Aleksander Holynski
Curriculum Vitae

Updated May 2025
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Experience

University of California, Berkeley, Postdoctoral Scholar (w/ Alexei Efros, Angjoo Kanazawa) **2022-**

Google DeepMind, Staff Research Scientist **2024-**

Google DeepMind, Senior Research Scientist 2023 - 2024

Google Research, Research Scientist 2022 - 2023

Tooploox AI, Research Advisor 2018 - 2022

Facebook, Research Intern w/ Richard Szeliski. (See Publications [5]) 2018

Facebook Visiting Researcher, Computational Photography Group 2017 - 2018

Facebook, Research Intern w/ Johannes Kopf. (See Publications [3]) 2017

Google, Research Intern w/ Carlos Hernandez, Changchang Wu 2016

Qualcomm Research & Development, Research Intern Image Processing Algorithms 2014

Qualcomm Innovation Center, Intern, Digital Signal Processing 2013

Qualcomm Inc., Intern, Camera Sensor Drivers & Algorithms 2012

Education

University of Washington 2014 - 2022
Ph.D. in Computer Science and Engineering
Advised by Steve Seitz, Richard Szeliski, Brian Curless

University of Illinois at Urbana-Champaign 2011 - 2014
B.S. in Computer Science with High Honors
Advisors: Robin Kravets, Svetlana Lazebnik

Publications

[37] S. Szymanowicz, J. Zhang, P. Srinivasan, R. Gao, A. Brussee, **A. Holynski**, R. Brualla, J. Barron, P. Henzler, "Bolt3D: Generating 3D Scenes in Seconds" in arXiv, 2025

[36] C. Feng, Z. Chen, **A. Holynski**, A.A. Efros, A. Owens, "GPS as a Control Signal for Image Generation" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2025

[35] Q. Wang*, Y. Zhang*, **A. Holynski**, A. Efros, A. Kanazawa, "Continuous 3D Perception Model with Persistent State" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2025, ***(Oral)***

[34] L. Jin, R. Tucker, Z. Li, D. Fouhey, N. Snavely*, **A. Holynski***, "Stereo4D: Learning How Things Move in 3D from Internet Stereo Videos" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Oral)***

[33] Z. Li, R. Tucker, F. Cole, Q. Wang, L. Jin, V. Ye, A. Kanazawa, **A. Holynski**, N. Snavely, "MegaSaM: Accurate, Fast and Robust Structure and Motion from Casual Dynamic Videos" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Oral)***

[32] A. Trevithick, R. Paiss, P. Henzler, D. Verbin, R. Wu, H. Alzayer, R. Gao, B. Poole, J. Barron, **A. Holynski**, R. Ramamoorthi, P. Srinivasan, "SimVS: Simulating World Inconsistencies for Robust View Synthesis" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[31] R. Wu, R. Gao, B. Poole, A. Trevithick, C. Zheng, J. Barron, **A. Holynski**, "CAT4D: Create Anything in 4D with Multi-View Video Diffusion Models" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Oral)***

[30] X. Wang, B. Zhou, B. Curless, I. Kemelmacher, **A. Holynski**, S. Seitz, "Generative Inbetweening: Adapting Image-to-Video Models for Keyframe Interpolation" in International Conference on Learning Representations (ICLR), 2025

[29] J. Ma, E. Lu, R. Paiss, S. Zada, **A. Holynski**, T. Dekel, B. Curless, M. Rubinstein, F. Cole, "VidPanos: Generative Panoramic Videos from Casual Panning Videos" in SIGGRAPH Asia, 2024

[28] I. Siglidis, **A. Holynski**, A.A. Efros, M. Aubry, S. Ginosar, "Diffusion Models as Data Mining Tools" in European Conference on Computer Vision (ECCV), 2024

[27] D. McAllister, S. Ge, J.B. Huang, D.W. Jacobs, A.A. Efros, **A. Holynski**, A. Kanazawa, "Rethinking Score Distillation as a Bridge Between Image Distributions" in Advances in Neural Information Processing Systems (NeurIPS), 2024

[26] Y. Wang, **A. Holynski**, B. Curless, S. Seitz, "Infinite Texture: Text-guided High Resolution Diffusion Texture Synthesis", in arXiv, 2024

[25] R. Gao*, **A. Holynski***, P. Henzler, A. Brussee, R. Martin-Brualla, P. Srinivasan, J. Barron, B. Poole*, "CAT3D: Create Anything in 3D With Multi-View Diffusion Models", in Advances in Neural Information Processing Systems (NeurIPS), 2024, ***(Oral)***

[24] Z. Li, R. Tucker, N. Snavely, **A. Holynski**, "Generative Image Dynamics" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Oral, Best Paper Award)***

[23] S. Jain, D. Watson, **A. Holynski**, E. Tabellion, B. Poole, J. Kontkanen, "Video Interpolation with Diffusion Models" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[22] D. Epstein, B. Poole, B. Mildenhall, A. Efros, **A. Holynski**, "Disentangled 3D Scene Generation with Layout Learning", in International Conference on Machine Learning (ICML), 2024

[21] M.L. Shih, W.C. Ma, L. Boyice, **A. Holynski**, F. Cole, B. Curless, J. Kontkanen, "ExtraNeRF: Visibility-Aware View Extrapolation of Neural Radiance Fields with Diffusion Models" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[20] R. Wu*, B. Mildenhall*, P. Henzler, R. Gao, K. Park, D. Watson, P.P. Srinivasan, D. Verbin, J.T. Barron, B. Poole, **A. Holynski***, "ReconFusion: 3D Reconstruction with Diffusion Priors" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[19] G. Luo, T. Darrell, O. Wang, DB Goldman, **A. Holynski**, "Readout Guidance: Learning Control from Diffusion Features" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Highlight)***

[18] E. Weber, **A. Holynski**, V. Jampani, S. Saxena, N. Snavely, A. Kar, A. Kanazawa, "NeRFiller: Completing Scenes via Generative 3D Inpainting" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024

[17] X. Wang, J. Kontkanen, B. Curless, S. Seitz, I. Kemelmacher, B. Mildenhall, P.P. Srinivasan, D. Verbin, **A. Holynski**, "Generative Powers of Ten" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2024, ***(Highlight)***

[16] R. Po, W. Yifan, V. Golyanik, K. Aberman, J. T. Barron, A. Bermano, E. Chan, T. Dekel, **A. Holynski**, A. Kanazawa, C. K. Liu, L. Liu, B. Mildenhall, M. Niessner, B. Ommer, C. Theobalt, P. Wonka, G. Wetzstein, "State of the Art on Diffusion Models for Visual Computing" in Eurographics, 2024

[15] L. Tang, N. Ruiz, Q. Chu, Y. Li, **A. Holynski**, D.E. Jacobs, B. Hariharan, Y. Pritch, N. Wadhwa, K. Aberman, M. Rubinstein, "RealFill: Reference-Driven Generation for Authentic Image Completion" in SIGGRAPH, 2024

[14] Q. Wang, Y. Chang, R. Cai, Z. Li, B. Hariharan, **A. Holynski**, N. Snavely, "Tracking Everything Everywhere All at Once" in IEEE International Conference on Computer Vision (ICCV), 2023, ***(Oral, Best Student Paper Award)***,

[13] D. Epstein, A. Jabri, B. Poole, A.A. Efros, **A. Holynski**, "Diffusion Self-Guidance for Controllable Image Generation" in Advances in Neural Information Processing Systems (NeurIPS), 2023

[12] G. Luo, L. Dunlap, S.D.H. Park, **A. Holynski**, T. Darrell, "Diffusion Hyperfeatures: Searching Through Time and Space for Semantic Correspondence" in Advances in Neural Information Processing Systems (NeurIPS), 2023

[11] A. Haque, M. Tancik, A.A. Efros, **A. Holynski**, A. Kanazawa, "Instruct-NeRF2NeRF: Editing 3D Scenes with Instructions" in IEEE International Conference on Computer Vision (ICCV), 2023, ***(Oral)***

[10] F. Warburg*, E. Weber*, M. Tancik, **A. Holynski**, A. Kanazawa, "Nerfbusters: Removing Ghostly Artifacts from Casually Captured NeRFs" in IEEE International Conference on Computer Vision (ICCV), 2023

[9] J. Karras, **A. Holynski**, T. Wang, I. Kemelmacher, "DreamPose: Fashion Image-to-Video Synthesis via Stable Diffusion" in IEEE International Conference on Computer Vision (ICCV), 2023

[8] T. Brooks*, **A. Holynski***, A.A. Efros, "InstructPix2Pix: Learning to Follow Image Editing Instructions" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023, ***(Highlight)***

[7] Y. Wang, **A. Holynski**, X. Zhang, X. Zhang, "SunStage: Portrait Reconstruction and Relighting using the Sun as a Light Stage" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2023

[6] **A. Holynski**, B. Curless, S.M. Seitz, R. Szeliski, "Animating Pictures with Eulerian Motion Fields" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021, ***(Oral)***

[5] **A. Holynski**, D. Geraghty, J.M. Frahm, C. Sweeney, R. Szeliski, "Reducing Drift in Structure from Motion using Extended Features" in International Conference on 3D Vision (3DV), 2020, ***(Oral)***

[4] J.J. Park, **A. Holynski**, S.M. Seitz, "Seeing the World in a Bag of Chips" in IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020, ***(Oral)***

[3] **A. Holynski**, J. Kopf, "Fast Depth Densification for Occlusion-aware Augmented Reality" in ACM Transactions on Graphics (SIGGRAPH Asia), 2018

[2] C. Sweeney, **A. Holynski**, B. Curless, S.M. Seitz, "Structure from Motion for Panorama-Style Videos" in arXiv, 2018

[1] A. Khosrowpour, I. Fedorov, **A. Holynski**, J.C. Niebles, M. Golparvar-Fard, "Automated Worker Activity Analysis in Indoor Environments for Direct Work Rate Improvement from long sequences of RGBD Images" in Construction Research Congress (CRC), 2014

Product Impact

Veo 3: Google DeepMind's state-of-the-art video generation model, now with audio!	2025
Veo 2: Google DeepMind's state-of-the-art video generation model	2024
Google Search 360-Spin: AI-generated 360-degree spins around products on Google Search	2024

Awards & Honors

CVPR Oral (top 0.7% of submissions) for "Stereo4D: [...]"	2025
CVPR Oral (top 0.7% of submissions) for "MegaSAM: [...]"	2025
CVPR Oral (top 0.7% of submissions) for "Continuous 3D [...]"	2025
CVPR Oral (top 0.7% of submissions) for "CAT4D: [...]"	2025
NeurIPS Oral (top 0.4% of submissions) for "CAT3D: [...]"	2024
CVPR **Best Paper Award** for "Generative Image Dynamics"	2024
CVPR Oral (top 0.8% of submissions) for "Generative Image Dynamics"	2024
CVPR Highlight (top 2.8% of submissions) for "Readout Guidance: ..."	2024
CVPR Highlight (top 2.8% of submissions) for "Generative Powers of Ten"	2024
ICCV **Best Student Paper Award** for "Tracking Everything Everywhere All at Once"	2023
ICCV Oral (top 1.8% of submissions) for "Tracking Everything Everywhere All at Once"	2023
ICCV Oral (top 1.8% of submissions) for "Instruct-NeRF2NeRF: ..."	2023
CVPR Highlight (top 2.6% of submissions) for "InstructPix2Pix: ..."	2023
CVPR Oral (top 4.1% of submissions) for "Animating Pictures ..."	2021
3DV Oral (top 13% of submissions) for "Reducing Drift ..."	2020
CVPR Oral (top 5.7% of submissions) for "Seeing the World in a Bag of Chips"	2020
University of Washington Reality Lab Fellowship	2018 - 2022
Runner-up, Pacific Northwest ACM ICPC	2014
Leach/Winokur Endowed Fellowship in Computer Science & Engineering	2014 - 2015
Achievement Rewards for College Scientists (ARCS) Fellowship	2014 - 2016
University of Illinois Edmund J. James Scholar	2011 - 2014
University of Illinois College of Engineering Dean's List	2011 - 2014

Teaching

CS 180 Computer Vision & Computational Photography, UC Berkeley (Guest Lecture)	2024
CS184/284A Computer Graphics and Imaging, UC Berkeley (Guest Lecture)	2024
CS 280 Graduate Computer Vision, UC Berkeley (Guest Lecture)	2024
CS 194-173 Learning for 3D Vision, UC Berkeley (Guest Lecture)	2023
CSE576 Computer Vision, University of Washington (Guest Lecture)	2020
CSE576 Computer Vision, University of Washington (Graduate Student Instructor)	2020
CSE481V AR/VR Capstone, University of Washington (Graduate Student Instructor)	2019
CS398 Computer Architecture, University of Illinois (Teaching Assistant)	2013 - 2014
CS125 Intro. to Computer Science, University of Illinois (Teaching Assistant)	2012

Academic Service

Volunteer:

ICCV DEI Committee	2023

Reviewer:

SIGGRAPH, SIGGRAPH Asia, TOG, TVCG, CVPR, ECCV, ICCV, 3DV	2014-

Area Chair:

ICLR	2025

Organizer:

Workshop on "4D Vision", CVPR	2025
Workshop on "The Future of Generative Visual Art", CVPR	2024

Student Collaborators & Interns

Haian Jin @ Google DeepMind.	2025
Kyle Sargent @ Google DeepMind.	2025
Ale Escontrela @ Google DeepMind.	2024
Stan Szymanowicz @ Google DeepMind.	2024
David Charatan @ Google DeepMind.	2024
Linyi Jin, Research Intern @ Google DeepMind. See Publications [34].	2024
Alex Trevithick @ Google DeepMind. See Publications [32].	2024
David McAllister @ UC Berkeley. See Publications [27].	2024
Rundi Wu, Research Intern @ Google Research. See Publications [20,31].	2023, 2024
Ethan Weber @ Google Research. See Publications [18].	2023
Luming Tang @ Google Research. See Publications [15].	2023
Dave Epstein, Research Intern @ Google Research. See Publications [13,23].	2023
Grace Luo, Research Intern @ Google Research. See Publications [19].	2023
Xiaojuan Wang, Research Intern @ Google Research. See Publications [17].	2023
Qianqian Wang, Research Intern @ Google Research. See Publications [14].	2022
Meng-Li Shih, Research Intern @ Google Research. See Publications [21].	2022
Yifan Wang @ University of Washington. See Publications [7].	2022
Johanna Karras @ University of Washington. See Publications [9].	2022
Jingwei Ma @ University of Washington, Google Research.	2022

Graduate Committees Served

Rundi Wu, PhD, Columbia University	May 2025
Orr Avrech, Masters, Columbia University	Apr 2025
Yifan Wang, PhD, University of Washington	Jun 2024

Departmental Service

Graduate Admissions Committee, UC Berkeley	2023-2025

Invited Talks

"How I Learned to Stop Worrying and Love the (3D) Data Monster"
Stanford University — Oct 2024

"CAT3D: Create Anything in 3D with Multi-View Diffusion Models"
CVPR 2024 Workshop on AI for 3D Generation — Jun 2024

"How I Learned to Stop Worrying and Love the Data Monster"
University of British Columbia — Apr 2024
UT Austin — Mar 2024
Columbia University — Mar 2024
TTI Chicago — Mar 2024
ELLIS Institute Tübingen — Mar 2024
University of California, Berkeley — Feb 2024

"Generative Models As Creative Tools: What's Next?"
NeurIPS 2023 Workshop on Machine Learning for Creativity and Design — Dec 2023

"Generative Models for Visual Creation"
Warsaw Institute of Technology, Poland — Oct 2023

"Diffusion Priors for Creation and Editing"
Bay Area Computer Vision Day, Stanford — Sep 2023

"2D Generative Priors for 3D"
Summit for Understanding the Real World, Mountain View, CA — Aug 2023

"Language-grounded Visual Manipulation"
CVPR 2023 6th Multimodal Learning and Applications Workshop — Jun 2023

"Tracking Everything Everywhere All At Once"
Google Computer Vision Talk Series — May 2023

"InstructPix2Pix: Learning to Follow Image Editing Instructions"
VISTEC Graduate Institute, Thailand — Mar 2023
Google Vision-Language Seminar — Feb 2023

"Augmenting Visual Memories"
NVIDIA — Nov 2021
Massachusetts Institute of Technology — Oct 2021
Adobe Research — Oct 2021
Apple — Oct 2021
Facebook — Oct 2021
Google Research — Sep 2021
UC Berkeley — Aug 2021

Etc

Languages:

English (fluent, technical), Spanish (fluent, technical), Farsi (fluent), French (conversational), Polish (conversational)

Programming:

C/C++, Python, OpenGL, PyTorch, Jax

Misc Projects:

Holoscanner: Gamified 3D Scanning (link)