WENGE XU CURRICULUM VITAE

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Research Interests

My main research interests are in the field of Human-Computer Interaction (HCI), with a focus on extended reality, text entry, 3D user interface, and games (e.g., serious games, game experience, game interaction).

Education

PhD in Computer Science 01.2018—05.2021
University of Liverpool, UK

Thesis: Motion-based Interaction for Head-Mounted Displays
Supervisor: Prof Hai-Ning Liang, Prof Yong Yue, Dr Bing Wu Berberich
Examiners: Prof Shengdong Zhao, Dr Lingyun Yu

MSc Advanced Computing with Management 09.2016—09.2017
King's College London, UK

BSc Computer Science (Games Technology) 09.2014—07.2016
Nottingham Trent University, UK

Experience

Lecturer in HCI 05.2021—ongoing
Birmingham City University, UK

Research Associate 05.2021—09.2021
Xi'an Jiaotong-Liverpool University, CN

Doctoral Research Assistant 01.2018—05.2021
University of Liverpool, UK

Graduate Teaching Assistant 01.2018—05.2021
Xi'an Jiaotong-Liverpool University, CN

Teaching Experience

Lecturer, BCU 2021-ongoing
Course:

- DIG4166 Web Design and Development (~200 students) 2021
- CMP6214 User Experience Design (~100 students) 2021
- CMP7220 Advanced and Immersive Technologies (~45 students) 2022

Graduate Teaching Assistant, XJTLU 2018—2021
Course:

- Human-Centric Computing (100+ students) 2018, 2020
- Data Structures (200+ students) 2018
- Principles of Computer Programming (~800 students) 2018, 2019
- Principles of Computer Games Design (80+ students) 2019—2021
- Professional Skills and Emerging Topics in Computer Science (~200 students) 2019
- Professional Skills in Computer Science (~200 students) 2019
- Explore Advanced Technology (~800 students) 2020

Mentoring Experience (selected)

Master Thesis

- Y. Yu. Assessing the Effects of a Full-body Motion-based Exergame in Virtual Reality (2018).

Bachelor Thesis

- Z. Zhang. Studying the Effect of Display Type and Viewing Perspective on User Experience in Virtual Reality Exergames (2019).
- J. Zhu. An Investigation of Micro-and Macro-Interaction for 3D Manipulation using Dual-Hand Controller in Virtual Reality Environments (2018).

Summer Interns

- Y. Chen, X. Li, and K. Yu. Exploring Visual Techniques for Boundary Awareness During Interaction in Augmented Reality Head-Mounted Displays (2019).
- A. He, Z. Wang. Pointing and Selection Methods for Text Entry in Augmented Reality Head-Mounted Displays (2018).
- D. Yu, X. Lu, T. Zhang. DepthMove: Leveraging Head Motions in the Depth Dimension to Interact with Virtual Reality Head-Worn Displays (2018).

Professional Services

Conference Chair	ICDIIME'22 (Technical Program Chairs)
Program Committee	TEI WIP'21, IMX'22, CHI Play'22
Conference Reviewer	AH'22, IEEE ISMAR'21, IEEE VR'21-22, MobileHCI'21, CHI'21-22, VRST'19, '21, SUI'21, CHI Play'20, TEI'20-21
Journal Reviewer	Springer Virtual Reality, JMIR serious games, International Journal of Human-Computer Studies, IEEE Transactions on Games.
Grant Reviewer	EPSRC UKRI
Student Volunteer	IEEE VR'19, IEEE ISMAR'19

Awards and Honours

- ACM CHI Play Student Game Design Competition Finalist 11.2020
- Outstanding Teaching Team Award (UG programme) in Suzhou 06.2020
- IEEE VR Best Conference Paper Nominee 03.2020
- Best PhD Poster Award, School of Advanced Technology, XJTLU 12.2019
- Best PhD Presentation Award, School of Advanced Technology, XJTLU 12.2019
- Excellent Volunteer Service, IEEE ISMAR'19 10.2019
- Ph.D. Scholarship, RDF 15-02-12, XJTLU 2018-2020

Publications

I have published peer-reviewed full papers in top-tier HCI conferences like ACM CHI; top-tier XR conferences like IEEE VR, IEEE ISMAR; top-ranked journals on graphics and visualizations like IEEE TVCG; and top-ranked game-related journals like JMIR serious games, Games for Health. You can find my papers in the following sources:
Google scholar | Researchgate

Conference

[C9] D. Monteiro, H.N. Liang, X. Wang, **W. Xu**, H. Tu. Design and Development of a Low-cost Device for Weight and Center of Gravity Simulation in Virtual Reality. *ACM ICMI'21*.

[C8] **W. Xu**, H.N. Liang, K. Yu, N. Baghaei. Effect of Gameplay Uncertainty, Display Type, and Age on Virtual Reality Exergames. *ACM CHI'21*.

[C7] X. Lu, D. Yu, H.N. Liang, **W. Xu**, Y. Chen, X. Li, K. Hasan. Exploration of Hands-free Text Entry Techniques for Virtual Reality. *IEEE ISMAR'20*.

[C6]  **W. Xu**, H.N. Liang, Y. Chen, X. Li, and K. Yu. Exploring Visual Techniques for Boundary Awareness During Interaction in Augmented Reality Head-Mounted Displays. *IEEE VR'20. Nominated for the best conference paper award (top5%).*

[C5] D. Yu, H.N. Liang, X. Lu, T. Zhang, and **W. Xu**. DepthMove: Leveraging Head Motions in the Depth Dimension to Interact with Virtual Reality Head-Worn Displays. *IEEE ISMAR'19*.

[C4] **W. Xu**, H.N. Liang, A. He, and Z. Wang. Pointing and Selection Methods for Text Entry in Augmented Reality Head-Mounted Displays. *IEEE ISMAR'19*.

[C3] **W. Xu**, H.N. Liang, Y. Yu, D. Monteiro, K. Hasan, and C. Fleming. Assessing the Effects of a Full-body Motion-based Exergame in Virtual Reality. *Chinese CHI'19*.

[C2] **W. Xu**, H.N. Liang, Y. Zhao, D. Yu, and D. Monteiro. DMove: Directional Motion-based Interaction for Augmented Reality Head-Mounted Displays. *ACM CHI'19*.

[C1] **W. Xu**, H.N. Liang, Y. Yue. Directional Motion-based Interfaces for Virtual and Augmented Reality Head-mounted Displays. *ICOMSSC'18*.

Journal

[J9] **W. Xu**, H.N. Liang, N. Baghaei, X. Ma, K. Yu, X. Meng, S. Wen. Effects of an Immersive Virtual Reality Exergame on University Students' Anxiety, Depression, and Perceived Stress: Pilot Feasibility and Usability Study. *JMIR Serious Games*.

[J8] R. Shi, H.N. Liang, Y. Wu, D. Yu, and **W. Xu**. Virtual Reality Sickness Mitigation Methods: A Comparative Study in a Racing Game. *Proceedings of the ACM on Computer Graphics and Interactive Techniques*.

[J7] **W. Xu**, H.N. Liang, Q. He, X. Li, K. Yu, Y. Chen. Results and Guidelines From a Repeated-Measures Design Experiment Comparing Standing and Seated Full-Body Gesture-Based Immersive Virtual Reality Exergames: Within-Subjects Evaluation. *JMIR Serious Games*.

[J6] **W. Xu**, H.N. Liang, N. Baghaei, W.B. Bing, and Y. Yue. Health Benefits of Digital Videogames for the Ageing Population: A Systematic Review. *Games for Health*.

[J5] **W. Xu**, H.N. Liang, Z. Zhang, and N. Baghaei. Studying the Effect of Display Type and Viewing Perspective on User Experience in Virtual Reality Exergames. *Games for Health*.

[J4] **W. Xu**, H.N. Liang, Y. Zhao, T. Zhang, D. Yu, D. Monteiro, and Y. Yue. RingText: Dwell-free and hands-free Text Entry for Mobile Head-Mounted Displays using Head Motions. *IEEE Transactions on Visualization and Computer Graphics*.

[J3] D. Yu, K. Fan, H. Zhang, D. Monteiro, **W. Xu**, and H.N. Liang. PizzaText: Text entry for virtual reality systems using dual thumbsticks. *IEEE Transactions on Visualization and Computer Graphics*.

[J2] D. Yu, J. Zhu, **W. Xu**, H.N. Liang, C. Fleming, and Y. Yue. An Investigation of Micro-and Macro-Interaction for 3D Manipulation using Dual-Hand Controller in Virtual Reality Environments. *International Journal of Design, Analysis & Tools for Integrated Circuits & Systems*.

[J1] D. Monteiro, H.N. Liang, **W. Xu**, M. Brucker, V. Nanjappan, and Y. Yue. Evaluating Immersion, Presence, and Emulator Sickness in Virtual Reality Games based on First- and Third-Person Viewing Perspectives. *Computer Animation & Virtual Worlds*.

Book Chapter

[CH1] R. Zheng, H.N. Liang, R. Xie, F. Lu, Y. Shi, **W. Xu**, and K. Papangelis. BlockTower: A Multi-player Cross-Platform Competitive Social Game. *In VR, Simulations and Serious Games for Education*.

Poster and Extended Abstract

[Po5] B. Spittle, **W. Xu**, M. Frutos-Pascual, C. Creed, I. Williams. Socially Distanced: Have user evaluation methods for Immersive Technologies changed during the COVID-19 pandemic? *IEEE ISMAR'21*.

[Po4] N. Baghaei, L. Stemmet, I. Khaliq, A. Ahmadi, I. Halim, H.N. Liang, **W. Xu**, M. Billinghurst, R. Porter. Designing Individualised Virtual Reality Applications for Supporting Depression: A Feasibility Study. *ACM EICS'21*.

[Po3] **W. Xu**, H.N. Liang, X. Ma, and X. Li. VirusBoxing: A HIIT-based VR boxing game. *ACM CHI PLAY'20*.

[Po2] J. Wang, H.N. Liang, D. Monteiro, **W. Xu**, H. Chen, Q. Chen. Real-Time Detection of Simulator Sickness in Virtual Reality Games Based on Players' Psychophysiological Data during Gameplay. *IEEE ISMAR'20*.

[Po1] X. Lu, D. Yu, H.N. Liang, X. Feng, and **W. Xu**. DepthText: Leveraging Head Movements towards the Depth Dimension for Hands-free Text Entry in Mobile Virtual Reality Systems. *IEEE VR'19*.

Patent

[Pa3] H.N. Liang, D. Monteiro, **W. Xu**, X. Wang. A portable device for simulating weight and center of gravity in a virtual reality environment. CN patent App. CN202010885890.4 (Pending).

[Pa2] H.N. Liang, J. Wang, D. Monteiro, **W. Xu**. A real time detection method for simulator sickness in virtual environment. CN patent App. CN202010754321.6 (Pending).

[Pa1] H.N. Liang, **W. Xu**, Y. Yue. Dwell-Free Text Entry Technique for Mobile Virtual Reality Head-Mounted Displays. CN Patent App. CN201810711473.0 (Pending).

Presentations

Oral Presentations

[Pr7] DMT Lab Interface: Postgraduate Study an Introduction. *BCU*.

[Pr6] Effect of Gameplay Uncertainty, Display Type, and Age on Virtual Reality Exergames. *ACM CHI'21*.

[Pr5] DMove: Directional Motion-based Interaction for Augmented Reality Head-Mounted Displays. *XJTLU Oral Presentation Competition.*

[Pr4] Pointing and Selection Methods for Text Entry in Augmented Reality Head-Mounted Displays. *IEEE ISMAR'19.*

[Pr3] Assessing the Effects of a Full-body Motion-based Exergame in Virtual Reality. *Chinese CHI 2019*.

[Pr2] DMove: Directional Motion-based Interaction for Augmented Reality Head-Mounted Displays. *ACM CHI'19.*

[Pr1] RingText: Dwell-free and hands-free Text Entry for Mobile Head-Mounted Displays using Head Motions. *IEEE VR'19.*

Poster Presentations

[Pr3] VirusBoxing: A HIIT-based VR boxing game. *ACM CHI PLAY'20.*

[Pr2] DMove: Directional Motion-based Interaction for Augmented Reality Head-Mounted Displays. *XJTLU Poster Presentation Competition*.

[Pr1] DepthMove: Leveraging Head Motions in the Depth Dimension to Interact with Virtual Reality Head-Worn Displays. *IEEE ISMAR'19*.

Press

[P5]	What's it like to do a PhD at XJTLU?	XJTLU, 2021
[P4]	在西交利物浦大学读博士是种什么体验?	XJTLU, 2021
[P3]	读博，不是为赢得博士这个"头衔"	XJTLU, 2021
[P2]	IEEE VR中国学者宣讲论文精选	VR China, 2020
[P1]	VIRTUAL REALITY RESEARCH PROJECTS ACCEPTED BY INTERNATIONAL SYMPOSIUM	XJTLU, 2018

References

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