Jiaju Ma

majiau.io
jiajuma@stanford.edu

EDUCATION

09/2022 – Present
Stanford, CA

Stanford University
Ph.D. Computer Science
Advisor: Maneesh Agrawala

09/2016 – 12/2021
Providence, RI

Brown | RISD Dual Degree Program
Brown University, *magna cum laude*
B.Sc. Computer Science, *with honors* — GPA 4.00

Rhode Island School of Design (RISD), *with honors*
B.F.A. Industrial Design — GPA 3.99

RESEARCH EXPERIENCE

09/2022 – Present

Stanford University Research Assistant
Advisor: Maneesh Agrawala
- Building tools that facilitate visual content creation [P5, P6].

02/2022 – 05/2022
San Jose, CA

Adobe Research Research Scientist Intern
Advisors: Li-Yi Wei and Rubaiat Habib Kazi
- Designed and implemented a tool for automatically converting music videos into lyric videos [P5].

01/2018 – 12/2021
Providence, RI

Brown HCI Group Research Assistant
Advisor: Jeff Huang
- Designed Portal-ble, a smartphone-based Augmented Reality (AR) system with intuitive free-hand manipulation [P1].
- Designed Portalware, a smartphone-wearable AR drawing tool [P2].
- Proposed FocalPoint, an adaptive direct manipulation technique for interacting with small 3D virtual objects [P4].
- Fabricated HeyPillow, a sensing pillow for sleep position detection [W1].

06/2021 – 09/2021
San Jose, CA

Adobe Research Research Scientist Intern
Advisors: Li-Yi Wei and Rubaiat Habib Kazi
- Designed and implemented a layered authoring tool for stylized 3D animations [P3].

PEER-REVIEWED CONFERENCE AND JOURNAL PUBLICATIONS

[P6]
SIGGRAPH Asia
2023

Sharon Zhang, **Jiaju Ma**, Daniel Ritchie, Jiajun Wu, and Maneesh Agrawala. Editing Motion Graphics Video via Motion Vectorization and Transformation. *In ACM Transactions on Graphics (SIGGRAPH Asia 2023).*

[P5]
UIST 2023

Jiaju Ma, Anyi Rao, Li-Yi Wei, Rubaiat Habib Kazi, Valentina Shin, and Maneesh Agrawala. Automated Conversion of Music Videos into Lyric Videos. *In Proceedings of the 2023 ACM Symposium on User Interface Software and Technology.* (Article No. 13. pp. 1–11. 25.1% acceptance rate).

[P4]
IMWUT 2023

Jiaju Ma, Jing Qian, Tongyu Zhou, and Jeff Huang. FocalPoint: Adaptive Direct Manipulation for Selecting Small 3D Virtual Objects. *In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies.* (Article No. 22).

[P3] CHI 2022 🏅	**Jiaju Ma**, Li-Yi Wei, and Rubaiat Habib Kazi. A Layered Authoring Tool for Creating Stylized 3D Animations. *In Proceedings of the 2022 ACM CHI Conference on Human Factors in Computing Systems*. (Article No. 383. pp. 1–14. 24.6% acceptance rate). **Best Paper Honorable Mention (top 5%) · Presented at SIGGRAPH Asia 2022**
[P2] DIS 2021	Jing Qian*, Tongyu Zhou*, Meredith Young-Ng*, **Jiaju Ma**, Angel Cheung, Xiangyu Li, Ian Gonsher, and Jeff Huang (* equally contributed). Portalware: Exploring Free-Hand AR Drawing with a Dual-Display Smartphone-Wearable Paradigm. *In Proceedings of the 2021 ACM Conference on Designing Interactive Systems*. (pp. 205–219. 26.8% acceptance rate).
[P1] UIST 2021	Jing Qian, **Jiaju Ma**, Xiangyu Li, Benjamin Attal, Haoming Lai, James Tompkin, John F. Hughes, and Jeff Huang. Portal-ble: Intuitive Free-hand Manipulation in Unbounded Smartphone-based Augmented Reality. *In Proceedings of the 2019 ACM Symposium on User Interface Software and Technology*. (pp. 133–145. 24.4% acceptance rate).

PEER-REVIEWED POSTER PUBLICATIONS

[W1] WISH@CHI 2019	Nediyana Daskalova, **Jiaju Ma**, Tiffany Chen, Valerie Nguon, Jing Qian, Chonghui Chen, and Jeff Huang. HeyPillow: Computationally Guided Sleep Behavior Study Through Sensing. *In WISH Symposium at the 2019 ACM CHI Conference on Human Factors in Computing Systems*.

HONORS AND AWARDS

2023	**Brown Institute for Media Innovation Magic Grant**
2022	**Sony Stanford Graduate Fellowship**
2022	**Best Paper Honorable Mention, ACM CHI**
2022	**CRA Outstanding Undergraduate Researcher Award, Finalist**
2020	**Sigma Xi Scientific Research Honor Society Member**
2019	Brown University Science Center Fellowship
2019	RISD Industrial Design Department Health Fund Grant
2018	The Brown Arts Initiative Student Grant
2018	Karen T. Romer Undergraduate Teaching and Research Award (UTRA)
2017	Karen T. Romer Undergraduate Teaching and Research Award (UTRA)

PROFESSIONAL EXPERIENCE

06/2020 - 08/2020 Menlo Park, CA	**Meta** Product Design Intern • Designed and shipped a new feature that improved data annotation quality by 10% for Meta's AI data annotation platform under the AI org.
05/2019 - 08/2019 Sunnyvale, CA	**LinkedIn** Product Design Intern • Redesigned LinkedIn's Customer Support Portal for better editing experience. • Designed new features for Solution Builder, LinkedIn's quoting, ordering, and billing platform, to support new products and allow variable discounts.
05/2019 - 08/2019 Palo Alto, CA	**Deeplearning.ai** Interaction Designer • Designed and implemented interactive visualizations for AI Notes, a series of tutorials that supplements an Artificial Intelligence course by Andrew Ng. • Established a design system to guide the style of all visualizations.

10/2022 - Present
Stanford, CA

Stanford CS Undergraduate Mentoring Program Student Mentor
- Mentor undergraduate students, especially those from underrepresented groups, to help them navigate computer science research.

09/2021 - 12/2021
Providence, RI

Brown University CSCI 1470: Deep Learning Teaching Assistant
- Taught students convolutional neural network concepts during office hours.
- Prepared course material, graded assignments, and mentored on final projects.

09/2017 - 05/2020
Providence, RI

RISD Center for Arts & Language Writing Tutor
- Worked with both graduate and undergraduate students in 1-on-1 sessions.
- Tutored on many forms of writing: literary analysis, formal analysis, graduate thesis, research paper, portfolio, and artist statement.

09/2017 - 05/2019
Providence, RI

Brown | RISD Dual Degree Program Peer Mentor
- Held bi-weekly and monthly check-ins with students from underrepresented groups to help them navigate the program.
- Topics include but not limited to: academic and extracurricular resources, time management, and course and career planning.

ACADEMIC SERVICE

Full Paper Reviewer
CHI 2022, 2023*, 2024
UIST 2022, 2023*
IMWUT 2022, 2023
ICCV 2023*
*Special Recognitions for Outstanding Reviews

PATENT

2023

Kim Pascal Pimmel, Stephen Joseph Diverdi, Jiaju Ma, Rubaiat Habib, Li-Yi Wei, Hijung Shin, Deepali Aneja, John G. Nelson, Wilmot Li, Dingzeyu Li, Lubomira Assenova Dontcheva, Joel Richard Brandt. Video Editing Using Transcript Text Stylization and Layout. *Non-Provisional. Filed*

2023

Jeff Huang, Jing Qian, Jiaju Ma, and Tongyu Zhou. FocalPoint: Adaptive Direct Manipulation for Selecting Small 3D Virtual Objects. *Provisional. Application # 63/483,443*

2022

Jiaju Ma, Li-Yi Wei, and Rubaiat Habib Kazi. 2021. Digital Object Animation Authoring Interfaces. *Non-Provisional. Application # 17/887,815*

INVITED TALKS

2022

A Layered Authoring Tool for Stylized 3D Animations
SIGGRAPH Asia 2022 "Best of CHI". Daegu, South Korea

2020

Adaptive Interactions in Smartphone Augmented Realtity
AWE (Augmented World Expo) Nite. Virtual

PRESS COVERAGE

10/2019

New Atlas Portal-ble Tech Gives Smartphone AR a Helping Hand

04/2019

Hacker News OKAI – An Interactive Introduction to Artificial Intelligence

Software	Unity, Figma, Sketch, InVision, Framer, Illustrator, Photoshop, XD, After Effects, Rhino 3D, Maya, SolidWorks, Blender
Frameworks	ARKit, ARCore, OpenCV, Tensorflow, PyTorch, React, D3.js, P5.js, GreenSock, Lottie
Programming Languages	Python, C#, C++, C, Java, HTML, CSS, JavaScript
Fabrication	3D Printing, Laser Cutting, Woodworking, Jewelry & Metal Smithing, Soft Goods, Foam Modeling, Physical Computing
Spoken Languages	English (native), Chinese (native)

Last updated on 11/13/2023