

# Qi Sun

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www.qisun.me  
qisun0@gmail.com

- 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**                      **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
- Perceptual Studies for Foveated Light Field Displays**  
Joohwan Kim, **Qi Sun**, Fu-Chung Huang, Li-Yi Wei, David Luebke, Arie Kaufman

arXiv:1708.06034

**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, IEEE-ISCAS 2013

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

**Qi Sun**, Yanlong Tang, and Ping Hu

International Conference on Digital Image Processing, ICDIP 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, IEEE-IASP 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 Sol-

dier, 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

### **Teaching Assistant**

CSE 214: Computer Science II, Stony Brook University

2013 Fall

### **Mentor**

CSE 593: Independent Study in Computer Science,  
Stony Brook University

2013 Fall, 2014 Spring

### **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

Peking University, Beijing, China

2019

Zhejiang University, Hangzhou, China

2019

USTC, Hefei, China

2019

Microsoft Research Asia, Beijing, China

2019

miHoYo Research, Shanghai, China

2019

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

Wayfair Inc., Boston, MA

2019

### **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 SIGGRAPH Asia Technical Briefs and Posters	2019
	ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (i3D)	2019
	<b>Reviewer</b>	
	ACM SIGGRAPH, ACM CHI, IEEE Visualization, Computer Graphics Forum (CGF), ACM Transaction on Graphics (TOG), ACM User Interface Software and Technology (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	
	<b>Other</b>	
	Adobe Research PhD fellowship committee	2018 - 2019
	Adobe Research Women-in-Technology Scholarship	2019
<b>AWARDS</b>	Stony Brook Computer Science Special Chair Fellowship	2013 - 2014
	Outstanding Bachelor Thesis Award of Shandong Province, China	2013
<b>GRANTED PATENTS</b>	<b>Adjusting an Angular Sampling Rate during Rendering Utilizing Gaze Information</b>	
	<b>Qi Sun</b> , Fu-Chung Huang, Joohwan Kim and David Luebke	
	US10395624B2, granted 2019-08-27	
	<b>System and Method for Generating a Progressive Representation Associated with Surjectively Mapped Virtual and Physical Reality Image Data</b>	
	Arie Kaufman, <b>Qi Sun</b> and Li-Yi Wei	
	US10403043B2, granted 2019-09-03	