic of Korea, 2020.03-2023.03
- 과학기술정보통신부, 인공지능대학원 지원사업 (POSTECH), Ministry of Science and ICT, Republic of Korea, 2020.02-current
- *Geometric perception from videos and images*, Qualcomm Corp., USA, 2019.10-2021.10
- 포항공과대학교 신임교수 초기정착비, POSTECH, Republic of Korea, 2019.04-2022.02

TALKS

- *Social Speed Mentoring*, **ECCV 2024**, Milano, Italy, Sep. 2024
- *Radiance Field Reconstruction*, **KIA** motor company, Gwangmyeong, Republic of Korea, Aug. 2024
- *Radiance Field Reconstruction*, Koh Young Technology, Yongin, Republic of Korea, Aug. 2024
- 가우시안 스피드레이팅 기법의 발전 현황, 공간컴퓨팅을 위한 지능형 XR 기술 및 응용 워크숍, Seoul, RoK, July 2024
- *Tutorials on Radiance Field Reconstruction*, 한국컴퓨터그래픽스학회, Gyeongju, Republic of Korea, Feb. 2024
- *3D Scene Reconstruction, Representation, and Understanding*, 초세대연구실 개소 기념 특별 심포지엄, **KAIST**, Daejeon, Republic of Korea, Feb. 2024
- *Topics in 3D vision integrating AI modules*, **Hyundai Motor Group**, Virtual, Oct. 2023
- *Learning to Understand 3D Point Clouds*, 2023 Fall Workshop on Algorithms and Computation, **POSTECH**, Pohang, Republic of Korea, Oct. 2023
- *Towards NeRF at Scale*, Computing Frontier Summer School, **Seoul Nat. Univ.**, Republic of Korea, Aug. 2023
- *Storage Efficient Radiance Fields*, **ETRI**, Daejeon, Republic of Korea, July 2023
- *Social Speed Mentoring*, **CVPR 2023**, Vancouver, Canada, June 2023
- *Generative AI가 산업에 미치는 영향과 성장 전략 (패널)*, AI혁신허브콜로키엄, Jeju, Republic of Korea, May 2023
- *NeRF의 최신 기술 동향, 춘계 방송과 미디어 기술 워크숍*, Seoul, Republic of Korea, May 2023
- 컴퓨터 비전을 위한 딥러닝 프로그래밍, 사단법인 한국컴퓨터비전학회, Online Lecture, Feb. 2023
- 전자공학회 영상이해 연구회 겨울학교, 대한전자공학회, Hoengseong, Republic of Korea, Jan. 2023
- *3D Vision and Open3D*, **Seoul National University**, Seoul, Republic of Korea (offline+online), Oct. 2022
- *Object Detection from Images or Point Clouds*, **LG Electronics**, Seoul (online), Republic of Korea, Aug. 2022
- *Fast Point Transformer*, **Harvard University**, Boston, MA, USA (online), June 2022
- *Self-Calibrating Neural Radiance Fields*, **Seoul National University**, Seoul, Republic of Korea (online), Feb. 2022
- *Self-Calibrating Neural Radiance Fields*, **DGIST**, Daegu, Republic of Korea (online), Aug. 2021

- *Object Detection from Images or Point Clouds*, **LG Electronics**, Seoul, Republic of Korea, Aug. 2021
- *Self-Calibrating Neural Radiance Fields*, Korea Institute of Science and Technology (**KIST**), Virtual, June 2021
- *Mentor Session: How to Become a Professor*, **CVPR 2021**, Virtual, June 2021
- *Recent Work on Image Generation*, **GIST**, Gwangju, Republic of Korea (online), May 2021
- *Point Cloud Registration using Hierarchical Hough Transform*, 33rd Workshop on Image Processing and Image Understanding (**IPIU 2021**), Virtual, Feb. 2021
- *3D Representations and Detections*, Chungbuk University, Virtual, Jan. 2021
- *Introduction to Computer Vision*, **Kyungbuk Science High School**, Pohang, Republic of Korea, Aug. 2020
- *High-Dimensional Convolutional Networks for Geometric Pattern Recognition*, **KCCV 2020**, Seoul, Aug. 2020
- *Object Detection from Images or Point Clouds*, **LG Electronics**, Seoul, Republic of Korea, Aug. 2020
- *Geometric Pattern Recognition*, 32nd Workshop on Image Proc. and Image Understanding (**IPIU 2020**), Feb. 2020
- *Fully Convolutional Geometric Features*, Koh Young Technology, Yongin, Republic of Korea, Dec. 2019
- *Open3D Tutorial and Fully Convolutional Geometric Features*, **KETI**, Seongnam, Republic of Korea, Nov. 2019
- *Introduction to Computer Vision and Deep Learning*, **Daegu Science High School**, Aug. 2019
- *3D Computer Vision and Open3D*, Int. Conf. on Machine Vision Applications (**MVA**), Tokyo, Japan, May 2019
- *3D Computer Vision and Open3D*, **Qualcomm**, San Diego, USA, June 2019
- *3D reconstruction using Open3D*, Minneapolis, **University of Minnesota**, invited lecture for Multiview 3D Geometry in Computer Vision (CSCI 5980) Class, Apr. 2018
- *3D reconstruction using Open3D*, **Forma Technology** (acquired by **Snap Inc.**), San Francisco, USA, March 2018

OTHER WORKING EXPERIENCES

Post-Doc. Researcher	Daejeon, Republic of Korea
KAIST (<i>Mentor: Prof. In So Kweon</i>)	<i>Aug. 2015 – Nov. 2015</i>
Research Intern	Redmond, WA, USA
<i>Microsoft Research (MSR)</i> (<i>Mentor: Dr. Sudipta N. Sinha</i>)	<i>June 2013 – Sep. 2013</i>
Research Intern	Beijing, China
<i>Microsoft Research Asia (MSRA)</i> (<i>Mentor: Prof. Y. Matsushita</i>)	<i>April 2012 – Oct. 2012</i>

REFERENCE

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- Up on request.