

EDUCATION & EXPERIENCE

University of California, Berkeley <i>Postdoctoral Scholar</i> w/ Alexei A. Efros, Angjoo Kanazawa	2022-
Google Research , Seattle, WA <i>Research Scientist</i>	2022-
University of Washington <i>Ph.D. in Computer Science and Engineering</i> Advisors: Steve Seitz, Richard Szeliski, Brian Curless, Thesis: "Augmenting Visual Memories"	2014 - 2022
Tooploox AI , Warsaw, PL <i>Research Advisory Board</i>	2018 - 2022
Facebook , Seattle, WA <i>Research Intern</i> w/ Richard Szeliski. See Publications [5].	2018
Facebook , Seattle, WA <i>Visiting Researcher</i> , Computational Photography Group	2017 - 2018
Facebook , Seattle, WA <i>Research Intern</i> w/ Johannes Kopf. See Publications [3].	2017
Google , Seattle, WA <i>Research Intern</i> w/ Carlos Hernandez, Changchang Wu	2016
University of Illinois at Urbana-Champaign <i>B.S. in Computer Science with High Honors</i> Advisors: Robin Kravets, Svetlana Lazebnik	2011 - 2014
Qualcomm Research & Development , San Diego, CA <i>Research Intern</i> , Image Processing Algorithms	2014
Qualcomm Innovation Center , San Diego, CA <i>Intern</i> , Digital Signal Processing	2013
Qualcomm Inc. , San Diego, CA <i>Intern</i> , Camera Sensor Drivers & Algorithms	2012

PUBLICATIONS

- [17] 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 *arXiv*, 2023
- [16] 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 *arXiv*, 2023
- [15] Z. Li, R. Tucker, N. Snavely, **A. Holynski**, "Generative Image Dynamics" in *arXiv*, 2023

- [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
- [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
- [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

AWARDS & HONORS

ICCV Best Student Paper Award	2023
for "Tracking Everything Everywhere All at Once"	
ICCV Oral (top 1.8% of submissions)	2023
for "Tracking Everything Everywhere All at Once"	
ICCV Oral (top 1.8% of submissions)	2023
for "Instruct-NeRF2NeRF: Editing 3D Scenes with Instructions"	
CVPR Highlight (top 2.6% of submissions)	2023
for "InstructPix2Pix: Learning to Follow Image Editing Instructions"	
CVPR Oral (top 4.1% of submissions)	2021
for "Animating Pictures with Eulerian Motion Fields"	
3DV Oral (top 13% of submissions)	2020
for "Reducing Drift in Structure from Motion using Extended Features"	

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

Guest Lecturer, CS 194-173 Learning for 3D Vision, UC Berkeley	2023
Guest Lecturer, CSE576 Computer Vision, University of Washington	2020
Teaching Assistant, CSE576 Computer Vision, University of Washington	2020
Teaching Assistant, CSE481V AR/VR Capstone, University of Washington	2019
Teaching Assistant, CS398 Computer Architecture, University of Illinois	2013 - 2014
Teaching Assistant, CS125 Intro. to Computer Science, University of Illinois	2012

ACADEMIC SERVICE

Volunteer: ICCV’23 DEI Review Committee

Reviewer: SIGGRAPH, SIGGRAPH Asia, Transactions on Graphics (TOG), Transactions on Visualization and Computer Graphics (TVCG), IEEE Conference on Computer Vision and Pattern Recognition (CVPR), European Conference on Computer Vision (ECCV), International Conference on 3D Vision (3DV)

STUDENT COLLABORATORS & INTERNS

Qianqian Wang, Research Intern @ Google Research. See Publications [14].	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. See Publications [27].	2022
Dave Epstein, Research Intern @ Google Research. See Publications [13].	2023
Grace Luo, Research Intern @ Google Research. See Publications [25].	2023
Xiaojuan Wang, Research Intern @ Google Research. See Publications [20].	2023
Luming Tang @ Google Research. See Publications [16].	2023
Rundi Wu, Research Intern @ Google Research. See Publications [26].	2023

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](#))

INVITED TALKS

“Generative Models for Visual Creation”

Warsaw Institute of Technology, Poland, October 2023

“Diffusion Priors for Creation and Editing”

Bay Area Computer Vision Day, Stanford, September 2023

“2D Generative Priors for 3D”

Summit for Understanding the Real World, August 2023

“Language-grounded Visual Manipulation”

CVPR 2023 6th Multimodal Learning and Applications Workshop, June 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, March 2023

Google Vision-Language Seminar, February 2023

“Augmenting Visual Memories”

NVIDIA, November 2021

MIT, October 2021

Adobe Research, October 2021

Apple, October 2021

Facebook, October 2021

Google Research, September 2021

UC Berkeley, August 2021