

Jeong Joon Park

Assistant Professor

Computer Science and Engineering,
University of Michigan, Ann Arbor, USA.

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🏠 <https://jjparkcv.github.io>

Education

University of Washington

Ph.D. in Computer Science and Engineering

Advisor: Prof. Steve Seitz

Seattle, WA
2015–2021

Thesis: *Towards Photo-Realistic 3D Reconstruction from Casual Scanning*

Committee: Steve Seitz, Ira Kemelmacher-Shlizerman, Qi Shan, Richard Szeliski

Apple PhD Fellowship in AI/ML (2020-2021)

UW Reality Lab Facebook Fellow (2018-2019)

California Institute of Technology

B.S. in Computer Science, graduated with Honor

Advisors: Pietro Perona, Mathieu Desbrun

Pasadena,
CA
2011–2015

Fully Funded by *Samsung Scholarship*

Professional Experience

University of Michigan, Assistant Professor.

Computer Science and Engineering

Ann Arbor, MI
08/2023 –

Stanford University, Postdoctoral Researcher.

Advisors: Leonidas Guibas, Gordon Wetzstein

Palo Alto, CA
09/2021 – 08/2023

Apple Inc. AI/ML Team, Research Intern. Explored neural representation and reconstruction for indoor scenes. Mentor: Qi Shan, Alex Colburn

Seattle, WA
06/2020 – 09/2020

Facebook Reality Labs, *Research Intern*. Research on developing new representations of geometry, material, and surface appearance.

Mentor: Steven Lovegrove and Richard Newcombe

Redmond, WA
06/2019 – 09/2019
06/2018 – 09/2018

Adobe Research, *Research Intern*. Research on Augmented Reality under dynamically changing lighting conditions. Mentor: Duygu Ceylan









San Jose, CA
06/2017 – 09/2017




Facebook, Inc., *Software Engineer Intern*. Developed front-end and back-end components of video thumbnail preview interface.

Menlo Park, CA
06/2015 – 09/2015

Publications (📄: clickable link)

- [P18] **This&That: Language-Gesture Controlled Video Generation for Robot Planning**
Boyang Wang, Nikhil Sridhar, Chao Feng, Mark Van der Merwe, Adam Fishman, Nima Fazeli, **Jeong Joon Park**
In Submission 📄
- [P17] **DiffusionPDE: Generative PDE-Solving Under Partial Observation**
Jiahe Huang, Guandao Yang, Zichen Wang, **Jeong Joon Park**
Oral presentation in 2024 ICML AI4Science Workshop (8 out of 250 submissions).
2024 Conference on Neural Information Processing Systems (NeurIPS) 📄
- [P17] **TC4D: Trajectory-Conditioned Text-to-4D Generation**
S. Bahmani, X. Liu, Y. Wang, I. Skorokhodov, V. Rong, Z. Liu, X. Liu, **JJ Park**, S. Tulyakov, G. Wetzstein, A. Tagliasacchi, D Lindell
2024 European Conference on Computer Vision (ECCV).
- [P16] **4D-fy: Text-to-4D Generation Using Hybrid Score Distillation Sampling**
Sherwin Bahmani, Ivan Skorokhodov, Victor Rong, Gordon Wetzstein, Leonidas Guibas, Peter Wonka, Sergey Tulyakov, **Jeong Joon Park**, Andrea Tagliasacchi, David Lindell.
2024 IEEE Computer Vision and Pattern Recognition (CVPR).
- [P15] **Generative Novel View Synthesis with 3D-Aware Diffusion Models**
Chris Rockwell, Nilesh Kulkarni, Linyi Jin, **Jeong Joon Park**, Justin Johnson, David F. Fouhey.
2024 IEEE Computer Vision and Pattern Recognition (CVPR).
Selected as a Highlight Paper
- [P14] **CurveCloudNet: Processing Point Clouds with 1D Structure**
Colton Stearns, Davis Rempe, Alex Fu, Jiateng Liu, Sebastien Mascha, **Jeong Joon Park**, Despoina Paschalidou, Leonidas Guibas.
2024 IEEE Computer Vision and Pattern Recognition (CVPR).
- [P13] **Generative Novel View Synthesis with 3D-Aware Diffusion Models**
Eric Chan*, Koki Nagano*, Matthew Chan*, Alexander Bergman*, **Jeong Joon Park***
Axel Levy, Miika Aittala, Shalini De Mello, Tero Karras, Gordon Wetzstein.
2023 IEEE International Conference on Computer Vision (ICCV). 📄
Oral Presentation

- [P12] **CC3D: Layout-Conditioned Generation of Compositional 3D Scenes**
Sherwin Bahmani*, **Jeong Joon Park***, Despoina Paschalidou, Xingguang Yan, Gordon Wetzstein, Leonidas Guibas, Andrea Tagliasacchi
2023 IEEE International Conference on Computer Vision (ICCV). 
- [P11] **LEGO-Net: Learning Regular Rearrangements of Objects in Rooms**
Qihong Anna Wei, Sijie Ding*, **Jeong Joon Park***, Rahul Sajjani, Adrien Poulencard, Srinath Sridhar, Leonidas Guibas.
2023 IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 
- [P10] **SinGRAF: Learning a 3D Generative Radiance Field for a Single Scene**
Minjung Son*, **Jeong Joon Park***, Leonidas Guibas, Gordon Wetzstein.
2023 IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 
- [P9] **ALTO: Alternating Latent Topologies for Implicit 3D Reconstruction**
Zhen Wang, Shijie Zhou, **Jeong Joon Park**, Despoina Paschalidou, Suyu You, Gordon Wetzstein, Leonidas Guibas, Achuta Kadambi.
2023 IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 
- [P8] **Generating Part-Aware Editable 3D Shapes without 3D Supervision**
Konstantinos Tertikas, Despoina Paschalidou, Boxiao Pan, **Jeong Joon Park**, Mikaela Angelina Uy, Ioannis Emiris, Yannis Avrithis, Leonidas Guibas.
2023 IEEE Conference on Computer Vision and Pattern Recognition (CVPR). 
- [P7] **3D-Aware Video Generation**
Sherwin Bahmani, **Jeong Joon Park**, Despoina Paschalidou, Hao Tang, Gordon Wetzstein, Leonidas Guibas, Luc Van Gool, Radu Timofte.
2023 Transactions on Machine Learning Research. 
- [P6] **StyleSDF: High-Resolution 3D-Consistent Image and Geometry Generation**
Roy Or-El, Xuan Luo, Mengyi Shan, Eli Shechtman, **Jeong Joon Park**, Ira Kemelmacher-Shlizerman.
2022 IEEE Conference on Computer Vision and Pattern Recognition (CVPR).
Oral Presentation (Top ~3%). 
- [P5] **BACON: Band-limited Coordinate Networks for Multiscale Scene Representation**
David B Lindell, Dave Van Veen, **Jeong Joon Park**, Gordon Wetzstein.
2022 IEEE Conference on Computer Vision and Pattern Recognition (CVPR).
Oral Presentation (Top ~3%). 

- Seeing the World in a Bag of Chips**
Jeong Joon Park, Aleksander Holynski, Steve Seitz.
 [P4] 2020 *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.
Oral Presentation (Top ~3%). 
 Covered by *WIRED* and *Scientific American*.
- DeepSDF: Learning Continuous Signed Distance Functions for Shape Representation**
Jeong Joon Park, Peter Florence, Julian Straub, Richard Newcombe, Steven Lovegrove.
 [P3] 2019 *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.
Oral Presentation (Top ~3%), **Best Paper Award Finalist**. 
- Surface Light Field Fusion**
Jeong Joon Park, Richard Newcombe, and Steve Seitz.
 [P2] 2018 *IEEE International Conference on 3D Vision (3DV)*.
Oral Presentation. 
- Prevalence and Recoverability of Syntactic Parameters in Sparse Distributed Memories**
Jeong Joon Park, Ronnel Boettcher, Andrew Zhao, Alex Mun, Kevin Yuh, Vibhor Kumar,
 [P1] Matilde Marcolli.
 2017 *International Conference on Geometric Science of Information*.

Patents

Realistically illuminated virtual objects embedded within immersive environments
Jeong Joon Park, Zhili Chen, Xin Sun, Vladimir Kim, Kalyan Sunkavalli, Duygu Ceylan
 U.S. Patent Number US10600239B2 (2020)

Awards & Honors

<i>Apple PhD Fellow in AI / ML</i>	2020–2021
<i>CVPR Best Paper Award Finalist</i>	2019
<i>UW Reality Lab Facebook Fellow</i>	2018–2019
Samsung Scholarship	2011–2015

Teaching Experience

Instructor, Computer Vision
 (EECS 442, University of Michigan). Winter 2024
 Main instructor for the undergraduate computer vision course of ~300 students

Instructor , <i>Advanced Topics in Computer Vision</i> (EECS 542, University of Michigan). Co-taught a course on graduate-level computer vision with Stella Yu	Fall 2023
Teaching Assistant , <i>Neural Models for 3D Geometry</i> . (CS348n, Stanford University). Gave a guest lecture; prepared and graded assignments; hosted office hours	Winter 2022
Teaching Assistant , <i>Data Structures and Algorithms</i> . (CSE373, University of Washington) Prepared and graded assignments; hosted office hours	Spring 2021
Teaching Assistant , <i>AR/VR Capstone</i> . (CSE 481V, University of Washington) Advised teams of undergraduate students to develop AR/VR applications	Spring 2020

Student Collaborations

Zichen Wang (University of Michigan, PhD Student)

Paul Yoo (University of Michigan, PhD Student)

Samir Agarwala (University of Michigan, PhD Student)

Liam Wang (University of Michigan, PhD Student, NSF Fellow)

Boyang Wang (University of Michigan, Master's Student)

Edward Li (University of Michigan, Intern)

Rishitha Gollamudi (University of Michigan, Master's Student)

Siddharth Rao Appala (University of Michigan, Master's Student)

Jinfan Zhou (University of Michigan, Master's Student)

Xuweiyi Chen (University of Michigan, Master's Student)

Chris Rockwell (University of Michigan, PhD Student. Co-advised with Justin Johnson and David Fouhey)

Congyue Deng (Stanford University, PhD Student)

Eric Chan (Stanford University, PhD Student)

Colton Stearns (Stanford University, PhD Student)

Sherwin Bahmani (TU Darmstadt, Master Student)

Qihong "Anna" Wei (Brown University, Undergraduate)

Rahul Sajnani (Brown University, PhD Student)

Sijie Ding (Stony Brook University, PhD Student)

Zhen Wang (UCLA, PhD student)
Shijie Zhou (UCLA, PhD student)
Roy Or-EI (University of Washington, PhD Student)

Service

Session Chair of Conference on Robots and Vision (CRV) 2024
Area Chair of 3DV 2024
Reviewer of CVPR, ICCV, SIGGRAPH, SIGGRAPH ASIA, 3DV

Thesis Committee:

Emily Bao (UMichigan CSE PhD, 2024)
Chris Rockwell (UMichigan CSE PhD, 2024)
Nilesh Kulkarni (UMichigan CSE PhD, 2023)
William Shen (Stanford CS PhD, 2023)

Invited Talks

Generative AI: From Theory to Scientific Applications. DiffusionPDE: Generative PDE-Solving Under Partial Observation Host: University of Michigan Mini-Symposium, Ann Arbor, MI	09/2024
Conference on Robots and Vision (CRV), Guelph, Ontario Towards Scene-Scale 3D Generations	05/2024
Samsung Advanced Institute of Technology, Seoul, South Korea (online talk) Learning to Re-create Reality in 3D Host: Minjung Son	03/2024
University of Michigan, Ann Arbor, MI Responsible AI, Responsibility of AI Host: UMichigan AI Symposium	10/2023
University of Michigan, Ann Arbor, MI 3D Generative Models for Medical Imaging Host: UMichigan AI for Medical Imaging Symposium	09/2023
Cornell University, Ithaca, NY Learning to Re-create Reality in 3D Host: Bharath Hariharan	04/2023
University of Michigan, Ann Arbor, MI	04/2023

Learning to Re-create Reality in 3D Host: Stella Yu	
Johns Hopkins, Baltimore, MD Learning to Re-create Reality in 3D Host: Alan Yuille	04/2023
Brown University, Providence, RI Learning to Re-create Reality in 3D Host: Srinath Sridhar	02/2023
Korea Advanced Institute of Science & Technology (KAIST), Daejeon, South Korea Learning to Re-create Reality in 3D Host: Minhyuk Sung	12/2022
Seoul National University AI Summer School, South Korea <i>3D Reconstruction and Synthesis for New Media</i> Host: Hanbyul Joo	08/2022
Stanford University, Palo Alto CA <i>Synthesizing Reality</i> Host: SHTeM: Summer Internships for High Schoolers and Community College (Guest Lecture to students from underrepresented communities)	06/2022
Apple Inc., Cupertino CA <i>Reconstructing Reality</i> Host: Apple Scholars in AI/ML	05/2021
CV/ML Grad Reality Workshop, University of Washington Gave a talk on 3D vision to college students from underrepresented community Host: UW Graphics Lab	04/2021
Stanford University, Palo Alto CA Reconstructing Reality Host: Leonidas Guibas, Gordon Wetzstein	01/2021
Massachusetts Institute of Technology, Cambridge Reconstructing Reality Host: Bill Freeman	07/2020
University of California, Berkeley <i>Reconstructing Reality</i> Host: Angjoo Kanazawa	09/2020
University of Washington, CSE 576, Guest Lecture.	05/2020

Depth Camera, 3D Reconstruction, and Applications
Host: Steve Seitz, Richard Szeliski, Harpreet Sawhney

NVIDIA Research, Seattle WA.

05/2019

DeepSDF: Learning Continuous SDFs for Shape Representation

Host: Dieter Fox