JING QIAN

HCI Researcher / Designer

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Education

2016 - 2021 (expected)	**Ph.D. in Computer Science** *Brown University, Providence, RI*
2013 - 2015	**M.F.A in Emergent Design** *University of Pennsylvania, Philadelphia, PA*
2006 - 2010	**B.A. in Design and Media Arts** *University of California, Los Angeles, CA*

Research Experience

Fuji Xerox Research Laboratory in Palo Alto
May 2018 - Aug 2018

Designed and programmed a smartphone AR application to study the effect of interaction modality and distance on touchless interactions. Explored various ways hand tracking can work natively on a modern smartphone. Designed and carried out a user study to collect data for quantitative and qualitative analysis. Research results were gathered to a full paper publication and a demo paper publication.

Brown HCI Lab
2016 - Current, Brown University, Providence, RI

Improving AR/VR experiences by experimenting with different rendering techniques and adding natural user interfaces such as direct hand manipulation and head tracking. Creating adaptive mobile interfaces using peripheral sensing inputs, including user movements and surrounding visual features. Conducting user studies and analyzing survey, interview, and user testing results.

MIT Media Lab, Fluid Interface
2015 - 2016, Massachusetts Institute of Technology, Cambridge, MA

Helped the PI to design and program social VR applications. Studied the relationship between users' brainwave signals and their behaviors in the VR world. Worked with the PI to construct *Touchy*, a computer vision based device providing tactile feedback for blind users.

Future Experience Lab
2014 - 2015, University of Pennsylvania, Philadelphia, PA

Assisted the PI to improve personal home entertainment experiences by introducing content-aware modular IoT. Helped construct prototypes for smart LED ceilings and programmed pipelines for modular IoT with *authorization tools.*

Work Experience

Intern VR Game Designer
2014 Summer, Philadelphia GameLab, Philadelphia, PA

Designed and programmed a VR environment for a meditation game. Constructed pipelines for low-latency data transmission among biometric sensors and the VR scene. Created VR assets such as particle systems and low polygon models.

Senior Interior Designer II
2011 - 2012, Pico Global, Shanghai, China

Designed interior architectural space and interactive installations for various clients. Transformed clients' vision into interactive display prototypes and branding graphics.

Interior Designer
*2010 - 2011, Ambrosius Deutschland GmbH, Shanghai, China*

Designed Interior architectural space for exhibitions and showrooms. Helped improve architectural models and existing

Current Research

Portal-ble

Imagine we could use our hands to play with AR objects on a regular smartphone directly while moving. Portal-ble enables such AR experience by incorporating robust hand gesture detection and power of design iterations. It is a low-cost and DIY platform that allows developers to create customized AR applications with direct hand manipulation abilities. (In Submission)
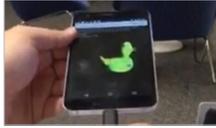

Holoscreen

We combined motion tracking and head tracking to create 3D viewing experience on a smartphone without wearables. The first technique renders the virtual objects "stand out" of the smartphone frame visually by compensating the smartphone movements; the second technique makes the virtual objects respond to where a user stares at. Together we aim to deliver portable 3D viewing experience from a smartphone at any place and time.

Past Projects

Full List of Projects: www.jingts.com
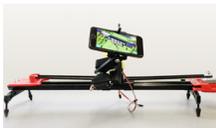
Remotion

Jing Qian, Arielle Chapin, Alexandra Papoutsaki, Fumeng Yang, Klaas Nelissen, Jeff Huang

Remotion is an open-source and scalable platform that helps researchers to collect screen, interaction and motion data from a remote smartphone and visualize them in both physical and virtual ways. Visit at:https://remotion.cs.brown.edu/

(Published at UbiComp 2018)

Using AI to switch linearity in AR

Jing Qian, Laurent Denoue, Jacob Biehl, David A. Shamma

A smartphone AR application showcases the benefit of swapping interaction linearity with sound and voice recognition in real-time. (AIAR IEEE 2018, to appear)

VR Tandem Force Feedback

with Ian Gonsher and Ethan Mok

We have developed a light-weight force feedback VR tandem that simulates physical touch in real-time.

Fluxa

Liu, Xin, Katia Vega, Jing Qian, Joseph Paradiso, and Pattie Maes

Fluxa is a compact wearable device enabling social display through hand movement. Unlike displaying messages on a screen over the internet, Fluxa allows distant in-person communication through the effects of the persistence of vision. (UIST 2016)
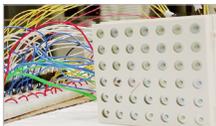
Touchy

with Samuel Shi

What could be an alternative to the crane a blind person uses to navigate through space? We built this prototype that generates real-time tactile feedback of obstacles in front of the blind users by scanning and segmenting the surroundings.

Skills

Programming	Java, Javascript, C++, C#, C, Python, Matlab, PHP, NodeJS
3D Framework	Unity 3D, Unreal Engine, Samsung Gear VR, Oculus Rift, Google Tango, Uforia
Software	Qt, LaTeX, Netbeans, 3ds Max, Photoshop, Illustrator, XD, Axure
Web	HTML5, CSS3, Processing.js, D3.js, Three.js, React
Hardware	Arduino Prototyping, Laser-cutting, 3D-Printing