Portia Wang

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Research interests

I am interested in building up a theoretical framework towards understanding the role of personalized immersive technologies in supporting social and creative processes. To do this, I hope to develop personalized tools for facilitating social interactions and the creative process in virtual and augmented reality and characterize how individuals and groups utilize these tools over time.

Education

09/2024 –

Stanford University – Stanford, CA
Ph.D. in Communication (Media Psychology)
Advisor: Professor Jeremy Bailenson

09/2022 –
03/2024

Stanford University – Stanford, CA
M.S. in Management Science and Engineering (Computational Social Science)
GPA: 4.13

09/2018 –
05/2022

Columbia University – New York, NY
B.S. in Computer Science, minor in Applied Mathematics
Advisor: Professor Steven Feiner
GPA: 4.01

Peer-Reviewed Full Paper

1. **Portia Wang**, Mark R. Miller, Anna C.M. Queiroz, Jeremy N. Bailenson
Socially Late, Virtually Present: The Effects of Transforming Asynchronous Social Interactions in Virtual Reality, *CHI Conference on Human Factors in Computing Systems 2024*

2. Jeremy N. Bailenson, Brian Beams, James Brown, Cyan DeVeaux, Eugy Han, Anna C. M. Queiroz, Rabindra Ratan, Monique Santoso, Tara Srirangarajan, Yujie Tao, **Portia Wang**
Seeing the World through a Digital Prism: Psychological Implications of Commonplace Use of Passthrough Video in Mixed Reality, *Technology, Mind, and Behavior*

3. Shutaro Aoyama*, Jen-Shuo Liu*, **Portia Wang**, Shreeya Jain, Jingxi Xu, Shuran Song, Barbara Tversky, Steven Feiner
Asynchronously Assigning, Monitoring, and Managing Assembly Goals in Virtual Reality for High-Level Robot Teleoperation, *IEEE Conference on Virtual Reality and 3D User Interfaces 2024*
* denotes equal contributions

4. **Portia Wang**, Mark R. Miller, Eugy Han, Cyan DeVeaux, Jeremy N. Bailenson
Understanding virtual design behaviors: A large-scale analysis of the design process in Virtual Reality, *Design Studies (90)*

5. Jen-Shuo Liu*, **Portia Wang***, Barbara Tversky, Steven Feiner
Adaptive Visual Cues for Guiding a Bimanual Unordered Task in Virtual Reality, *Proceedings of the IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2022*
* denotes equal contributions

Extended Abstracts and Posters

1. **Portia Wang**, Shreeya Jain, Manxueying Li, Shutaro Aoyama, Xuezhen Wang, Shuran Song, Jen-Shuo Liu, Steven Feiner
Built to Order: A Virtual Reality Interface for Assigning High-Level Assembly Goals to Remote Robots, *Proceedings of the ACM Symposium on Spatial User Interaction (Poster) 2023*

2. **Portia Wang**, Mark R. Miller, Jeremy N. Bailenson
The Belated Guest: Exploring the Design Space for Transforming Asynchronous Social Interactions in Virtual Reality, *IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW) 2023*

Book Chapters

1. **Portia Wang**, Jeremy N. Bailenson
Virtual reality as a research tool. In Reimer, T., van Swol, L. & Florack, A. (Eds.), *The Routledge Handbook of Communication and Social Cognition.* Routledge/Taylor and Francis. *(Forthcoming)*

2. **Portia Wang**, Tara Srirangarajan, Jeremy N. Bailenson
Social Processes of Learning in Virtual Reality. In Plass, J., Mayer, R. & Makransky, G. (Eds.), *The Handbook of Learning in Virtual Reality.* MIT Press. *(In preparation)*

3. Tara Srirangarajan, **Portia Wang**, Jeremy N. Bailenson
Multimodal Analytics. In Plass, J., Mayer, R. & Makransky, G. (Eds.), *The Handbook of Learning in Virtual Reality.* MIT Press. *(In preparation)*

Works Under Review

1. Eugy Han, **Portia Wang**, Cyan DeVeaux, Gabriella M. Harari, Jeremy N. Bailenson
Understanding the Role of Virtual Mobility on How and What People Create in Virtual Reality.

2. **Portia Wang**, Eugy Han, Anna C.M. Queiroz, Cyan DeVeaux, Jeremy N. Bailenson
Predicting and Understanding Turn-Taking Behavior in Open-Ended Group Activities in Virtual Reality

3. Monique Santoso, **Portia Wang**, Eugy Han, Jeremy N. Bailenson
Conversational Dynamics in Social Virtual Reality: A Large-Scale, Longitudinal Study of Speech Acts, Spatial Context, and Nonverbal Behavior

4. Jeremy N. Bailenson, Cyan DeVeaux, Eugy Han, David Markowitz, Monique Santoso, **Portia Wang**
Seven Canonical Findings from 30 years of Psychological Experimentation in Virtual Reality

Research Experience

10/2022 – Present	**Virtual Human Interaction Lab** Advised by Professor Jeremy Bailenson (Stanford University) Created and evaluated proxemics and gaze transformations that facilitate asynchronous social interactions in VR; studied differences and extrapolated design behaviors across design prompts, contexts, and individuals in immersive design activities.
07/2023 – 09/2023	**Sensing, Interaction & Perception Lab** Advised by Professor Christian Holz (ETH Zürich) One of 20 summer research fellows selected among 2,500+ applicants to conduct summer-long research in the Computer Science department at ETH Zürich. Conducted research on generating camera trajectories for VR and AR narratives.
09/2021 – 01/2023	**Computer Graphics and User Interfaces Lab** Advised by Professor Steven Feiner (Columbia University) Conceptualized, built, and tested adaptive visual guidance systems in Virtual Reality. Built remote robot control systems in Virtual Reality for human-robot collaboration.
05/2020 – 12/2020	**Computer Vision Lab** Advised by Professor Carl Vondrick (Columbia University) Created datasets differing in low and high-level features to comprehensively evaluate the generalization capabilities of neural networks during test time. Studied different approaches of test time model adaptation for generalizing to unseen novelties.

Awards and Honors

2024	**Stanford McCoy Ethics Fellowship**
2024	**Stanford Graduate Fellowship in Science and Engineering**
2023	**Sozo Graduate Fellowship**
2023	**Student Summer Research Fellowship, ETH Zürich**
2021	**Tau Beta Pi, Columbia University Chapter**

Teaching Experience

Spring 2022	**Teaching Assistant, 3D User Interface and Augmented Reality** Working with Professor Steven Feiner, led design of course assignments, grading rubrics, and advised final student projects; advised 40+ students through office hours and workshops covering topics such as interaction and tracking, selection and manipulation, travelling, and wayfinding.
Fall 2021	**Teaching Assistant, User Interface Design** Working with Professor Brian Smith, fostered 150+ students' understanding of UI Design through weekly office hours and project studio workshops; Topics include user interviews, user personas, human-centered design, dialogue design, and experience design.

Professional Services

Conference Reviewer	**ACM CSCW (2024)** **ACM DIS (2024)** **ACM SIGCHI Late-Breaking Work (2023, 2024)**

Other Services	**Columbia Application Development Initiative (ADI) Mentor (2021, 2022)**

Project Experience

Spring 2021	**Visualizing Demographic and COVID-19 Statistics in Augmented Reality** Worked with Professor Steven Feiner in the Computer Science Department and Professor Courtney Cogburn in the School of Social Works at Columbia to develop a mobile AR application that interactively visualized COVID-19 and demographic data in New York City.
Fall 2020	**Columbia Counseling and Psychological Services+** Redesigned the Columbia CPS platform through Figma and React. Performed needfinding through interviewing 15+ students and counselors, incorporated online scheduling, counselor ratings, peer reviews and instant messaging to allow for better interface usability and usefulness.
Fall 2020	**Trust in Medical Professionals at Public Hospitals in Mainland China** Conducted individual research for Columbia's Sociology course "Trust and Mistrust in Science and Expertise" by studying the concept of trust and mistrust in medical professionals for people in mainland China through qualitative interviews.

Industry Experience

Summer 2021	**Tencent (Product Management and Strategy Analyst Intern)** – Shenzhen, China Composed strategy proposals for the smart city agenda based on AI Lab's 3D digital content capabilities; Delivered key strategy and roll-out plans for 3D digital content under the AI Lab; Defined objectives for the digital human enterprise solution.
Spring 2021	**Boston Consulting Group (Part-time Assistant)** – Remote Engaged in a digital transformation case and an international digital strategy case in the TMT sector, conducted digital strategy research and expert calls and created digital strategy database construction and drafting of project case deliverables.
Summer 2019	**MoreVFX (Concept Design Intern)** – Beijing, China Delivered and created early-stage virtual environments and concept arts for a science fiction movie production and facilitated the conceptualization and creation of commercial advertisements.

Technical skills

Programming
Python, C#, R, Java, C++, C, Html, CSS

Hardware
Meta Quest Series, Varjo XR-3, Microsoft Hololens 2, Pico

Software
Unity, 3DsMax, Photoshop, Figma, Mendeley, Git

Languages
English (fluent), Chinese (native), Latin (proficient)

Other interests

Film Photography, Concept Art Design, Golf, Skiing