

# XUANER (CECILIA) ZHANG

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## EDUCATION

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### University of California, Berkeley

PhD in Computer Science, Computational Photography  
Adviser: Ren Ng

expected May 2021

Berkeley, CA

### Rice University

B.S. in Electrical and Computer Engineering  
Minor in Computational Applied Mathematics  
Graduated with **Summa Cum Laude** and **Distinction in Research**

May 2015

Houston, TX

## RESEARCH INTERESTS

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**Computational Photography, Deep Learning** I'm interested in combining data-driven approach and physically-based modeling to solve problems in computational photography and videography.

## PAST RESEARCH

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### Intelligent System Lab, Intel

*Research Intern*

6/2018- Current

*Santa Clara, CA*

- Collaborate with Qifeng Chen and Vladlen Koltun on learning enhanced image processing pipeline.

### Computational Photography Group, Facebook

*Research Intern*

5/2017 - 8/2017

*Seattle, WA*

- Worked with Kevin Matzen on data-driven approach for photo-realistic video enhancement.

### Imagination Lab, Adobe Research

*Research Scientist Intern*

5/2016 - 8/2016

*San Jose, CA*

- Collaborated with Joon-Young Lee, Kalyan Sunkavalli, Zhaowen Wang on hyperlapse video enhancement. We proposed a photometric stabilization framework that consists of optimal frame sampling and content-aware photometric smoothing. (Paper presented in Pacific Graphics 2017)

### Computer Vision and Computational Imaging Lab, Rice University

*Research Assistant*

5/2013 - 5/2015

*Houston, TX*

- Advised by Prof. Ashok Veeraraghavan and worked on *Phase Retrieval Microscopy* where we built a mobile microscopy system that achieves wide field-of-view and high-resolution microscopic images using fourier optics, and on *Mobile Image Stitching* where we built a mobile microscopy system and applied image panoramic stitching to achieve giga-pixel microscopic images.

### Senior Design - Virtual Fitting System, Rice University

8/2013 - 8/2014

- Advised by Prof. Gary Woods and Prof. Ron Goldman and designed a virtual fitting system for online clothes shoppers. We built a 3D body shape database and applied MLP artificial neural network model to achieve real-time 3D garment simulation. (Short paper published in CASA 2014 and poster accepted to SIGGRAPH 2014)

### Information System Group, Hochschule Pforzheim

*Research Assistant (DAAD RISE Scholar)*

5/2013 - 8/2013

*Pforzheim, Germany*

- Worked with Dr. Tobias Gehrke and worked on designing optimized coutourlet filters for high-gain image encoding. Research presented at the DAAD RISE conference 2013.

## PUBLICATIONS AND POSTERS

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Zhang,X.,Matzen,K.,Ng,R.,**Synthetic Defocus and Look-Ahead Autofocus for Casual Videography**, 2018 (*In preparation*)

Zhang,X.,Ng,R.,Chen,Q., **Single Image Reflection Separation with Perceptual Losses**. Computer Vision and Pattern Recognition (CVPR), 2018.

Zhang,X.,Lee,J.Y.,Sunkavalli,K.,Wang,Z., **Photometric Stabilization for Fastforward Videos**. In Computer Graphics Forum (Vol. 36, No. 7, pp. 105-113), 2017.

Zhang,X.,Wong,L., **VIRTUAL FITTING: Real-Time Garment Simulation for Online Clothes Shopping**, Conference on Computer Animation and Social Agents (CASA), 2014.

## TEACHING EXPERIENCE

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<b>Graduate Student Instructor</b> , EECS, UC Berkeley	<b>8/2016 - 5/2018</b>
Taught weekly discussion session for "Computer Graphics".	
<b>Course Assistant</b> , Rice University	<b>8/2014 - 12/2015</b>
Taught weekly discussion session for "Fundamental of Electrical Engineering".	
<b>Coursera Forum Modulator</b> , Rice University	<b>8/2014 - 12/2014</b>
Modulated discussion forum and answered questions on Coursera for "Fundamental of Electrical Engineering".	

## LANGUAGES

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<b>Computer Languages</b>	Python, MATLAB, C++, HTML
<b>Tools:</b>	PyTorch, Tensorflow, Caffe, Caffe2, OpenCV, Linux Shell, Vim, L <sup>A</sup> T <sub>E</sub> X

## AFFILIATIONS

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UC Berkeley Women In Computer Science and Engineering, Industrial Liaison	<b>2016 - present</b>
ACM, Member	<b>2014 - present</b>
IEEE, Member	<b>2013 - present</b>
Phi Beta Kappa Honor Society, Member	<b>2015 - 2016</b>
Eta Kappa Nu Electrical Engineering Honor Society, Member	<b>2014 - 2016</b>
Rice University IEEE Student Chapter, Vice President	<b>2014 - 2015</b>

## OTHER HONORS AND AWARDS

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CRA-W (Computing Research Association) Grad Cohort Participant	<b>4/2016</b>
Willy Revolution Award for Innovative Design (grand prize for senior design)	<b>10/2014</b>
IEEEExtreme 24-Hour Programming Competition, ranked 156/1853 worldwide	<b>5/2014</b>