Yingna Wang

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Education

MPhil in Computational Media and Arts, The Hong Kong University of Science and Technology, Guangzhou campus   *Sept. 2023 – Present*

Advisor: Prof. Mingming Fan, Prof. Theo Papatheodorou

Curriculum GPA: **3.97/4.30**

M.A. in Communication, University of Science and Technology of China   *Sept. 2020 – Jul. 2023*

Advisor: Prof. Yanxiang Zhang

Curriculum GPA: **3.77/4.30**

Selected awards: **China National Scholarship** (1/170, 2022)

B.A. in Communication, University of Shanghai for Science and Technology   *Sep. 2016 – Jul. 2020*

Curriculum GPA: **3.85/4.50**

Selected awards: **Outstanding Graduates from Universities in Shanghai** (Top 5%)

Publication

In Progress

[P1] <u>Yingna Wang,</u> Qingqin Liu, Xiaoying Wei, Mingming Fan. "Facilitating Daily Practice in Intangible Cultural Heritage through Virtual Reality: A Case Study of Traditional Chinese Flower Arrangement." *(progressed to the second round of CHI25)*

[P2] Xiaoying Wei, Fangtao Zhao, <u>Yingna Wang,</u> Zeyu Xiong, Mingming Fan. "Facilitating Inter-Generational Communication and Connection through Cultural Significant Topic in Virtual Reality: An Investigation of Traditional Chinese Opera (Xiqu)." *(progressed to the second round of CHI25)*

[P3] Jian Yu, Ling Li, <u>Yingna Wang,</u> Zeyu Wang, Wei Zeng. "Both real and virtual: Reconstruct Catacomb Museum Cultural Heritage in Virtual Reality" *(Submit to ISEA2025)*

Published

[C1] Jingze Tian#, <u>Yingna Wang#,</u> Keye Yu, Liyi Xu, Junan Xie, Franklin Mingzhe Li, Mingming Fan. "Designing Upper-Body Gesture Interaction with and for People with Spinal Muscular Atrophy in VR." Proceedings of the CHI Conference on Human Factors in Computing Systems **(CHI24)** *(# contributed equally)*.

[C2] Zhang Yanxiang, <u>Yingna Wang</u>, Qingqin Liu. "Touch the history in virtuality: combine passive haptic with 360 videos in history learning." 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops **(VR22)**.

[C3] Zhang Yanxiang, Qingqin Liu, <u>Yingna Wang</u>. "Redirected Walking in 360° Video: Effect of Environment Size on Detection Thresholds for Translation and Rotation Gains." 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops **(VR22)**.

[C4] Zhang Yanxiang, <u>Yingna Wang,</u> Beidollahkhani Azadeh, Zheng Xi. "The Effect of Camera Height on The User Experience of Mid-air 360° Videos." 2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops **(VR21)**.

Representative Projects

Facilitating Daily Practice in Intangible Cultural Heritage through Virtual Reality: A Case Study of Traditional Chinese Flower Arrangement (P1)

IInvestigated the practices and challenges of Traditional Chinese Flower Arrangement (TCFA) learners' insuffiant and unregular daily pratice due to the limited cultural atmosphere, and the accessibility of practice materials. Designed, implemented, and evaluated an interactive VR application to support TCFA practice in a culturally immersive environment, promoting a state of flow. Supervised by *Prof. Mingming Fan*.

Designing Upper-Body Gesture Interaction with and for People with Spinal Muscular Atrophy in VR (C1)

Identified and described a set of 26 common commands to cover general VR interactions. Uncovered a taxonomy of user-defined upper-body gestures based on the gestures designed by people with SMA to complete the aforementioned set of commands. Derived the mental models and considerations of participants with SMA when designing upper-body gestures. Supervised by *Prof. Mingming Fan*.

Deaf or Hard of Hearing Delivery Riders' Identity Management Strategies to Construct Positive Professional Identity in China

Participated and observed the DHH delivery riders' online community and conducted interviews with 18 DHH delivery riders. Analyzed digital traces in the perspective of professional identity management strategies. Supervised by *Prof. Yanxiang Zhang.*

Touch the History in Virtuality: Combine Passive Haptic with 360° Videos in History Learning (C2)

Proposed a novel solution by mapping videos to a cube space with high-fidelity models to solve perspective distortion. Designed and conducted a between-subjects experiment to demonstrate how combining passive haptics with real 360° videos enhances the experience of historical content. Supervised by *Prof. Yanxiang Zhang.*

The Effect of Camera Height on The User Experience of Mid-air 360° Videos (C4)

Conducted a within-subjects experiment. Designed a user experience questionnaire (UEQ) with reliability and validity. Analyzed and interpreted the user experience and provided design considerations for creating unique user experiences by using different combinations of camera heights in 360° videos. Supervised by *Prof. Yanxiang Zhang*.

Side Projects

"The Eternal Also-Ran": Using the Lenses of Emotion and Support to Understand Those Want to Be Vaccinated Against HPV in a Group Chat

Team Leader, Supervised by *Prof. Yanxiang Zhang.*
Participated and observed as a member of the online health community. Crawled three-month digital records for NLP analysis. Utilized LDA to explore the distribution of salient topics and the LDAvis to visualize the topic model. Used fine-grained sentiment analysis to understand group members' emotional changes.

Video Game Network Based on User-generated Tags on Steam Platform

Team Leader, Course Project of Social Network Analysis
Crawling user-generated tags and other game attributes. Applied Bayesian ALAAM to analyze one-mode video game network based on Steam tags to investigated the correlations of user rating and other game attributes.

Interactive Films Based on VR and Other Video Interactive Technology

Team Leader, Supervised by Lecturer Jian Lv
Student's Innovation and Entrepreneurship Training Program
Produced a 360° interactive film and created a website to play it.

Service

Teaching Assistant – NNM150101：Creative Design and Application of VR/AR/MR Technology   *Spring 2021&Fall 2022*

Managed and co-supervised students in the use of various VR/AR devices and applications to create their artworks (e.g., VR/AR games, VR paintings). Co-designed and organized diverse offline activities, such as creating campus panoramic maps and VR paintings. This module was taught by Prof. Yanxiang Zhang.

Skills

Programming Language: Python, C/C++, R, HTML, CSS, JavaScript, p5.js, Selenium
Platforms and Tools: Unity, Blender, UE5, SPSS, Origin, Appium, Fiddler, Pano2VR, Adobe AE&PR, Figma