

# XUAN LUO

[xuanluo@cs.washington.edu](mailto:xuanluo@cs.washington.edu) | [roxanneluo.github.io](https://github.com/roxanneluo)

## EDUCATION

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- University of Washington** | *PhD Student in Computer Science & Engineering* Sept. 2015 – 2021 (expected)  
Advisors: Steven M. Seitz, Jason Lawrence, and Ricardo Martin-Brualla. Seattle, WA
- Shanghai Jiao Tong University** | *BS in Computer Science & Technology* Sept. 2011 – July 2015  
ACM Honors Class (one of the top gifted CS programs in China). Shanghai, China

## RESEARCH INTERESTS

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Augmented/Virtual Reality, 3D Vision, Computational Photography, Image Synthesis

## PROFESSIONAL EXPERIENCE

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- University of Washington** | *Graduate Student Researcher* 2015 – now  
Advisors: Steven M. Seitz, Jason Lawrence, and Ricardo Martin-Brualla Seattle, WA
- Restored what famous historical figures would look like if rephotographed with modern cameras.
  - Collected a large-scale rectified historical stereo dataset and visualized historical scenes in 3D.
  - Designed an inexpensive glass-free DIY 3D display with a tablet and a plastic sheet folded into a cone.
- Facebook** | *Research Intern* June 2019 – March 2020  
Mentor: Johannes Kopf. Collaborators: Jia-bin Huang, Kevin Matzen, and Richard Szeliski Seattle, WA
- Estimated geometrically consistent depth from monocular videos, enabling video effects to a whole new level.
- Disney Research Zurich** | *Research Intern* Summer 2017  
Collaborators: Thabo Beeler, Derek Bradley, Matthias Niessner, and Paulo Gotardo. Zurich, Switzerland
- Worked on facial motion capture.
- Google Daydream** | *Software Engineering Intern* Summer 2016  
Mentor: Jason Lawrence Seattle, WA
- Worked on utilizing spatial-temporal consistency to denoise 3D models.
- National University of Singapore** | *Visiting Scholar* Aug. 2014 – Feb. 2015  
Advisor: Shuicheng Yan Singapore
- Co-designed a flexible graph-based parallel deep learning framework allowing data/model parallelism, arbitrary network deployment (e.g., recurrent neural network), and unlimited CPU/GPU usage.
- Shanghai Jiao Tong University** | *Undergraduate Researcher* Aug. 2013 – Aug. 2014  
Advisor: Hongtao Lu
- Designed a new stereo matching method with better adaptive support window for curved & slanted surfaces.
  - Proposed a new framework that improves tree-based stereo matching methods in speed & accuracy.

## PUBLICATIONS

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- Time-Travel Rephotography* | *SIGGRAPH Asia* TOG 2021  
Xuan Luo, Cecilia Zhang, Paul Yoo, Ricardo Ricardo Martin-Brualla, Jason Lawrence, and Steven M. Seitz
- Consistent Video Depth Estimation* | *SIGGRAPH* TOG 2020  
Xuan Luo, Jia-Bin Huang, Richard Szeliski, Kevin Matzen, and Johannes Kopf
- KeystoneDepth: History in 3D* | *International Virtual Conference on 3D Vision* 3DV 2020  
Xuan Luo, Yanmeng Kong, Jason Lawrence, Ricardo Martin-Brualla, and Steven M. Seitz
- Slow Glass: Visualizing History in 3D* | *Fourth Workshop on Computer Vision for AR/VR* CVPR-W 2020  
Xuan Luo, Yanmeng Kong, Jason Lawrence, Ricardo Martin-Brualla, and Steven M. Seitz
- Pepper's Cone: An Inexpensive Do-It-Yourself 3D Display* UIST 2017  
Xuan Luo, Jason Lawrence, and Steven M. Seitz

<i>Purine: A Graph-based Deep Learning Framework</i> Min Lin, Shuo Li, <b>Xuan Luo</b> , and Shuicheng Yan	ICLR 2015
<i>Adaptive Stereo Matching via Loop-erased Random Walk</i> Xuejiao Bai, <b>Xuan Luo</b> , Shuo Li, and Hongtao Lu	ICIP 2014

## HONORS AND AWARDS

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Selected EECS Rising Star by EECS at UC Berkeley	Nov. 2020
Anne Dinning - Michael Wolf Endowed Regental Fellowship, UW	2015 – 2016
Distinguished Undergraduate Scholarship, SJTU	2015
Shanghai Outstanding Graduate, Shanghai	2015
National Scholarship, China   <i>Highest scholarship in China</i>	2013
Kai Yuan Scholarship, SJTU	2012
2012 University Physics Competition, Silver Medal, USA	2012

## MEDIA & PRESS

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<i>Time-Travel Rephotography</i> Two Minute Papers, <a href="#">GIZMODO</a> , <a href="#">Hack a Day</a> , <a href="#">QubitAI</a> , <a href="#">Guokr</a> , <a href="#">Tencent</a> , <a href="#">marktechpost.com</a> , <a href="#">TechTheLead</a> , <a href="#">Tech Times</a> , <a href="#">The Science Times</a> , <a href="#">Review Geek</a> , <a href="#">Tech Explore</a> , <a href="#">msnice.net</a> , <a href="#">kknews.cc</a>	2020
<i>Consistent Video Depth</i> Two Minute Papers, <a href="#">QubitAI</a> , <a href="#">Synced</a> , <a href="#">Medium</a> , <a href="#">Bo Yu AI</a>	2020
<i>Pepper's Cone</i> "Demo Hour" of <i>ACM Interactions Magazine</i> , <a href="#">iProgrammer</a> , <a href="#">Hack a Day</a> , <a href="#">Hacker News</a>	2018

## INVITED TALKS

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<b>A Celebration of Stereoscopic 3D by London Stereoscopic Archive et al., UK</b> "Computational Time Machine". Host: Denis Pellerin and Rebecca Sharpe	Feb. 2021
<b>GAMES: Graphics and Mixed Environment Seminar</b> "Consistent Video Depth Estimation". Host: Zhaopeng Cui and Xiaoguang Han	Dec. 2020
<b>AAA Alumni Association Cloud Conference</b> Apple, Seattle, WA	May 2020
"Consistent Video Depth Estimation". Host: Qi Shan	May 2020

## PROFESSIONAL SERVICE

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<b>WiGRAPH: Women in Graphics Research (<a href="http://wigraph.org">wigraph.org</a>)</b> Communications Director	Fall 2020 – now
<b>CV/ML Graduate School Prep Workshop</b> Guest speaker & Panel member Help undergrads of underrepresented groups to prepare for graduate-level study.	April 2021
<b>Ph.D. Admission Committee, Univeristy of Washington</b>	2018
<b>ACM-W Undergraduate Mentorship</b> Mentored three women undergrads.	Spring 2017
<b>Paper Reviewer</b> <ul style="list-style-type: none"> <li>The ACM Special Interest Group on Computer Graphics (<b>SIGGRAPH</b>)</li> <li>Conference on Computer Vision and Pattern Recognition (<b>CVPR</b>)</li> <li>International Conference on Computer Vision (<b>ICCV</b>)</li> <li>The Association for the Advancement of Artificial Intelligence (<b>AAAI</b>)</li> </ul>	

## TEACHING EXPERIENCE

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<b>CSE576: Computer Vision</b> Guest Lecturer, University of Washington	Nov. 2020
<b>CSE590B: Computer Vision &amp; Graphics Seminar</b> Graduate Student Instructor, University of Washington	Spring 2019
<b>CSE599J1: Selected Topics in Computational Fabrication</b> Teaching Assistant, University of Washington	Winter 2019
<b>CSE481V: CSE Virtual and Augmented Reality Capstone</b> Teaching Assistant, University of Washington	Fall 2018

## RESEARCH MENTORING

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<b>Paul (Seok Hyun) Yoo</b> Undergraduate student at University of Washington <ul style="list-style-type: none"><li>Worked on restoring high-quality color images of historical figures.</li></ul>	Fall 2019 – Spring 2021
<b>Yanmeng (Anny) Kong</b> Master student at University of Washington <ul style="list-style-type: none"><li>Worked on collecting a large-scale historical stereo dataset, <i>KeystoneDepth</i>. Work published at <i>3DV 2020</i>.</li></ul>	2017 – Spring 2021

## SKILLS

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**Programming Languages:** C++, Python, Matlab, Java, HTML,  $\text{\LaTeX}$ , C#, PHP, Verilog, TinyOS  
**Tools:** PyTorch, Tensorflow, Unity, Photoshop, MySQL, OpenGL

## SPECIALTY

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**Fine Arts:** Good at painting. My drawings are available at [here](#).