Rongkai Shi

Updated December 30, 2022

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EDUCATION

University of Liverpool (UoL) 2020–present
Ph.D. in Computer Science
Thesis: Novel Visualization and Interaction Techniques in Virtual Reality 3D Environments
Supervisors: Hai-Ning Liang, Yong Yue, and Shan Luo

Xi'an Jiaotong-Liverpool University (XJTLU) 2015–19
University of Liverpool (UoL)
B.Man. & B.Sc. in Information Management and Information Systems
First Class (Honours), Overall GPA: 3.85, Overall Performance: 80/100, Rank 2 of 52

RESEARCH EXPERIENCE

Xi'an Jiaotong-Liverpool University (XJTLU) 2019–20
Research Assistant in X-CHI and Department of Computing.

PUBLICATIONS

Journals

[J6] Z. Wu, **R. Shi**, Z. Li, M. Jiang, Y. Li, L. Yu, H.-N. Liang. 2022. Examining Cross-Modal Correspondence between Ambient Color and Taste Perception in Virtual Reality. *Front. Virtual Real.* xxx. DOI: 10.3389/frvir.2022.1056782

[J5] J. Wang, **R. Shi**, Z. Xiao, X. Qin, H.-N. Liang. 2022. Effect of Render Resolution on Gameplay Experience, Performance, and Simulator Sickness in Virtual Reality Games. *Proc. ACM Comput. Graph. Interact. Tech.* 5, 1, Article 5773171 (April 2022), 15 pages. DOI: 10.1145/3522610

[J4] Y. Luo, J. Wang, **R. Shi**, H.-N. Liang, and S. Luo. 2021. In-Device Feedback in Immersive Head-Mounted Displays for Distance Perception During Teleoperation of Unmanned Ground Vehicles. *IEEE Trans. Haptics (ToH).* 15, 1 (Jan.-March 2021) , 6 pages. DOI: 10.1109/TOH.2021.3138590

[J3] **R. Shi**, H.-N. Liang, Y. Wu, D. Yu, and W. Xu. 2021. Virtual Reality Sickness Mitigation Methods: A Comparative Study in a Racing Game. *Proc. ACM Comput. Graph. Interact. Tech.* 4, 1, Article 8 (April 2021), 16 pages. DOI: 10.1145/3451255

[J2] V. Nanjappan, **R. Shi**, H.-N. Liang, H. Xiao, K.K.-T. Lau, and K. Hasan. 2019. Design of Interactions for Handheld Augmented Reality Devices Using Wearable Smart Textiles: Findings from a User Elicitation Study. *Appl. Sci.* 9, 15, Article 3177 (August 2019), 21 pages. DOI: 10.3390/app9153177

[J1] V. Nanjappan, **R. Shi**, H.-N. Liang, K.K-T. Lau, Y. Yue, and K. Atkinson. 2019. Towards a Taxonomy for In-Vehicle Interactions Using Wearable Smart Textiles: Insights from a User-Elicitation Study. *Multimodal Technol. Interact.* 3, 2, Article 33 (May 2019), 20 pages. DOI: 10.3390/mti3020033

Conferences

[C5] C. Liu, **R. Shi**, N. Xiang, J. Ma, and H.-N. Liang. 2022. A Low-cost Efficient Approach to Synchronize Real-world and Virtual-world Objects in VR via In-built Cameras. In *The 18th ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry (VRCAI '22)*, Guangzhou, China, 8 pages, ACM, December 2022. DOI: 10.1145/3574131.3574439

[C4] **R. Shi**, J. Zhang, W. Stuerzlinger, and H.-N. Liang. 2022. Group-based Object Alignment in Virtual Reality Environments. In *Proceedings of the 2022 ACM Symposium on Spatial User Interaction (SUI '22)*, Virtual Event, 11 pages, ACM, December 2022. DOI: 10.1145/3565970.3567682

[C3] **R. Shi**, N. Zhu, H.-N. Liang, and S. Zhao. 2021. Exploring Head-based Mode-Switching in Virtual Reality. In *2021 IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*, Virtual Event, 8 pages, IEEE, October 2021. DOI: 10.1109/ISMAR52148.2021.00026

[C2] D. Yu, X. Lu, **R. Shi**, H.-N. Liang, T. Dingler, E. Velloso, and J. Goncalves. 2021. Gaze-Supported 3D Object Manipulation in Virtual Reality. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21)*, Yokohama, Japan, 13 pages, ACM, May 2021. DOI: 10.1145/3411764.3445343

[C1] **R. Shi**, V. Nanjappan, H.-N. Liang, S. Zhang, J. Ma, and K.-H. Wong. 2019. Student's Access Patterns of a Moodle-based Course Management System: A Case Study of a Large Entry Level Programming Class. In *2019 IEEE International Conference on Engineering, Technology and Education (TALE)*, Yogyakarta, Indonesia, 7 pages, IEEE, December 2019. DOI: 10.1109/TALE48000.2019.9225914

Posters

[P3] H. Chen, **R. Shi**, D. Monteiro, N. Baghaei, H.-N. Liang. 2022. VRCockpit: Mitigating Simulator Sickness in VR Games Using Multiple Egocentric 2D View Frames. In *IEEE Conference of Games (CoG)*, Virtual Event, 8 pages, IEEE, August 2022. DOI: 10.1109/CoG51982.2022.9893678

[P2] J. Wang, **R. Shi**, Z. Xiao, X. Qin and H.-N. Liang. 2022. Resolution Tradeoff in Gameplay Experience, Performance, and Simulator Sickness in Virtual Reality Games. In *2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, Virtual Event, 2 pages, IEEE, March 2022. DOI: 10.1109/VRW55335.2022.00122

[P1] Y. Liu, Y. Lin, **R. Shi**, Y. Luo, and H.-N. Liang. 2021. RelicVR: A Virtual Reality Game for Active Exploration of Archaeological Relics. In *Extended Abstracts of the 2021 Annual Symposium on Computer-Human Interaction in Play (CHI PLAY)*, Virtual Event, 7 pages, ACM, October 2021. DOI: 10.1145/3450337.3483507

MENTORING (SELECTED)

Yushi Wei, Master Thesis, Modeling Eye-based Selection in AR. 2022

Jialin Zhang, Master Thesis, Freehand Selection in VR Dense Environment. 2022

Yilin Liu & Yiming Lin, Competition, RelicVR: A Virtual Reality Game for Active Exploration of Archaeological Relics [P1]. 2021

TEACHING ASSISTANT

SAT001, Undergraduate-Year1, Explore Advanced Technology. 2020–23

CPT306, Undergraduate-Year4, Principles of Computer Games Design. 2020–23

CPT408, Postgraduate-Year1, Game Design and Development. 2021–22

CSE003, Undergraduate-Year1, Fundamentals of Computer Programming. 2019

HONOURS AND AWARDS

Best Oral Presentation Award in XJTLU Postgraduate Research Symposium, XJTLU.	2022
ACM CHI PLAY Student Game Design Competition Finalist.	2021
Excellent Poster Award in XJTLU Postgraduate Research Symposium, XJTLU.	2021
Excellent Final Year Project Award 2nd Prize, Jiangsu Provincial Department of Education.	2019
Best Performance in Final Year Projects, IBSS, XJTLU.	2019
Second Place of Overall Academic Performance, IBSS, XJTLU.	2019
ICAEW Best Business Project, IBSS, XJTLU.	2019
Summer Undergraduate Research Fellowships, Department of CSSE, XJTLU.	2018
University Academic Achievement Award, IBSS, XJTLU.	2017

ACADEMIC ACTIVITIES AND SERVICES

Academic Paper Reviewer: ACM SUI'22; IEEE ISMAR'22; IEEE VR'21.
Presenter: ACM SUI'22; IEEE CoG'22; XJTLU PGRS'21, 22; IEEE ISMAR'21; ACM I3D'21; IEEE TALE'19.
Conference Setup: IEEE AIVR'22 Virtual Setup Assistant.
Student Volunteer: IEEE ISMAR'21, 22.

SELECTED EXPERIENCE

Research Assistant, Department of Computing, XJTLU.	2019–20
Innovation and Entrepreneurship Program, NUS School of Computing.	2018
Undergraduate Research Intern, Department of CSSE, XJTLU.	2018
Interaction Design Specialization by UC San Diego, Coursera.	2018
Summer Programme @ NUS, NUS School of Computing.	2017