Xiang Li

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Education

Sept. 2018 – June 2022 **Xi'an Jiaotong-Liverpool University**, *XJTLU*, Suzhou, China.
B.Sc. (Expected) in Information and Computing Science

GPA: First Class (Honor), **Rank:** ∼15%

Highlights: IEEE XJTLU Student Branch Associate Co-Chair

Sept. 2018 – June 2022 **University of Liverpool**, Liverpool, UK.
B.Sc. (Expected) in Computer Science

Selected Publications

Note: ACM CHI, IEEE VR, IEEE ISMAR, and ACM CHI PLAY are generally recognized as top-tier conferences in my field of HCI and VR/AR.

[C.6] **CAPTCHA Design in Virtual Reality** [under review]

Xiang Li, Yuzheng Chen, Rakesh Patibanda, Florian 'Floyd' Mueller*
Submitted to IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR 2021)

[C.5] **Limited Bodily Control as Intriguing Play Design Resource** [under review]

Florian 'Floyd' Mueller*, Rakesh Patibanda, Rich Byrne, Zhuying Li, Yan Wang, Josh Andres, **Xiang Li**, Jonathan Marquez, Stefan Greuter, Jonathan Duckworth, Joe Marshall
Submitted to ACM CHI Conference on Human Factors in Computing Systems (ACM CHI 2021)

[J.1] **Results and Guidelines from a Repeated-Measures Design Experiment Comparing Standing and Seated Full-Body Gesture-Based Immersive Virtual Reality Exergames: Within-Subjects Study**

Wenge Xu, Hai-Ning Liang*, **Xiang Li**, Yuzheng Chen, Kangyou Yu, Qiuyu He
JMIR Serious Games (IF = 3.53, SCI, **Top** Journal in Serious Games, Open Access)

[C.4] **VirusBoxing: A HIIT-based VR Boxing Game**

Wenge Xu, Hai-Ning Liang*, Xiaoyue Ma, **Xiang Li**
ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play (CHI PLAY 2020)

[C.3] **Exploration of Hands-free Text Entry Techniques for Virtual Reality**

Xueshi Lu, Difeng Yu, Hai-Ning Liang*, Wenge Xu, Yuzheng Chen, **Xiang Li**, Khalad Hasan
IEEE International Symposium on Mixed and Augmented Reality (IEEE ISMAR 2020)

[C.2] **Exploring Visual Techniques for Boundary Awareness During Interaction in Augmented Reality Head-Mounted Displays [Best Paper Nomination (5%)]**

Wenge Xu, Hai-Ning Liang*, Yuzheng Chen, **Xiang Li**, Kangyou Yu
IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR 2020)

[C.1] **Auto-Hierarchical Data Algorithm: Focus on Increasing Users' Motivation and Duration in Virtual Reality**

Xiang Li, Yuzheng Chen*
IEEE International Conference on Big Data Analytics (IEEE ICBDA 2020)

Selected Awards and Honors

2020 **2x Special Recognitions for Outstanding Reviews for ISMAR 2020**

IEEE VR & 3DUI 2020 Best Conference Paper Nominee (5%)

2019 **Summer Undergraduate Research Fellowship (SURF) at XJTLU**

Professional Experiences

Review 10+ Papers — I served as a reviewer for IMWUT (Ubicomp 2020), ISMAR 2020, VRST 2020, CHI PLAY 2020 and IEEE TVCG (IEEE VR 2021 Journal-track) and CHI 2021.

April 2020 – Present — **Exertion Games Lab**, *Research Assistant*, Monash University
Advisor: Prof. Florian 'Floyd' Mueller, Prof. Elise van den Hoven, and Rakesh Patibanda (PhD).
Worked on bodily control theory for intriguing play design

- Collaborated and participated in a systematic limited bodily control theory for intriguing play design. [C.5]
- Devised a VR motor-memory system, which can contribute at the intersection of body, memory and play. [WiP]
- Proposed the MusicBubble, which combines the simplicity of a puzzle game and provides the player with an equally accessible environment for creating music. [WiP]
- Evaluated several CAPTCHAs in VR and proposed guidance for CAPTCHA design in VR. [WiP]

April 2019 – Present — **X-CHI Lab**, *Research Assistant*, Xi'an Jiaotong-Liverpool University
Advisor: Prof. Hai-Ning Liang and Dr. Wenge Xu.
Worked on virtual reality/augmented reality and exergames

- Evaluated the differences between playing a full-body gesture-based standing and seated exergame in VR regarding gameplay performance, intrinsic motivation, and motion sickness. [C.1, J.1]
- Proposed the empirical study of visual methods for boundary awareness in AR HMDs. [C.2]
- Explored two hands-free text entry mechanisms in VR: BlinkType and NeckType, which leverage users' eye blinks and neck's forward and backward movements to select letters. [C.3]
- Presented a HIIT-based VR exergame named VirusBoxing. [C.4]
- Established an AR guidance system that works with see-through HMDs to assist in guiding seniors through tasks, and explored suitable techniques, guidance types, and task complexity. [WiP]

Presenting Experiences

Oct. 2020 — **Invited Talk**, *Exertion Games Lab*, Monash University, Melbourne, Australia.
CAPTCHA Design in Virtual Reality

Sept. 2020 — **Invited Presentation**, *ChinaVR 2020 Conference*, Jilin, China.
Exploring Visual Techniques for Boundary Awareness During Interaction in AR HMDs

Aug. 2020 — **Invited Talk**, *Exertion Games Lab*, Monash University, Melbourne, Australia.
Feasibility and Effectiveness of Gesture-based Virtual Reality Seated Exergames

March 2020 — **Presenting Author**, *IEEE Virtual Reality 2020 Conference*, Atlanta, USA.
Exploring Visual Techniques for Boundary Awareness During Interaction in AR HMDs

Extracurricular Activities

2020 — **Student Volunteer**, ACM CHI PLAY 2020.
Student Volunteer, IEEE ISMAR 2020.
Member, *Game Design Group*, ACM CHI PLAY 2020 Student Game Design Competition.
Member, *Game Design Group*, Tencent NEXT IDEA 2020: Game Design Competition.

2019 — **Student Volunteer**, *Assistant Lecturer*, QCon 10th International Software Development Conference.
Student Representative, *Academic Practice Sub-Committee*, Xi'an Jiaotong-Liverpool University.
Leader, *Game Design Group*, The 3rd University Students VR/AR Development Competition.

Skills

Programming Languages: Python, C/C++, C#, Java, HTML, MATLAB

Tools and Frameworks: LaTeX, Arduino, Unity3D, Microsoft Office, Photoshop, Final Cut Pro X

Referees

Prof. Florian 'Floyd' Mueller: Professor, Director of the Exertion Games Lab, Monash University

Prof. Hai-Ning Liang: Associate Professor, Head of Department, Xi'an Jiaotong-Liverpool University

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