

QINGQIN LIU

Jinzhai Road 96, Hefei, Anhui, China | qingqinliu@mail.ustc.edu.cn | [neoluxqq.github.io](https://github.com/neoluxqq) | (+86)132-2585-5896

EDUCATION

University of Science and Technology of China (USTC) 09.2021 - 06.2023(Expected)

Master of Journalism and Communication, Department of Communication of Science and Technology,

Supervisor: Prof. Yanxiang Zhang

University of Science and Technology of China

07.2019 - present

Research Assistant in Digital Art Lab, Director: Prof. Yanxiang Zhang

University of Science and Technology of China

09.2015 - 07.2019

Bachelor of Natural Science in Astronomy, Department of Astronomy, School of Physical Sciences

PUBLICATIONS

- [1] Y. Zhang, **Q. Liu** and Y. Wang, "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 (VRW)*, 2022, pp. 830-831.
- [2] Y. Zhang, Y. Wang and **Q. 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 (VRW)*, 2022, pp. 824-825.
- [3] Y. Zhang, J. Wu and **Q. Liu**, "The Sloped Shoes: Influence Human Perception of the Virtual Slope," *2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, 2022, pp. 826-827.

SELECTED RESEARCH EXPERIENCES

Metagame Interaction Design and Player Experience in Virtual Reality 08.2022 - present

Research project based on my master degree thesis, Supervisor: *Prof. Yanxiang Zhang*

- Conducted a formal analysis of metagames, focusing on interaction patterns breaking the fourth wall.
- Designed and developed a prototype of VR metafictional game, wrote game scripts and game plots.
- Implemented in-game interactions (applying eye tracking and motion sensing), using Unity and plugins.
- Evaluating player experience in a within-subjects user study (using SUS, GEQ, semi-structured interview).

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

03.2022 - 05.2022

Team Leader, Course Project of Social Network Analysis (by *Prof. Noshir Contractor & Prof. Mengxiao Zhu*)

- Proposed the project idea and investigated the correlations of user rating and other game attributes.
- Applied Bayesian ALAAM to analyze one-mode video game network based on Steam tags.
- Collaborated with the team on writing the report and interpreting the results, provided final presentation.

Redirected Walking (RDW) in 360° Video, User Perception and Applications

07.2021 - 01.2022

Team Leader, Supported by National Social Science Foundation of China, PI: *Prof. Yanxiang Zhang*

- Collaborated with the team on selecting scenes, and capturing 360° videos with various equipment.
- Designed and developed a VR system to control the playback of 360° video according to user's walking.
- Investigated user perception in RDW (using SSQ, 2AFC and semi-structured interview).
- Analyzed and interpreted data, wrote reports and research papers

Combine Passive Haptic with 360° Videos in Augmented Virtuality

09.2021 - 01.2022

Supported by National Social Science Foundation of China, PI: *Prof. Yanxiang Zhang*

- Co-developed cube space projection method to tackle perspective distortion in 360° videos.
- Developed a VR program and an experimental system enabling users to virtually and physically touch objects in historical learning.

Human Perception of Slope Walking in Virtual Reality

09.2021 - 01.2022

Supported by National Social Science Foundation of China, PI: *Prof. Yanxiang Zhang*

- Developed a VR program to simulate people walking uphill or downhill.
- Built experimental environment and designed experiment procedure.

Application of Augmented Reality in Web and Mobile Applications

06.2018 – 05.2019

Undergraduate Research Project, supported by Innovation and Practice Plan for Undergraduates of USTC (2018), Supervisor: *Prof. Yanxiang Zhang*

- Investigated WebAR and MobileAR applications academically and commercially.
- Built a WebAR system for demonstrating the futuristic recycling of space satellites.
- Co-designed and developed an AR library system for collaborative annotation.

TEACHING EXPERIENCES

HS1584.01: Contemporary Sci-Tech ART

Fall 2021

Teaching Assistant at USTC, Instructor: Prof. Yanxiang Zhang

- Designed exercises for all chapters, maintained the online class system.
- Organized undergraduates to give presentations, co-evaluated their presentations with the instructor.
- Provided grades and feedback on the students' assignments and project reports.

NNM1501.01: Creative Design and Application of VR/AR/MR Technology

Fall 2021

Teaching Assistant at USTC, Instructor: Prof. Yanxiang Zhang

- Introduced and demonstrated the use of VR/AR/MR devices to undergraduates, organized and arranged for students to experience the devices.
- Worked closely with students in their coursework, providing applications, toolkits, manuals, etc.

HONORS & AWARDS

Academic Scholarship of USTC (First Class)

09.2022

Academic Scholarship of USTC (Second Class)

09.2021

Outstanding Freshman Scholarship of USTC (Bronze Prize)

09.2015

EXTRACURRICULAR ACTIVITIES

Science Experiment Exhibition and Performances in Anhui Province (2021)

04.2021 - 05.2021

Our team produced a popular science play about "Using Antibiotics Scientifically".

National Science Experiment Exhibition and Performances (2019)

09.2019

An activity using science experiments and competitions to popularize scientific knowledge to the society

China International College Students' "Internet+" Innovation Entrepreneurship Competition (2018)

Team Leader, Project: *New Style of AR Globe - a product based on WebAR*

07.2018 - 09.2018

- Proposed the product idea, developed the demo of the AR Globe, presented the business plan.
- Collaborated closely with team members on market research of similar products.

Selected Volunteer Activities:

Science and Technology Week of USTC (2021)

05.2021

- Presented a four-minute video of "Using Antibiotics Scientifically" on school website for the public.

Science and Technology Week of USTC (2019)

05.2019

- Developed and exhibited a multi-user AR application about Solar System based on body tracking.

TECHNICAL SKILLS

- **Programming:** C#, Python, R, MATLAB/Octave, HTML, JavaScript
- **Platforms and Tools:** Unity, Origin, SPSS, Windows, Linux/Mac/SteamOS, Godot, Raspberry Pie
- **Languages:** Chinese (Native), English (Fluent, IELTS 7.0)