

# Jaesik Park

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Chungam-Ro 77, POSTECH, Pohang-Si, Republic of Korea (37673)

## WORKING EXPERIENCES

### Associate Professor

Pohang, Republic of Korea

*Pohang University of Science and Technology (POSTECH)*

*Sep. 2022 – Present*

- Co-principal investigator of Computer Vision Lab.
- Advising 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)
- 3D scene reconstruction, understanding, and assembly projects
- Proposed novel image generation pipelines: **StudioGAN** project (**3.2k GitHub stars**)
- 6.9k Google Scholar citations

### Assistant Professor

Pohang, Republic of Korea

*Pohang University of Science and Technology (POSTECH)*

*April. 2019 – Aug. 2022*

### Staff Research Scientist

Santa Clara, CA, USA

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

*Dec. 2015 – March 2019*

- **Co-creator of Open3D**: open-sourced 3D vision library that is built from scratch (**8.6+1.3k GitHub stars**)
- Tanks and Temples: an online evaluation system for photogrammetry methods
- High quality 3D reconstruction approaches
- Geometry understanding: tangent convolutions and fully convolutional geometric features
- Advised intern students from Stanford University, U.C. Berkeley, and Carnegie Mellon University

### Post-Doc. Researcher

Daejeon, Republic of Korea

*KAIST. Developed color correction algorithms (Mentor: Prof. In So Kweon)*

*Aug. 2015 – Nov. 2015*

### Research Intern

Redmond, WA, USA

*Microsoft Research. Developed a light calibration technique (Mentor: Dr. Sudepta N. Sinha)*

*June 2013 – Sep. 2013*

### Research Intern

Beijing, China

*Microsoft Research Asia. Multiview photometric stereo system (Mentor: Prof. Y. Matsushita)*

*April 2012 – Oct. 2012*

## 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. 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.

Seoul, Republic of Korea

*Hanyang University (Summa cum laude)*

*March. 2005 – Feb. 2009*

## PUBLICATIONS

### International

- [1] Joonghyuk Shin, Minguk Kang, and **Jaesik Park**  
*Fill-Up: Balancing Long-Tailed Data with Generative Models*  
2306.07200 (arXiv), 2023
- [2] Seungjoo Shin and **Jaesik Park**  
*Binary Radiance Fields*  
2306.07581 (arXiv), 2023
- [3] Seoyeon Kim, Minguk Kang, and **Jaesik Park**  
*RISCLIP: Referring Image Segmentation Framework using CLIP*  
2306.08498 (arXiv), 2023

- [4] 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
- [5] 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)
- [6] Kwonyoung Ryu, Soonmin Hwang, and **Jaesik Park**  
*Instant Domain Augmentation for LiDAR Semantic Segmentation*  
Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2023
- [7] Kanghee Lee, Junha Lee, and **Jaesik Park**  
*Learning to Register Unbalanced Point Pairs*  
3D Vision and Robotics **CVPR workshop**, 2023
- [8] Jinoh Cho, Minguk Kang, Vibhav Vineet, and **Jaesik Park**  
*Instance-Aware Image Completion*  
AI for Content Creation (AI4CC) **CVPR workshop**, 2023
- [9] 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
- [10] 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)
- [11] Seokjun Ahn, Jungtaek Kim, Minsu Cho, and **Jaesik Park**  
*Sequential Brick Assembly with Efficient Constraint Satisfaction*  
2210.01021 (arXiv), 2022
- [12] Hyomin Kim, Hyeonseo Nam, Jungeon Kim, **Jaesik Park**, and Seungyong Lee  
*LaplacianFusion: Detailed 3D Clothed-Human Body Reconstruction*  
ACM (**SIGGRAPH Asia**), 2022  
(Accepted as a journal track paper)
- [13] 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)
- [14] 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
- [15] 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
- [16] 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
- [17] 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

- [18] Juyong Lee\*, Seokjun Ahn\*, and **Jaesik Park**  
*Style-Agnostic Reinforcement Learning*  
 European Conf. on Computer Vision (**ECCV**), 2022  
 (\*Equal contribution)
- [19] 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)
- [20] 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
- [21] MinGuk Kang, Joonghyuk Shin, and **Jaesik Park**  
*StudioGAN: A Taxonomy and Benchmark of GANs for Image Synthesis*  
 2206.09479 (arXiv), 2022
- [22] Jinhwi Lee, Jungtaek Kim, Hyunsoo Chung, **Jaesik Park**, and Minsu Cho  
*Learning to Assemble Geometric Shapes*  
 Int. Joint Conf. on Artificial Intelligence (**IJCAI**), 2022
- [23] Hyunmin Lee and **Jaesik Park**  
*Instance-wise Occlusion and Depth Orders in Natural Scenes*  
 Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2022
- [24] Chunghyun Park, Yoonwoo Jeong, Minsu Cho, and **Jaesik Park**  
*Fast Point Transformer*  
 Int. Conf. on Computer Vision and Pattern Recognition (**CVPR**), 2022
- [25] 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
- [26] 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**)
- [27] Jaesung Choe, Byeongin Joung, Francois Rameau, **Jaesik Park**, and In So Kweon  
*Deep Point Cloud Reconstruction*  
 Int. Conf. on Learning Representations (**ICLR**), 2022
- [28] 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
- [29] Junha Lee, Christopher Choy, and **Jaesik Park**  
*Putting 3D Spatially Sparse Networks on a Diet*  
 2112.01316 (arXiv), 2021
- [30] Wei Dong\*, Kwonyoung Ryu\*, Michael Kaess, and **Jaesik Park**  
*Revisiting LiDAR Registration and Reconstruction: A Range Image Perspective*  
 2112.02779 (arXiv), 2021  
 (\*Equal contribution)
- [31] Jinsoo Choi, **Jaesik Park**, and In So Kweon  
*Self-Supervised Real-time Video Stabilization*  
 British Machine Vision Conference (**BMVC**), 2021
- [32] 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

- [33] 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
- [34] 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
- [35] Junha Lee, Seungwook Kim, Minsu Cho, and **Jaesik Park**  
*Deep Hough Voting for Robust Global Registration*  
Int. Conf. on Computer Vision (**ICCV**), 2021
- [36] 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)
- [37] Hyunmin Lee and **Jaesik Park**  
*STAD: Stable Video Depth Estimation*  
IEEE Int. Conf. on Image Processing (**ICIP**), 2021
- [38] 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)
- [39] 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
- [40] Jinsoo Choi, **Jaesik Park**, and In So Kweon  
*High-quality Frame Interpolation via Tridirectional Inference*  
Winter Conf. on Applications of Computer Vision (**WACV**), 2021
- [41] Minguk Kang and **Jaesik Park**  
*ContraGAN: Contrastive Learning for Conditional Image Generation*  
Conf. on Neural Information Processing Systems (**NeurIPS**), 2020
- [42] 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
- [43] 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)
- [44] 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
- [45] 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)
- [46] 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
- [47] Christopher Choy\*, **Jaesik Park\***, and Vladlen Koltun  
*Fully Convolutional Geometric Features*  
Int. Conf. on Computer Vision (**ICCV**), 2019  
(\*Equal contribution)

- [48] Jungeon Kim, Hyomin Kim, **Jaesik Park**, and Seungyong Lee  
*Global Texture Mapping for Dynamic Objects*  
Pacific Graphics (**PG**), 2019
- [49] 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
- [50] 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
- [51] 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)
- [52] Qian-Yi Zhou, **Jaesik Park**, and Vladlen Koltun  
*Open3D: A Modern Library For 3D Data Processing*  
1801.09847 (arXiv), 2018
- [53] 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
- [54] **Jaesik Park**, Qian-Yi Zhou, and Vladlen Koltun  
*Colored Point Cloud Registration Revisited*  
Int. Conf. on Computer Vision (**ICCV**), 2017
- [55] Arno Knapitsch, **Jaesik Park**, Qian-Yi Zhou, and Vladlen Koltun  
*Tanks and Temples: Benchmarking Large-Scale Scene Reconstruction*  
ACM Transactions on Graphics (**SIGGRAPH**), 2017
- [56] 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
- [57] 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
- [58] **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
- [59] Qian-Yi Zhou, **Jaesik Park**, and Vladlen Koltun  
*Fast Global Registration*  
European Conf. on Computer Vision (**ECCV**), 2016  
(**Oral** Presentation, 1.8% acceptance rate)
- [60] **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
- [61] 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)
- [62] 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))

- [63] 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
- [64] 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
- [65] 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
- [66] 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
- [67] **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
- [68] 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
- [69] 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
- [70] 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.)
- [71] **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
- [72] **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.)
- [73] **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
- [74] **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
- [75] **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
- [76] 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
- [77] **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)

- [1] Jiye Kim, Seungbeom Lee, Dongwoo Kim, Sungsoo Ahn, and **Jaesik Park**  
분자 표현학습을 위한 하부구조 인식 그래프 트랜스포머  
한국멀티미디어학회 추계학술대회, Nov. 2022
- [2] Kanghee Lee, Junha Lee, and **Jaesik Park**  
비균등 점군집 정합을 위한 계층적인 매칭 모듈  
한국멀티미디어학회 추계학술대회, Nov. 2022
- [3] Jinoh Cho, Minguk Kang, and **Jaesik Park**  
맥락에 부합하는 영상 완성 기법  
한국멀티미디어학회 추계학술대회, Nov. 2022
- [4] 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
- [5] 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
- [6] 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
- [7] 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)
- [8] 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)
- [9] 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
- [10] 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
- [11] Jungeon Kim, Hyomin Kim, **Jaesik Park**, and Seungyong Lee  
메시 피라미드를 활용한 3차원 비강체 모델 텍스처 맵 생성  
한국컴퓨터그래픽스학회, July 2019
- [12] 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
- [13] 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
- [14] 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
- [15] 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)

- [16] 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
- [17] **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
- [18] **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

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- **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

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- **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

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- 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

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- 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

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- 과학기술정보통신부 중견연구자 지원사업, Ministry of Science and ICT, Republic of Korea, 2023.03-2026.02
- *Efficient Neural Radiance Field*, Samsung Advanced Institute of Technology, 2022.12-2023.11
- *3D Perception for Intelligent Robots*, LG Electronics, 2022.06-2022.12
- *Multi-layered Visual Common Sense*, IITP (정보통신기획평가원), Republic of Korea, 2022.04-2026.12
- *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-current
- 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

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- 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*, Conf. on Computer Vision and Pattern Recognition (**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 (IPIU2021), 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, Republic of Korea, Aug. 2020
- *Object Detection from Images or Point Clouds*, **LG Electronics**, Seoul, Republic of Korea, Aug. 2020
- *Geometric Pattern Recognition*, 32nd Workshop on Image Processing and Image Understanding (**IPIU2020**), Feb. 2020
- *Fully Convolutional Geometric Features*, Koh Young Technology, Yongin, Republic of Korea, Dec. 2019
- *Open3D Tutorial and Fully Convolutional Geometric Features*, Korea Electronics Technology Institute (**KETI**), Seongnam, Republic of Korea, Nov. 2019
- *Introduction to Computer Vision and Deep Learning*, **Daegu Science High School**, Daegu, Republic of Korea, Aug. 2019
- *3D Computer Vision and Open3D*, Int. Conf. on Machine Vision Applications (**MVA**), Tokyo, Japan, May 2019
- *3D Computer Vision and Open3D*, **Qualcomm Head Quater**, 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** (now acquired by **Snap Inc.**), San Francisco, USA, March 2018

## REFERENCE

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- Up on request.