

# XUAN LUO

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## EDUCATION

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<b>University of Washington</b>   <i>PhD Student in Computer Science &amp; Engineering</i>	Sept. 2015 – 2021 (expected)
Advisors: Steven M. Seitz, Jason Lawrence, and Ricardo Martin-Brualla.	Seattle, WA
<b>Shanghai Jiao Tong University</b>   <i>BS in Computer Science &amp; Technology</i>	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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<b>University of Washington</b>   <i>Graduate Student Researcher</i>	2015 – now
Advisors: Steven M. Seitz, Jason Lawrence and Ricardo Martin-Brualla	Seattle, WA
<ul style="list-style-type: none"><li>• Restored what famous historical figures would look like if rephotographed with modern cameras.</li><li>• Collected a large-scale rectified historical stereo dataset and visualized historical scenes in 3D.</li><li>• Designed an inexpensive glass-free DIY 3D display with a tablet and a plastic sheet folded into a cone.</li></ul>	
<b>Facebook</b>   <i>Research Intern</i>	June 2019 – March 2020
Mentor: Johannes Kopf. Collaborators: Jia-bin Huang, Kevin Matzen and Richard Szeliski	Seattle, WA
<ul style="list-style-type: none"><li>• Estimated geometrically consistent depth from monocular videos, enabling video effects to a whole new level.</li></ul>	
<b>Disney Research Zurich</b>   <i>Research Intern</i>	Summer 2017
Collaborators: Thabo Beeler, Derek Bradley, Matthias Niessner, and Paulo Gotardo.	Zurich, Switzerland
<ul style="list-style-type: none"><li>• Worked on facial motion capture.</li></ul>	
<b>Google Daydream</b>   <i>Software Engineering Intern</i>	Summer 2016
Collaborators: Jason Lawrence	Seattle, WA
<ul style="list-style-type: none"><li>• Worked on utilizing spatial-temporal consistency to denoise 3D models.</li></ul>	
<b>National University of Singapore</b>   <i>Visiting Scholar</i>	Aug. 2014 – Feb. 2015
Advisor: Shuicheng Yan	Singapore
<ul style="list-style-type: none"><li>• 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.</li></ul>	
<b>Shanghai Jiao Tong University</b>   <i>Undergraduate Researcher</i>	Aug. 2013 – Aug. 2014
Advisors: Hongtao Lu	
<ul style="list-style-type: none"><li>• Designed a new stereo matching method with better adaptive support window for curved &amp; slanted surfaces.</li><li>• Proposed a new framework that improves tree-based stereo matching methods in speed &amp; accuracy.</li></ul>	

## PUBLICATIONS

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<i>Time-Travel Rephotography</i>   <i>arXiv:2012.12261</i>	2020
Xuan Luo, Cecilia Zhang, Paul Yoo, Ricardo Ricardo Martin-Brualla, Jason Lawrence, and Steven M. Seitz	
<i>Consistent Video Depth Estimation</i>   <i>SIGGRAPH</i>	TOG 2020
Xuan Luo, Jia-Bin Huang, Richard Szeliski, Kevin Matzen, and Johannes Kopf	
<i>KeystoneDepth: History in 3D</i>   <i>International Virtual Conference on 3D Vision</i>	3DV 2020
Xuan Luo, Yanmeng Kong, Jason Lawrence, Ricardo Martin-Brualla, and Steven M. Seitz	
<i>Slow Glass: Visualizing History in 3D</i>   <i>Fourth Workshop on Computer Vision for AR/VR</i>	CVPR-W 2020
Xuan Luo, Yanmeng Kong, Jason Lawrence, Ricardo Martin-Brualla, and Steven M. Seitz	
<i>Pepper's Cone: An Inexpensive Do-It-Yourself 3D Display</i>	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

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

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

## INVITED TALKS

<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>	May 2020
<b>Apple, Seattle, WA</b> "Consistent Video Depth Estimation". Host: Qi Shan	May 2020

## PROFESSIONAL SERVICE

<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 3DV 2020.</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](#).