HAIKUN HUANG

Postdoctoral Research Fellow
Department of Computer Science
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BIO

My research interests include AR/VR/MR, computational design, graphics, HCI, and vision, particularly on the applications of artificial intelligence techniques for creating novel 3D content creation tools and virtual experiences. My research has been published in IEEE VR and ACM CHI and was recognized with a Best Paper Honorable Mention Award at CHI 2019. I frequently serve as a reviewer for IEEE VR and CHI. I also have years of experience working in the game industry and serving as a columnist for popular game development forums in China. I also create tools for researchers and support their POC projects.

RESEARCH INTERESTS

XR, computational design, graphics, HCI, and vision, particularly on the applications of artificial intelligence techniques for creating novel 3D content creation tools and virtual experiences.

EDUCATION

Ph.D., Computer Science	2016-2020
Uni of Mass Boston	
Bachelor, Computer Science	2012-2016
Uni of Mass Boston	
Bachelor, E-Commerce	2006-2008
South China University of Technology	
Application Development	2003-2006
South China Institute of Software Engineering GZU	

WORKING/TRAINING EXPERIENCE

Postdoctoral Research Fellow	2020-Present
George Mason Uni	
Research/Teaching Assist	2017-2020
Uni of Mass Boston	
2D,3D Game Programming.	2009-2011
The Beijing Gamfe Tech co.,LTD	
Data Analysis Engineer	2008-2009
Guangzhou Kingpoint CO.,LTD	

AWARDS/HONORS & PATENTS

The 2nd Place on the ACIR 2021 Student Track	2021
UMass Boston Year's Graduate Program Award	2020
Best Paper Honorable Mention Award (CHI 2019)	2019
Human Vision-Empowered 3D Scene Analysis Tools	2018

- Haikun Huang, Lap-Fai Yu
- US patent application no. 16/598, 718

PROFESSIONAL ACTIVITIES

Co-Organizer
1st Workshop on 3D Content Creation for Simulated Training in Extended Reality (TrainingXR), IEEE VR 2020.

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Reviewer
ERGON 2020, JOVE 2020, IEEE Game CHI 2020, IEEE VR Conference Papers 2020, CHI Paper 2020, CASA 2019, ISMAR Paper & Poster 2020, VRST 2020 Conference Paper,VRST 2020 Poster & Demo, ACHI 2020, IEEE VR 2021, Frontiers 2020, Editorial 2020, CHI 2021, IEEE VR 2021 Conference, AutomotiveUI 2021, ISMAR 2021 Poster.

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Technical Program Committees
ACHI 2020.

PUBLICATIONS

15 publications in top-tier computer graphics, vision, human-computer interaction conferences and journals (e.g., CHI, IEEE VR, TVCG, ICRA, SIGGRAPH Asia, Technical Heal Care, Medicine and Science in Sports and Exercise)

- Building a Motion-Aware, Networked Do-It-Yourself Holographic Display
- A Review on Virtual Reality Skill Training Applications (Frontiers Virtual Reality 2021)
- Toward Automatic Audio Description Generation for Accessible Videos (CHI 2020)
- Interactive Design of Gallery Walls via Mixed Reality (IEEE AIVR, 2020)
- Exertion-Aware Path Generation (SIGGRAPH 2020)
- Audible Panorama: Automatic Spatial Audio Generation for Panorama Imagery (CHI 2019)
- Gaze-driven Adaptive Aid for VR Navigation (CHI 2019)
- Optimizing Visual Element Placement via Visual Attention Analysis (IEEE VR 2019)
- Pose-Guided Level Design (CHI 2019)
- Exercise Intensity-driven Level Design (Special Issue on IEEE Virtual Reality 2018)
- Deep Trail-Following Robotic Guide Dog in Pedestrian Environments for People who are Blind and Visually Impaired - Learning from Virtual and Real Worlds (ICRA 2018)
- Automatic Optimization of Wayfinding Design (TVCG 2017)
- Analyzing Visual Attention via Virtual Environments (Virtual Reality meets Physical Reality Workshop SIGGRAPH Asia, 2016)
- Physiological Responses and Enjoyment of Kinect-Based Exergames in Older Adults at Risk for Falls: A Feasibility Study (Manuscript under review at Medicine and Science in Sports and Exercise)
- Effects of Exergaming on Cognition and Dual-Task Mobility in Older Adults at Risk for Falling (Manuscript under review at Medicine and Science in Sports and Exercise)