Shaoyue(Jewelina) Wen

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Education

New York University, New York, USA 09/2023 – 05/2025

Master in Learning Technology and User Experience Design GPA: 4.0

- Relevant Courses: Cognitive Science, Computational Cognitive Modeling, User Research Method, Learning Analytics, Learning science, User Experience Design.

University of Liverpool, Liverpool, UK 09/2019 – 07/2023

Xi'an Jiaotong-Liverpool University, Suzhou, China 09/2019 – 07/2023

Dual Bachelor of Engineering First Class Honors (10%)

- Relevant Courses: Artificial Intelligence, Computer Graphics, Human-Centric Computing, Signals and Systems, Digital Electronics, Analog Circuits, Mobile Computing, Software Engineering.

Research Experience

Tsinghua University 06/2022 – 08/2023

Co-advised from Carnegie Mellon University 06/2022 – 08/2023

HCI + VR+ Adaptive| Research Intern | Pervasive HCI Group

Advisors: Prof. Yukang Yan (now at University of Rochester) and Dr. Xuhai Xu (now at MIT)

AdaptiveVoice: Automatically adapt voice messages to the current users' mental states in real-time

- Led a research team as the first author on creating an optimization-based voice intelligent interface to adapt the voice message presentation,
- Conducted a user study to collect and extract users' needs and preferences for voice messages when they are at different levels of cognitive load. Built a rule-based decision-making algorithm to optimize the presentation of voice messages,
- Evaluated the efficacy through a simulated VR driving environment, comparing it with a fixed-format baseline. This evaluation demonstrates AdaptiveVoice's ability to significantly reduce response times and improve driving performance, indicating its practical feasibility and effectiveness in real-world scenarios.

Ongoing Projects (Adaptive Audience): Lead the research team to implement Reinforcement learning to adapt NPC audience behaviours based on users' real-time emotions to enhance user experience.

Xi'an Jiaotong-Liverpool University(XJTLU) 09/2020 – 08/2023

HCI + VR + User Experience | Research Assistant | X-CHI Lab

Advisors: Prof. Hai-Ning Liang

Effects of Immersed VR: Explored the feasibility of iVR based intervention to design intelligent game

- Explored the feasibility of a 6-week iVR-based intervention among university students and examined the usability and acceptability of such games,
- Measured and analyzed participants' anxiety, depression, and perceived stress levels before and after the iVR intervention.

Audience Feedback: Frame the design and engineering of VR exergame NPC audience

- Investigated the effect of the NPC audiences and their associated feedback to design an interactive game,
- Contributed to experiment design and data analysis; Programmed VR software for experiments in Unity3D and conducted experiments; participated in writing a paper.

Birmingham City University 09/2021 – 08/2023

HCI + VR + Accessibility + Gamification | Research Intern| DMT Lab

Advisor: Prof. Wenge Xu

Acceptance of VR Exergames among Elderly: Explore and confirm critical factors that could influence users' acceptance in VR.

- Proposed an extended version of the Technology Acceptance Model (TAM) to explore critical factors that can influence users' acceptance of VR Exergames,
- Conducted data analysis which shows self-satisfaction has a positive impact on Perceived Ease of Use and Perceived Usefulness. Presented its implications and recommendations to help better frame VR exergames for the elderly.

The Fifth People's Hospital of Suzhou 05/2021 – 09/2021

Co-advised from Tsinghua University 05/2021 – 09/2021

CV+ Medical Image | Research Intern| Department of Radiology

Advisor: Dr. Jing Liu and Prof. Ling Wang

A Novel Algorithm based on U-Net Network for segmenting images: Machine learning, Deep learning, and Medical Image Processing

- Led a research team on developing automatic tuberculosis (TB) lesion segmentation algorithm based on U-Net neural network for detecting TB,
- Combined the canny edge detector, an edge detection algorithm, with this U-Net network,
- The proposed approach is validated for complex TB lesions with a high dice coefficient (91.2%).

Peer-Reviewed Publications: Google Scholar

Full Paper

[C.2] **Shaoyue Wen**, Soming Ping, Hai-Ning Liang, Xuhai(Orson) Xu, Yukang Yan. AdaptiveVoice: Cognitively Adaptive Voice Interface for Driving. **CHI'24**.

[C.3] **Shaoyue Wen**, Wenxuan Xu, Yukang Yan, Hai-Ning Liang, Wenge Xu. Adaptive Audience. **UIST'24** [On Going].

[C.1] **Shaoyue Wen**, Jing Liu, Wenge Xu. A Novel Lesion Segmentation Algorithm based on U-Net Network for Tuberculosis CT Image. **IEEE ICCAIS'21**.

[J.3] Yukang You, **Shaoyue Wen**, Wenge Xu, Maurizio Caon, Nilufar Baghaei, Hai-Ning Liang. Cheer for me: effect of non-player character audience feedback on older adult users of virtual reality exergames. **Virtual Reality'23**.

[J.2] Wenge Xu, Hai-Ning Liang, Kangyou Yu, **Shaoyue Wen**, Nilufar Baghaei, Huawei Tu. Acceptance of virtual reality exergames among Chinese older adults. **IJHCI'23**.

[J.1] Wenge Xu, Hai-Ning Liang, Nilufar Baghaei, Xiaoyue Ma, Xuanru Meng, **Shaoyue Wen**. Effects of an immersive virtual reality exergame on university students' anxiety, depression, and perceived stress: pilot feasibility and usability study. **JMIR Serious Games'21**.

Poster

[P.1] Ziming Li, Fangtao Zhao, Songming Ping, **Shaoyue Wen**, Hai-Ning Liang. Eye, Head Coupled Kinematic Template Matching: A Prediction Model For Ray Pointing In VR. XJTLU Summer Undergraduate Research Fellowships.

Skills

Programming Languages: Python, C#, Java, R, Matlab,Kotlin.

Tools and Frameworks: PyTorch, Unity3D, Blender, MySql, Arduino, Tinkercad, C4D, LaTeX, Photoshop, Photoshop.

Research Skills: Propose questions, Literature review, Design and conduct experiments, Quantitative data data analysis, Paper writing, Edit video and poster, Establish mathematical model.

Academic Activities

Student Volunteer: **ACM CHI** (2023), **IEEE ICCAIS**(2021), **IEEE AIVR** (2020), **ACM ICSI** (2019)

Presentation: **XJTLU: Research-Led Learning Workshop**(2023), **IEEE ICCAIS**(2021)

Selected Awards

Research Assistant Fellowship at XJTLU (2022)

Summer Undergraduate Research Fellowship (SURF) at XJTLU (2022)

Second Price in XJTLU Student Academic Social Practice (5%) (2020)

Third Price in Mathematical Contest in Modeling (MCM) (2020)

Practices and Leadership

XJTLU: Student Assistant Lecturer(2022)

XJTLU Academic Alliance, Student Chair (2021)

Alibaba Group, Youku: New Digital Media Intern (2021)

Tencent NEXT IDEA Game Design Competition : Lead Designer and Programming (2020)