# Jaesik Park

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

#### WORKING EXPERIENCES

Assistant Professor	Seoul, Republic of Korea
$CSE$ and $IPAI$ , Seoul National University $(\mathbf{SNU})$	Sep. 2023 - Present
• Principal Investigator of Visual and Geometric Intelligence Lab.	
Associate Professor	Pohang, Republic of Korea
CSE and $GSAI$ , Pohang University of Science and Technology ( <b>POSTECH</b> )	Sep. $2022 - Aug. \ 2023$
Assistant Professor	Pohang, Republic of Korea
CSE and GSAI, Pohang University of Science and Technology ( <b>POSTECH</b> )	April. 2019 – Aug. 2022
• Advised about 20 masters and Ph.D. students	
• Selected as one of the POSTECH's Representative Research Achievements (202	1)
• Received Outstanding Online Class Award (2020) and the Best EduTech Award	. (2021)
Staff Research Scientist	Santa Clara, CA, USA
Intelligent Systems Lab, Intel (Manager: Dr. Vladlen Koltun)	Dec. 2015 – March 2019
• Advised intern students from Stanford University, U.C. Berkeley, and Carnegie	Melon University
• Co-creator of Open3D: open-sourced 3D vision library that is built from scra	tch (10.8+1.8k GitHub stars)
EDUCATION	
Ph.D. and M.S. in Electrical Eng.	Daejeon, Republic of Korea
Korea Advanced Institute of Science and Technology (KAIST)	$Feb. \ 2009 - Aug. \ 2015$
• Ph.D. thesis: Image-based 3D Modeling via Constrained Optimization (Advisor:	Prof. In So Kweon, Co-advisor: Dr.

• Master's thesis: Upsampling Low-resolution Image using Heterogeneous High-resolution Image (Advisor: Prof. In So Kweon)

Seoul, Republic of Korea

March. 2005 - Feb. 2009

## B.E. in Media Communication Eng.

Hanyang University (Summa cum laude)

#### PUBLICATIONS

Yu-Wing Tai)

International

- Seokjun Ahn, Jungtaek Kim, Minsu Cho, and Jaesik Park Budget-Aware Sequential Brick Assembly with Efficient Constraint Satisfaction Transactions on Machine Learning Research (TMLR), 2024
- Joonghyuk Shin, Daehyeon Choi, and Jaesik Park
   InstantDrag: Improving Interactivity in Drag-based Image Editing
   ACM Special Interest Group on Graphics and Interactive Techniques (SIGGRAPH Asia), 2024
- [3] 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
- [4] 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
- [5] 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

- [6] 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)
- 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
- [8] 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
- [9] 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
- [10] 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)
- 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.)
- [12] 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
- [13] 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
- [14] Joonghyuk Shin, Minguk Kang, and Jaesik Park Fill-Up: Balancing Long-Tailed Data with Generative Models 2306.07200 (arXiv), 2023
- [15] Seoyeon Kim, Minguk Kang, and Jaesik Park RISCLIP: Referring Image Segmentation Framework using CLIP 2306.08498 (arXiv), 2023
- [16] 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
- [17] 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)
- [18] Kwonyoung Ryu, Soonmin Hwang, and Jaesik Park Instant Domain Augmentation for LiDAR Semantic Segmentation Int. Conf. on Computer Vision and Pattern Recognition (CVPR), 2023
- [19] Kanghee Lee, Junha Lee, and Jaesik Park Learning to Register Unbalanced Point Pairs
   3D Vision and Robotics CVPR workshop, 2023
- Jinoh Cho, Minguk Kang, Vibhav Vineet, and Jaesik Park Instance-Aware Image Completion
   AI for Content Creation (AI4CC) CVPR workshop, 2023

- [21] 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
- [22] 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)
- [23] Seokjun Ahn, Jungtaek Kim, Minsu Cho, and Jaesik Park Sequential Brick Assembly with Efficient Constraint Satisfaction 2210.01021 (arXiv), 2022
- [24] 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)
- [25] 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)
- [26] Nayeong Kim, Sehyun Hwang, Sungsoo Ahn, Jaesik Park, and Suha Kwak Learning Debiased Classifier with Biased Committee Conf. on Neural Information Processing Systems (NeurIPS), 2022
- [27] 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
- [28] 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
- [29] 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
- [30] Juyong Lee\*, Seokjun Ahn\*, and Jaesik Park Style-Agnostic Reinforcement Learning European Conf. on Computer Vision (ECCV), 2022 (\*Equal contribution)
- [31] 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)
- [32] 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
- [33] Jinhwi Lee, Jungtaek Kim, Hyunsoo Chung, Jaesik Park, and Minsu Cho Learning to Assemble Geometric Shapes Int. Joint Conf. on Artificial Intelligence (IJCAI), 2022
- [34] Hyunmin Lee and Jaesik Park
   Instance-wise Occlusion and Depth Orders in Natural Scenes
   Int. Conf. on Computer Vision and Pattern Recognition (CVPR), 2022

- [35] Chunghyun Park, Yoonwoo Jeong, Minsu Cho, and Jaesik Park Fast Point Transformer
   Int. Conf. on Computer Vision and Pattern Recognition (CVPR), 2022
- [36] 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
- [37] 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)
- [38] Jaesung Choe, Byeongin Joung, Francois Rameau, Jaesik Park, and In So Kweon Deep Point Cloud Reconstruction Int. Conf. on Learning Representations (ICLR), 2022
- [39] 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
- [40] Junha Lee, Christopher Choy, and Jaesik Park Putting 3D Spatially Sparse Networks on a Diet 2112.01316 (arXiv), 2021
- [41] Wei Dong\*, Kwonyoung Ryu\*, Michael Kaess, and Jaesik Park Revisiting LiDAR Registration and Reconstruction: A Range Image Perspective 2112.02779 (arXiv), 2021 (\*Equal contribution)
- [42] Jinsoo Choi, Jaesik Park, and In So Kweon Self-Supervised Real-time Video Stabilization British Machine Vision Conference (BMVC), 2021
- [43] 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
- [44] 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
- [45] 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
- [46] Junha Lee, Seungwook Kim, Minsu Cho, and Jaesik Park Deep Hough Voting for Robust Global Registration Int. Conf. on Computer Vision (ICCV), 2021
- [47] 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 corrresponding authors, Oral Presentation, 3.4% acceptance rate)
- [48] Hyunmin Lee and Jaesik Park STAD: Stable Video Depth Estimation IEEE Int. Conf. on Image Processing (ICIP), 2021
- [49] 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 corrresponding authors)

- [50] 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
- [51] Jinsoo Choi, Jaesik Park, and In So Kweon High-quality Frame Interpolation via Tridirectional Inference Winter Conf. on Applications of Computer Vision (WACV), 2021
- [52] Minguk Kang and Jaesik Park ContraGAN: Contrastive Learning for Conditional Image Generation Conf. on Neural Information Processing Systems (NeurIPS), 2020
- [53] 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
- [54] 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)
- [55] 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
- [56] 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)
- [57] 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
- [58] Christopher Choy\*, Jaesik Park\*, and Vladlen Koltun Fully Convolutional Geometric Features Int. Conf. on Computer Vision (ICCV), 2019 (\*Equal contribution)
- [59] Jungeon Kim, Hyomin Kim, Jaesik Park, and Seungyong Lee Global Texture Mapping for Dynamic Objects Pacific Graphics (PG), 2019
- [60] 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
- [61] 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
- [62] 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)
- [63] Qian-Yi Zhou, Jaesik Park, and Vladlen Koltun Open3D: A Modern Library For 3D Data Processing 1801.09847 (arXiv), 2018
- [64] 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

- [65] Jaesik Park, Qian-Yi Zhou, and Vladlen Koltun Colored Point Cloud Registration Revisited Int. Conf. on Computer Vision (ICCV), 2017
- [66] 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
- [67] 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
- [68] 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
- [69] 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
- [70] Qian-Yi Zhou, Jaesik Park, and Vladlen Koltun Fast Global Registration
   European Conf. on Computer Vision (ECCV), 2016 (Oral Presentation, 1.8% acceptance rate)
- [71] 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
- [72] 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)
- [73] 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))
- [74] 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
- [75] 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
- [76] 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
- [77] 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
- [78] 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
- [79] 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

- [80] 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
- [81] 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.)
- [82] 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
- [83] 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.)
- [84] 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
- [85] 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
- [86] 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
- [87] 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
- [88] 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 라이다를 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 뎁스 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 텍스쳐 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 텍스쳐 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 Artifical Intelligence Basis II, Fall, 2022
- CSED233 Data Structure, Spring, 2022
- AIGS101 Artifical Intelligence Basis I, Spring, 2022
- AIGS101 Artifical Intelligence Basis II, Fall, 2021
- CSED703F Topics in AI: 3D Vision, Fall, 2021
- AIGS101 Artifical Intelligence Basis I, Spring, 2021
- CSED538/AIGS538 Deep learning, Awarded as the Best EduTech Class by POSTECH, Spring, 2021
- AIGS101, Artifical 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, Artifical 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-한예종 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 스플래팅 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 Vison 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 Hierachical 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

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

• Up on request.