Junshu "Ted" **Liu** Interaction Designer, VR & AR Developer
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Research Interests.

eXtended Reality (XR): Virtual Reality (VR); Augmented Reality (AR); Mixed Reality (MR); Virtual Environments & World-making; Computer Graphics & Computer Vision.
Human-Computer Interaction (HCI): Graphic User Interface (GUI); Tangible User Interface (TUI); Embedded Systems; Motion Capture (Mocap); Interactive Environments; Design Thinking; User Experience (UX).
Digital Studies: Interactive Digital Media; Interactive Technologies; Technology and Humanities; Philosophy of Technology.

Education.

M.S. in Digital Media. Georgia Institute of Technology. 2019-2021.

- Master's Project: GT VR Tour, Location-Based Virtual Reality Campus Tour.

M.A. in Digital Studies of Language, Culture, and History. The University of Chicago. 2018-2019.

- Thesis Project: Knowledge Globe (KnoGlo), See the Evolution of Knowledge with Data Visualization.

B.A. in Digital Culture (Media Processing). Arizona State University. 2014-2018.

- Capstone Project: Herberger Experience, Augmented Reality Campus Tour.

Research Experience, Conference, Publication.

Characterizing Bottlenecks towards a Hybrid Integration of Holographic, Mobile, and Screen-based Data Visualization. 2017.

- Goal: design and implement a distributed particle rendering framework for mixed-reality 3D data visualization to bridge mobile mixed-reality devices with a 2D immersive screen-based stage environment.
- Team members: Alexander Shearer, Lei Guo, Junshu Liu, Ashley Megumi Satkowski, Robert LiKamWa.
- Presented at Immersive Analytics @ IEEE VIS 2017.
- Research at Meteor Studio @ ASU. Summer 2017.
    - "Meteor" stands for "Mobile Experiential Technology through Embedded Optimization Research."
    - Lab Director & Mentor: Dr. Robert LiKamWa.
- My responsibility: developed a protocol for Augmented Reality Data Visualization in Max/MSP and tested it on Microsoft Hololens and Android mobile devices.
- Paper: http://www.aviz.fr/~bbach/immersive2017/papers/IA_2253-paper.pdf
- Project demo: https://meteor.ame.asu.edu/projects/shoestring/

Work Experience.

- **Qualcomm Technologies.** Engineering Intern. 2020-2021.
    - Designed elegant user interfaces for desktop applications and developed the front-end using electron.js framework.
    - Collaborate with back-end developers, software engineers, and project lead of the team to make the apps work with our team's database. My front-end contribution has increased the productivity of our team's works on app developments.
    - Designed the visual identity (VI) and related materials for our team to show our character through our products and give a strong impression for our team in the company. Besides, these legacy designs are provided for our team's future works for apps, websites, presentations, etc. These design works include
        - Brand, includes logos & color schemes;
        - PowerPoint template & video conference background;
        - Desktop app & website UI framework with our team's brand.
- **StreamWork.** Interaction Designer & Video Producer. 2018-2021.
    - Collaborated with company founder to design an engaging website. Created multiple designs for physical/social media marketing.
    - Wrote, created, and directed the company's promotional video in conjunction with a freelancer from Fiverr for final production.
- **Meteor Studio @ ASU & Synthesis Center @ ASU.** Technological Assistant. 2017.
    - Research at Meteor Studio. (See "Research Experiences.")
    - Tested our research project at the Intelligent Stage (iStage) at Synthesis Center.

Relevant Skills & Experiences.

UI/UX/Interaction Design, Product Design, Interactive Media. 3 years of experience.

- Persona, Affinity Diagram, Wireframes, Interview & Survey, User Flow, Lo-Fi Prototype, Mid-Fi Prototype, Hi-Fi Prototype, Motion Design, User Testing.
- UX Tools: Axure RP, Figma, Adobe XD, Proto.io.
- Language: Arduino, Processing, Max/MSP/Jitter.

Web Design & Development, Web VR/AR/MR. 2 years of experience.

- Frameworks: Bootstrap, MD Bootstrap, electron.js, A-Frame, ar.js, Spoke by Mozilla (work with Mozilla Hubs).
- Language: JavaScript, HTML, CSS & Sass.

Visual & Graphic Design. 5 years of experience.

- Brand & VI, Printed Media, Data Visualization.
- Creative Software: Adobe Photoshop (Ps), Illustrator (Ai), InDesign (Id).

- Language: Python, R.

Media Design. 6 years of experience.

- Slideshow Design, Video Production, Creative Directing.
- Software: Apple Keynote, Microsoft PowerPoint, Apple Final Cut Pro, Adobe After Effects (Ae).

Spoken Languages. English (academic & professional), Mandarin Chinese (native).

Platforms. GitHub, WordPress, Apple macOS, iOS, iPadOS, Microsoft Windows.

Honors & Awards.

- Scholarship onboard, admitted into the Digital Studies program by the Division of the Humanities at the University of Chicago. June 2018.
- 1st-Place Award, Hacks for Humanity Hackathon, by Project Humanities @ Arizona State University. October 2017.
- Dean's List, Herberger Institute of Design and the Arts, Arizona State University. Spring 2018.
- Dean's List, Herberger Institute of Design and the Arts, Arizona State University. Fall 2017.
- 3rd-Place Award, Hacks for Humanity Hackathon, by Project Humanities @ Arizona State University. October 2016.
- 2nd-Place Award, Film Wars Competition by Microsoft Teams & Filmmaker Club @ GT. May 2021.

Projects.

- GT VR Tour, 2021
    - Location-Based Virtual Reality Campus Tour. Using A-Frame, JavaScript, and Blender.
    - Digital Media Master's Project. Mentored by Dr. Jay Bolter, GaTech. Committee members: Dr. Janet Murray & Dr. Michael Nitsche.
    - Paper: https://junshutedliu.github.io/GT-VR-Tour/Documentation/GT%20VR%20Tour%20-%20Paper.pdf
    - Project website: tinyurl.com/GT-VR-Tour
    - Project video: https://youtu.be/YgN-HjX3-7U
- Roundtrip Planning Table, 2020
    - Simplified roundtrip flight searching and planning with fewer clicks. Interactive UI prototype using Axure RP.
    - Course: Principle of Interaction Design. Dr. Janet Murray, GaTech.
    - Interactive prototype: https://1fgfdz.axshare.com/#id=0n1g23&p=landing_page
    - Storyboard: https://junshuliu.com/portfolio/roundtrip-planning-table/
    - Project video: https://youtu.be/tMupmYghqR0

- Saber Symphony, 2019
    - Interactive music game controller design & installation, combined with a 2D game interface design for on-screen visual feedback and real-time sound effects for audio feedback.
    - Languages & Tools: Arduino, Processing.
    - Course: Interactive Products. Dr. Sang-Won Leigh and Dr. HyunJoo Oh, GaTech.
    - Project video: https://junshuliu.com/portfolio/saber-symphony/
- Herberger Experience, 2018
    - Augmented Reality Campus Tour. Using ar.js and A-Frame.
    - Digital Culture Capstone Project. Mentored by Dr. Loren Olson, ASU
    - Project introduction: https://junshuliu.com/portfolio/herbergerexperience/
- Marine World, 2017
    - An Interactive, Motion Capture (Mocap) Marine Life Education System for Children. Using Motive by OptiTrack, Max/MSP/Jitter, and Processing.
    - Course: Motion Capture Integrative System. Dr. Qiao Wang, ASU.
    - Paper: https://junshutedliu.files.wordpress.com/2017/05/marine-world-paper-official.pdf
    - Project video: https://youtu.be/eyxjxMDunPc
- Apple Fridge (Concept), 2019
    - What if Apple makes a fridge?
    - Course: Consumer Electronics Design. Dr. Wang Wei, GaTech.
    - Project video, prototype, and documentation: https://junshuliu.com/portfolio/apple-fridge/
- Knowledge Globe (KnoGlo), 2019
    - See the evolution of knowledge with data analysis and visualization. Using Python & R.
    - Digital Studies Thesis Project. Mentored by Dr. David Schloen, Dr. Jeffrey Tharsen, and Dr. Miller Prosser, UChicago.
    - Project website: tinyurl.com/knoglo
- Tapes, 2020
    - Project *Tapes* is an interactive virtual reality art piece that showcases the experiences of people from the late 1970s to the early 2000s enjoying cultural products - specifically one dynamic format, which is the video (with analog video format, such as VHS).
        - Using Spoke (work with Mozilla Hubs).
        - Project website: https://hubs.mozilla.com/epspeC7/tapes
    - This is also a historical analysis of this kind of analog media. Paper: https://junshuliu.com/portfolio/tapes/
    - Course: Historical Perspective of Digital Media. Dr. George Zinman, GaTech.