

Xuaner (Cecilia) Zhang

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Employment

Adobe Inc

2020 - Present

Research Scientist

San Jose, CA

Computational Photography, Generative Modeling (and Personalization), Image-based Rendering

Education

Ph.D. in Computer Science **University of California, Berkeley**

2015 - 2020

- Thesis: Bridging Machine Learning and Computational Photography to Bring Professional Quality into Casual Photos and Videos
- Adviser: Ren Ng

B.S. in Electrical and Computer Engineering **Rice University**

2011 - 2015

- Minor in Computational Applied Mathematics
- Graduated with **Summa Cum Laude** and **Distinction in Research**

Publications [\[Google Scholar\]](#)

Restoration by Generation with Constrained Priors 🏠

Zheng Ding, Xuaner (Cecilia) Zhang, Zhuowen Tu, Zhihao Xia

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2024

Holo-Relighting: Controllable Volumetric Portrait Relighting from a Single Image 🏠

Yiqun Mei, Yu Zeng, He Zhang, Zhixin Shu, Xuaner (Cecilia) Zhang, Sai Bi, Jianming Zhang, Hyunjoon Jung, Vishal Patel

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2024

Dr. Bokeh: DiffeRentiabLe Occlusion-aware Bokeh Rendering 🏠

Yichen Sheng, Zixun Yu, Lu Ling, Zhiwen Cao, Xuaner (Cecilia) Zhang, Xin Lu, Ke Xian, Haiting Lin, Bedrich Benes

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2024

Learning Lens Blur Fields

Esther Y. H. Lin, Zhecheng Wang, Rebecca Lin, Daniel Miao, Florian Kainz, Jiawen Chen, Xuaner (Cecilia) Zhang, David B. Lindell, Kiriakos N. Kutulakos
arXiv 2023

SunStage: Portrait Reconstruction and Relighting using the Sun as a Light Stage

Yifan Wang, Aleksander Holynski, Xiuming Zhang, Xuaner (Cecilia) Zhang
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023

DiffusionRig: Learning Personalized Priors for Facial Appearance Editing

Zheng Ding, Xuaner (Cecilia) Zhang, Zhihao Xia, Lars Jebe, Zhuowen Tu, Xiuming Zhang
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023

Automatic High Resolution Wire Segmentation and Removal

Mangtik Chu, Xuaner (Cecilia) Zhang, Zijun Wei, , Eli Shechtman, Connelly Barnes, Zhe Lin, Florian Kainz, Yuqian Zhou, Humphrey Shi
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023

LightPainter: Interactive Portrait Relighting with Freehand Scribble

Yiqun Mei, He Zhang, Xuaner (Cecilia) Zhang, Jianming Zhang, Zhixin Shu, Yilin Wang, Zijun Wei, Shi Yan, Hyunjoon Jung, Vishal Patel
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023

Neural Photo Finishing

Ethan Tseng, Yuxuan Zhang, Lars Jebe, Xuaner (Cecilia) Zhang, Zhihao Xia, Yifei Fan, Felix Heide, Jiawen Chen
ACM Transactions on Graphics (TOG) 2022 (Proc. SIGGRAPH Asia)

Handheld Multi-Frame Neural Depth Refinement

Ilya Chugunov, Yuxuan Zhang, Zhihao Xia, Xuaner (Cecilia) Zhang, Jiawen Chen, Felix Heide
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022 **Oral**

Time-travel rephotography

Xuan Luo, Xuaner (Cecilia) Zhang, Paul Yoo, Ricardo Martin-Brualla, Jason Lawrence, Steve Seitz
ACM Transactions on Graphics (TOG) 2021 (Proc. SIGGRAPH Asia)

Learned Dual-View Reflection Removal

Simon Niklaus, Xuaner (Cecilia) Zhang, Jonathan T. Barron, Neal Wadhwa, Rahul Garg, Feng Liu, Tianfan Xue

Winter Conference on Applications of Computer Vision (**WACV**) 2021

Portrait Shadow Manipulation

Xuaner (Cecilia) Zhang, Jonathan T. Barron, Yun-Ta Tsai, Rohit Pandey, Xiuming Zhang, Ren Ng, David E. Jacobs

ACM Transactions on Graphics (**TOG**) 2020 (Proc. SIGGRAPH)

Synthetic Defocus and Look-Ahead Autofocus for Casual Videography

Xuaner (Cecilia) Zhang, Kevin Matzen, Vivien Nguyen, Dillon Yao, You Zhang, Ren Ng

ACM Transactions on Graphics (**TOG**) 2019 (Proc. SIGGRAPH)

Zoom to Learn, Learn to Zoom

Xuaner (Cecilia) Zhang, Qifeng Chen, Ren Ng, Vladlen Koltun

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2019

Single Image Reflection Separation with Perceptual Losses

Xuaner (Cecilia) Zhang, Ren Ng, Qifeng Chen

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2018

Photometric Stabilization for Fastforward Videos

Xuaner (Cecilia) Zhang, Joon-Young Lee, Zhaowen Wang, Kalyan Sunkavalli

Pacific Conference on Computer Graphics and Applications (**PG**) 2017

Internship Experience

G-cam, Google

Research Intern

06/2019- 01/2020

Mountain View, CA

· Advisor(s): David Jacobs, Yun-ta Tsai, Jonathan Barron

Intelligent System Lab, Intel

Research Intern

06/2018- 11/2018

Santa Clara, CA

· Advisor(s): Qifeng Chen and Vladlen Koltun

Computational Photography Team, Facebook

Research Intern

05/2017 - 08/2017

Seattle, WA

· Advisor(s): Kevin Matzen

Imagination Lab, Adobe Research

Research Scientist Intern

05/2016 - 08/2016

San Jose, CA

· Advisor(s): Joon-Young Lee, Kalyan Sunkavalli, Zhaowen Wang

Information System Group, Hochschule Pforzheim

Research Assistant (DAAD RISE Scholar)

05/2013 - 08/2013

Pforzheim, Germany

· Advisors: Tobias Gehrke

Professional Services

Program Committee of: SIGGRAPH 2024, SIGGRAPH ASIA 2021, 2022

Associate Editor of: TOG 2023

Paper Peer Reviewer of: SIGGRAPH, SIGGRAPH ASIA, ICCV, ECCV, CVPR, ICML, Neurips

Teaching and Mentorship Experience

BAIR Academic Mentor **2016 - 2020**

Mentored undergraduates members of Berkeley AI-Research on research and academic plans

TechX Academy Instructor, Shanghai, China **07/2019 - 08/2019**

Designed and taught a 10-day course on "Intro to Computer Vision"

Graduate Student Instructor, EECS, UC Berkeley **08/2016 - 05/2018**

Taught weekly discussion sessions on "Foundations of Computer Graphics"

Computer Vision for Global Challenges Ambassador **04/2019 - 06/2019**

Mentored researchers from developing countries to give presentation and make academic poster talk at CVPR2019 CV4GC Workshop

Course Assistant, "Fundamental of Electrical Engineering", Rice University **08/2014 - 12/2015**

Coursera Forum Modulator, "Fundamental of Electrical Engineering" **08/2014 - 12/2014**

Honors and Awards

Selected participant, Asian Dean's Forum - Rising Star Women in Engineering Workshop **10/2019**

Selected participant, Rising Stars in EECS **10/2019**

Selected participant, CRA-W (Computing Research Association) Grad Cohort **04/2016**

Willy Revolution Award for Innovative Design (grand prize for senior design) **10/2014**

IEEEExtreme 24-Hour Programming Competition, ranked 156/1853 worldwide **05/2014**

Leadership and Affiliation

UC Berkeley Women In Computer Science and Engineering, Co-President **2019 - 2020**

UC Berkeley Women In Computer Science and Engineering, Industrial Liaison **2016 - 2018**

Phi Beta Kappa Honor Society, Member **2015 - 2016**

Eta Kappa Nu Electrical Engineering Honor Society, Member **2014 - 2016**

Rice University IEEE Student Chapter, Vice President **2014 - 2015**

Programming Skills

Computer Languages Python, MATLAB, C++

Tools: PyTorch, Tensorflow, Caffe, Caffe2, OpenCV, Linux Shell, Vim, L^AT_EX