

JING QIAN

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Education

2016 - 2022

Brown University, PhD

Computer Science, Providence, RI

2016 - 2022

Brown University, MS

Computer Science, Providence, RI

2013 - 2015

University of Pennsylvania, MFA

Fine Arts in Interactive Media, Philadelphia, PA

2006 - 2010

University of California Los Angeles, BA

Design and Media Arts, Los Angeles, CA

Research Vision

I conduct research in human-computer interaction (HCI) focusing on human-AI collaboration and augmented/virtual reality (AR/VR). I am broadly interested in the following areas: 1) using AI, AR, and interdisciplinary methods to improve domain-specific task efficiency and efficacy; 2) developing hardware or software interactive systems to improve human recognition, perception, and decision-making; and 3) investigating long-term human-AI collaboration on mobile, wearable, and head-mounted devices and the implications on critical and social issues.

Research Experience

New York University VIDA, Research Assistant Professor

Sep 2022 - Current, Brooklyn, New York

- Mentored two doctoral and more than four master's students on their research planning and advising.
- Helped with grant writing and submissions.
- Designed and implemented personalized, adaptive systems for a DARPA-sponsored project.
- Developed methods using multi-modal large language and vision models to improve users' decision-making, memory, and cognitive capabilities in daily and domain tasks.

Adobe Inc., Research Intern

June 2021 - Sep 2021, Boston, Massachusetts

- Designed a smartphone system that switches between the AR and non-AR interfaces to create, organize, and edit multi-page, rich media documents with limited screen space.

Adobe Inc., Research Intern

June 2019 - Sep 2019, San Jose, California

- Created the Dually Noted system (published in both CHI 2022 and Adobe Summit Sneaks, *less than 5% acceptance*) that uses a document extraction model to enable efficient and accurate shared AR annotation on smartphones.

Fuji Xerox Research Laboratory in Palo Alto, Research Intern

June 2018 - Sep 2018, Palo Alto, California

- Researched the interaction effects of distance and touchless modality on mobile users.

MIT Media Lab, Visiting Student

Nov 2015 - June 2016, Cambridge, Massachusetts

- Programmed social VR applications that use brainwave signals for user attention and engagement in the VR environment.

Brown HCI Lab, Research Assistant

Sep 2016 - June 2022, Providence, Rhode Island

- Researched adaptive free-hand AR interfaces, including system building, data analysis, and evaluation.
- Mentored over ten graduate and undergraduate students for their research agenda.
- Open-sourced two systems with media exposure over 500,000 views.

Publications **co-communication

AdaptivePilot: Aligning LLM-Based Guidance with Human Neural Cognition Using fNIRS for Pre-Flight

Shaoyue Wen*, Michael Middleton*, Songming Ping, Nayan N Chawla, Guande Wu, Bradley S Feest, Chihab Nadri, Yunmei Liu, David Kaber, Maryam Zahabi, Ryan P. McMahan, Sonia Castelo Quispe, Xuhai "Orson" Xu, Ryan McKendrick, [Jing Qian**](#), and Claudio Silva**
Conditionally Accepted to IEEE VR 2025

Satori: Towards Proactive AR Assistant with Belief-Desire-Intention User Modeling

Chenyi Li, Guande Wu, Gromit Yeuk-Yin Chan, Dishita Turakhia, Sonia Castelo Quispe, Dong Li, Leslie Welch, Claudio Silva**, and [Jing Qian**](#)
In-submission

EmbedAR: Interactive Exploration of Action Segmentation Models to Support Augmented Reality Guidance Systems

Sonia Castelo Quispe, João Rulff, Fabio Felix, Erin McGowan, [Jing Qian](#), and Claudio Silva
In-submission

ARTiST: Automated Text Simplification for the Task Guidance in Augmented Reality

Guande Wu, [Jing Qian**](#), Sonia Castelo Quispe, Shaoyu Chen, João Rulff, Claudio Silva**
Conference on Human Factors in Computing Systems (CHI 2024)

ARGUS: Visualization of AI-Assisted Task Guidance in AR (Honorable Mention)

Sonia Castelo, Joao Rulff, Erin McGowan, Bea Steers, Guan-de Wu, Shaoyu Chen, Iran Roman, Roque Lopez, Ethan Brewer, Chen Zhao, [Jing Qian](#), Kyunghyun Cho, He He, Qi Sun, Huy Vo, Juan Bello, Michael Krone, and Claudio Silva
IEEE Transactions on Visualization and Computer Graphics (TVCG 2023)

Dually Noted: Layout-aware cross-device annotations with smartphone augmented reality

[Jing Qian](#), Qi Sun, Curtis Wigington, Han L. Han, Tong Sun, Jennifer Healey, James Tompkin, Jeff Huang
Conference on Human Factors in Computing Systems (CHI 2022)

Readability Research: An Interdisciplinary Approach

[Jing Qian](#) and other 26 co-authors with equal contributions (TCHI 2022)
Foundations and Trends in Human-Computer Interaction (2022 Vol. 16: No. 4, pp 214-324)

FocalPoint: Adaptive direct manipulation for selecting small 3D virtual objects

Jiaju Ma, [Jing Qian](#), Tongyu Zhou, Jeff Huang
ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2023)

Exploring free-hand AR drawing with a dual-display smartphone-wearable paradigm

Jing Qian, Tongyu Zhou, Meredith Young-Ng, Jiaju Ma, Angel Cheung, Xiangyu Li, Ian Gonsler, Jeff Huang
Designing Interactive Systems Conference 2021 (DIS 2021)

A virtual reality memory palace variant aids knowledge retrieval from scholarly articles

Fumeng Yang, Jing Qian, Johannes Novotny, David Badre, Cullen D. Jackson, David H. Laidlaw
IEEE Transactions on Visualization and Computer Graphics (TVCG 2020)

Modality and depth in touchless smartphone augmented reality interactions

Jing Qian, David A Shamma, Daniel Avrahami, Jacob Biehl
ACM International Conference on Interactive Media Experiences (IMX 2020)

Portalware: A smartphone-wearable dual-display system for expanding the free-hand interaction region in augmented reality

Jing Qian, Meredith Young-Ng, Xiangyu Li, Angel Cheung, Fumeng Yang, Jeff Huang
Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI LBW 2020)

Portal-ble: Intuitive free-hand manipulation in unbounded smartphone-based augmented reality

Jing Qian, Jiaju Ma, Xiangyu Li, Benjamin Attal, Haoming Lai, James Tompkin, John F Hughes, Jeff Huang
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2019)

Remotion: A motion-based capture and replay platform of mobile device interaction for remote usability testing

Jing Qian, Arielle Chapin, Alexandra Papoutsaki, Fumeng Yang, Klaas Nelissen, Jeff Huang
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (UbiComp 2018)

Juried

Automated Text Simplification for the Task Guidance in Augmented Reality

Guande Wu, Jing Qian, Sonia Castelo Quispe, Shaoyu Chen, João Rulff, Claudio Silva
2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR 2024-Adjunct)

Fluxa: Body movements as a social display

Xin Liu, Katia Vega, Jing Qian, Joseph Paradiso, Pattie Maes
Proceedings of the ACM Symposium on User Interface Software and Technology (UIST Poster 2016)

Personalizing 3D free-hand input for intuitive smartphone augmented reality interactions

Jing Qian
UIST 2020 Doctoral Symposium

Patent

Sharing of user markings between printed and digital documents

Tong Sun, Qi Sun, Jing Qian, Curtis Michael Wigington
US Patent# 16/834,940

FOCALPOINT: ADAPTIVE DIRECT MANIPULATION FOR SELECTING SMALL 3D VIRTUAL OBJECTS

Jeff Huang, Jing Qian, Jiaju Ma, Tongyu Zhou
US Patent# 63/307,803

Awards

2022 - 2024	DARPA (Defense Advanced Research Projects Agency)
2019 - 2020	Adobe Research Gift
2020	Invitation & travel grant for UIST 2020 Doctoral Consortium
2018	Pixar Research Gift
2017	BVF Explore Grant at Brown University

Teaching

Invited Lecture on Augmented Reality, User Interfaces and User Experience, Brown University

Instructor: Jeff Huang, 2019, students: 200

Teaching Assistant, Human-Computer Interaction Seminar, Brown University

Instructor: Jeff Huang, 2018, students: 20

Graduate Teaching Assistant, User Interfaces and User Experience, Brown University

Instructor: Jeff Huang, 2017 - 2018, students: 200

Teaching Assistant, Art, Design, and Digital Culture, University of Pennsylvania

Instructor: Keith Fledderman, David Comberg, 2013 - 2014, students: 20

Mentoring

Student Mentored for at least one semester

2022 - 2024	Guande Wu (<i>PhD student at NYU</i>) Xiao An Liu, Shaoyue Wen, Chengyi Li, Dong Li (<i>Master's Students at NYU</i>)
2020 - 2021	Jiaju Ma (<i>PhD student at Stanford</i>) Enmin Zhou (<i>Software Engineer at Meta</i>)
2019 - 2020	Meredith Young-Ng (<i>PhD student at UC Davis</i>)
2018 - 2019	Angel Cheung (<i>Apple AR Designer</i>) Xiangyu Li (<i>Engineer at Tencent</i>) Dinithi Silva-Sassaman (<i>PhD student at Dartmouth College</i>)
2017 - 2018	Benjamin Attal (<i>PhD Student at CMU</i>) Haoming Lai (<i>Software Engineer at Microsoft</i>)
2016 - 2017	Arielle Chapin (<i>Designer at Meta</i>) Parinda Wongbenjarat

Paper Reviewing

2021 - 2024	IEEE Transactions on Visualization and Computer Graphics (TVCG)
2019 - 2024	ACM Conference on Human Factors in Computing Systems (CHI)
2020	IEEE Virtual Reality
2019	IEEE Annual International Symposium Virtual Reality (VR)
2019	ACM Symposium on User Interface Software and Technology (UIST)
2019	Technical Committees SmartSys

Selected Media Press

PhD Student Jing Qian And Adobe Add AR Annotations To Physical Documents

Brown University, May 2020

<https://cs.brown.edu/news/2020/05/18/phd-student-jing-qian-and-adobe-add-ar-annotations-physical-documents/>

Adobe's Dually Noted adds AR annotations to physical books and documents

VentureBeat, April 2020

<https://cs.brown.edu/news/2020/05/18/phd-student-jing-qian-and-adobe-add-ar-annotations-physical-documents/>

Brown University Unveils Portal-ble "Hands-On" Augmented Reality Technology

hackster.io, Oct 2019

<https://www.hackster.io/news/brown-university-unveils-portal-ble-hands-on-augmented-reality-technology-3adbc6766432>

'Portal-ble' reimagines reality by opening window into world of AR

Brown Daily Herald, Oct 2019

<https://www.browndailyherald.com/article/2019/10/portal-ble-reimagines-reality-by-opening-window-into-world-of-a>