

YUAN LI

CONTACT INFORMATION

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EXPERTISE AREAS

Augmented Reality; Virtual Reality; User Interaction; Computer Supported Collaborative Work;

EDUCATION

- Virginia Tech**, Department of Computer Science, 08/2017-05/2022(*expected*)
• Ph.D in Computer Science Advised by Professor Doug A. Bowman
• Research Assistant on interaction techniques, augmented and virtual reality
• Graduate Instructor of Introduction to Data Structure and Algorithm
- Boise State University**, Department of Computer Science 08/2015-08/2017
• M.S. in Computer Science GPA: **3.96/4** Advised by Professor Steven Cutchin
• Research Assistant in Visualization Laboratory on virtual reality graphics
- Zhejiang University**, College of Computer Science & Technology 09/2011-06/2015
• B.E. in Computer Science & Technology GPA: **3.63/4**

PROJECT EXPERIENCE

- AR Film for Orientation-Centered Phenomenology**, Virginia Tech
Interdisciplinary Project: CS, College of Architecture and Urban Studies 09/2020-present
• Designing and implementing situated orientation-centered AR film app on Lidar equipped iOS devices through scene reconstruction and volumetric video in representing the issues of gender norms in society
- ARCritique - Collaborative AR App for Remote Design Critique**, Virginia Tech
Interdisciplinary Project: CS, Industrial Design, School of Education, School of Visual Art 05/2020-present
• Formed and led an interdisciplinary team from three majors
• Designing and Implementing AR iOS app aiming to help design students with their study and research during Covid-19 by supporting rapid scanning of physical artifact, instant sharing with remote faculty, and simultaneous model inspection in shared AR space
- Gaze Visualization Techniques for Collaborative Wide-Area Model-Free AR**, Virginia Tech
Advisor: Professor. Doug A. Bowman 03/2018-Present
• Designing and implementing multiple gaze ray visualizations to convey object reference in model free environment for augmented reality
• Designing and implementing reliable alignment and synchronization for collaborators that are 230 ft. apart on HoloLens 1 and HoloLens 2
- Evaluation of Model Free 3D Point Marking Techniques in Augmented Reality**, Virginia Tech
Advisor: Professor. Doug A. Bowman 09/2017-11/2018
• Designed and studied novel interaction techniques to specify arbitrary 3D point positions without knowledge of environment geometry in both mobile augmented reality (HoloLens) and virtual reality (VIVE)
- Real Time Tone Mapping Editing in Immersive Environment**, Boise State University
Advisor: Professor. Steven Cutchin 09/2016-07/2017
• Improvement to previous work on view dependent tone mapping operator that enables real time tone mapping parameters editing for different artistic effects on mobile Android smartphone
- View Dependent Tone Mapping for HDR Panorama on Head Mounted Displays**, Boise State University
Advisor: Professor. Steven Cutchin 01/2016-09/2016
• Designed and implemented optimized tone mapping operator for high resolution (up to 16K) HDR panoramas based on user view port on mobile Android smartphone

TECHNICAL SKILLS

Commonly Used Programming Languages: C#, C/C++, Java, Objective-C, Swift
Programming Platforms: Proficient in Unity; familiar with OpenGL, WebGL, Vuforia, Photon
Mixed Reality: Familiar with commercial VR head worn displays (e.g. VIVE), developer oriented AR head worn displays (HoloLens series), mobile AR platform ARKit, Windows motion capture system (Kinect)
UX: Extensive knowledge of UI design and quantitative/qualitative evaluation of user experience; familiar with user experience research and data analysis with statistical tools (e.g., R); proficient in working closely with UX designers to provide technical solutions for novel UI designs

SELECTED PUBLICATIONS

- **Yuan Li**, Donghan Hu, Boyuan Wang, Doug A. Bowman, Sang Won Lee. *The Effects of Incorrect Occlusion Cues on the Understanding of Bare-handed Referencing in Collaborative Augmented Reality*. *Frontiers in Virtual Reality Augmented Reality*, 2021
- **Yuan Li**, David Hicks, Wallace S. Lages, Sang Won Lee, Akshay Sharma, Doug A. Bowman. *ARCritique: Supporting Remote Design Critique of Physical Artifacts through Collaborative Augmented Reality*. 2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)
- **Yuan Li**, Feiyu Lu, Wallace S. Lages, Doug A. Bowman. *Gaze Direction Visualization Techniques for Collaborative Wide-Area Model-Free Augmented Reality*. *Proceedings of the 2019 Spatial User Interaction*, ACM, 2019