

# Qi Sun

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- WORK**                      **Research Scientist**                      June 2018 - Now
- Adobe Research, San Jose, CA
- EDUCATION**                      **Doctor of Philosophy**                      Aug. 2013 - May 2018
- Center of Visual Computing, Computer Science, Stony Brook University  
Advisor: Distinguished Professor Arie Kaufman  
Dissertation: Computational Methods for Immersive Perception  
Committee: Arie Kaufman, Hong Qin, Xiaojun Bi, David Luebke, Li-Yi Wei
- Bachelor of Science**                      Aug. 2013
- Mathematics  
Taishan Honors College, Shandong University, China    Sep. 2010 - Aug. 2013
  - Computer Science  
Shandong University, China                      Sep. 2009 - Sep. 2010
- PUBLICATIONS**    **Eccentricity Effects on Blur and Depth Perception**  
**Qi Sun**, Fu-Chung Huang, Li-Yi Wei, David Luebke, Arie Kaufman, Joohwan Kim  
Optics Express 2019 (to appear)
- DiffTaichi: Differentiable Programming for Physical Simulation**  
Yuanming Hu, Luke Anderson, Tzu-Mao Li, **Qi Sun**, Nathan Carr, Jonathan Ragan-Kelley, Frédo Durand  
arXiv:1910.00935
- Reducing Simulator Sickness with Perceptual Camera Control**  
Ping Hu, **Qi Sun**, Piotr Didyk, Li-Yi Wei, Arie Kaufman  
SIGGRAPH Asia 2019
- Learning to Reconstruct 3D Manhattan Wireframes from a Single Image**  
Yichao Zhou, Haozhi Qi, Simon Zhai, **Qi Sun**, Zhili Chen, Li-Yi Wei, Yi Ma  
ICCV (Oral Presentation) 2019
- A Transparent Display with Per-Pixel Color and Opacity Control**  
TJ Rhodes, Gavin Miller, Li-Yi Wei, **Qi Sun**, Daichi Ito  
SIGGRAPH 2019 Emerging Technologies
- Towards Virtual Reality Infinite Walking: Dynamic Saccadic Redirection**  
**Qi Sun**, Anjul Patney, Li-Yi Wei, Omer Shapira, Jingwan Lu, Paul Asente, Suwen Zhu, Morgan McGuire, David Luebke, Arie Kaufman  
SIGGRAPH 2018
- Perceptually-Guided Foveation for Light Field Displays**  
**Qi Sun**, Fu-Chung Huang, Joohwan Kim, Li-Yi Wei, David Luebke, Arie Kaufman  
SIGGRAPH Asia 2017

**Mapping Virtual and Physical Reality**  
**Qi Sun**, Li-Yi Wei and Arie E. Kaufman  
SIGGRAPH 2016

**Poster: Buyers Satisfaction in A Virtual Fitting Room Scenario Based on Realism of Avatar**

**Qi Sun**, Seyedkoosha Mirhosseini, Ievgeniia Gutenko, Ji Hwan Park, Charilaos Papadopoulos, Bireswar Laha, and Arie E. Kaufman  
IEEE Symposium on 3D User Interfaces, 3DUI 2015

**Benefits of 3D Immersion for Virtual Colonoscopy**

Koosha Mirhosseini, **Qi Sun**, Krishna Gurijala, Bireswar Laha, Arie Kaufman  
IEEE Visualization Workshop on 3DVis 2014

**Data-Driven Human Motion Synthesis Based on Angular Momentum Analysis**

Ping Hu, **Qi Sun**, Xiangxu Meng, and Jingliang Peng  
IEEE International Symposium on Circuits and Systems, ISCAS 2013

**Modeling 3D Faces from Samplings via Compressive Sensing**

**Qi Sun**, Yanlong Tang, and Ping Hu  
International Conference on Digital Image Processing, 2013

**Kinect-Based Automatic 3D High-Resolution Face Modeling**

**Qi Sun**, Yanlong Tang, Ping Hu, and Jingliang Peng  
International Conference on Image Analysis and Signal Processing 2012

## EXPERIENCE

**Research Intern** Jul. 2017 - Sep. 2017  
Adobe Research, Procedural Imaging Group (San Jose, CA)  
- With Paul Asente, Cynthia Lu and Li-Yi Wei

**Research Intern** April. 2017 - Jul. 2017  
NVIDIA Research, New Experiences Group (Redmond, WA)  
- With Anjul Patney, Morgan McGuire, Omer Shapira, Aaron Lefohn and David Luebke

**Research Intern** Jun. 2016 - Aug. 2016  
NVIDIA Research, New Experiences Group (Santa Clara, CA)  
- With Fu-Chung Huang, Joohwan Kim and David Luebke

**Research Intern** Nov. 2012 - Feb. 2013  
Microsoft Research Asia, Hardware Computing Group (Beijing, China)

## SELECTED PRESS/MEDIA

**Adobe Glasswing Transparent Display**  
The Verge, CNET, Axios, Next Reality, Printed Electronics World, TechHQ etc.

**Towards Virtual Reality Infinite Walking**

BBC News, SIGGRAPH blog, IEEE, Adobe News, NVIDIA Blog, Two Minute Papers, Stony Brook News, Road to VR, Hackaday, VR Focus, VR World, Inverse, ScienceDaily, eurekaAlert, newsAtlas, Sohu.com (Chinese), RedShark News, VR Soldier, Stylus, InAVate, 4gamer (Japanese) Virtual Reality Magazine (German), Microsiervos (Spanish) etc.

### **Mapping Virtual and Physical Reality**

SIGGRAPH Technical Papers Preview, Business Wire, Seamless Virtual Reality News (Japanese), leiphone.com/sina.cn etc. (Chinese), Tencent gameinstitute 2016 white paper, Game II DOOSAN Gallery New York

### **Perceptually-Guided Foveation for Light Field Displays**

Road to VR, Seamless Virtual Reality News (Japanese)

## **TEACHING/ ADVISING**

### **Guest Lecturer**

CSE 564: Visualization, Stony Brook University	2018 Spring
Seminar: Frontiers of Computing Studies, Peking University	2019 Summer

### **Teaching Assistant**

CSE 214: Computer Science II, Stony Brook University	2013 Fall
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### **Mentor**

CSE 593: Independent Study in Computer Science, Stony Brook University	2013 Fall, 2014 Spring
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### **Advisees**

Yuanming Hu, PhD student at MIT  
Sandra Malpica, PhD student at University of Zaragoza  
Yichao Zhou, PhD student at UC Berkeley  
Dushyant Goyal, Masters student at Stony Brook University, Now Machine Learning Research Engineer at Element Inc

## **INVITED TALKS**

### **Human Learning: Understanding and Computing the Eyes and Brain in VR**

Schloss Dagstuhl, Wadern, Germany	2019
Max-Planck-Institut für Informatik, Saarbrücken, Germany	2019
Microsoft Research Asia, Beijing, China	2019

### **Industrial Innovations in the Age of VR/AR**

Wayfair Inc., Boston, MA	2019
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### **Towards Virtual Reality Infinite Walking, Talk & Live Demo**

Adobe Tech Summit, San Francisco, CA	2019
GPU Technology Conference (GTC), San Jose, CA	2018

### **Computational Methods for Immersive Perception**

Harvard University, Cambridge, MA	2018
University of Florida, Gainesville, FL	2018
Adobe Research, San Jose, CA	2017
games-cn Webinar	2017

## **SERVICE**

### **Conference Committee**

ACM CHI Late-Breaking Work	2020
ACM SIGGRAPH Asia Technical Briefs and Posters	2019
SIGGRAPH Symposium on Interactive 3D Graphics and Games (i3D)	2019-2020

### **Reviewer**

ACM SIGGRAPH, ACM CHI, IEEE Visualization, Computer Graphics Forum (CGF), ACM Transaction on Graphics (TOG), ACM User Interface Software and Technol-

ogy (UIST), ACM i3D, IEEE 3D User Interfaces (3DUI), IEEE VR [both Conference and Journal tracks], IEEE ISMAR, ACM Symposium on Applied Perception (SAP), IEEE Consumer Electronics Magazine

**Other**

Adobe Research PhD fellowship committee 2018 - 2019

Adobe Research Women-in-Technology Scholarship 2019

**AWARDS**

Stony Brook Computer Science Special Chair Fellowship 2013 - 2014

Outstanding Bachelor Thesis Award of Shandong Province, China 2013

**GRANTED  
PATENTS**

**Adjusting an Angular Sampling Rate during Rendering Utilizing Gaze Information**

**Qi Sun**, Fu-Chung Huang, Joohwan Kim and David Luebke

US10395624B2, granted 2019-08-27

**System and Method for Generating a Progressive Representation Associated with Surjectively Mapped Virtual and Physical Reality Image Data**

Arie Kaufman, **Qi Sun** and Li-Yi Wei

US10403043B2, granted 2019-09-03