Qianjie Wei

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Research Interest

Human-Computer Interaction, AR/VR/MR, Accessibility, Human-AI collaboration

Education

- **The Hong Kong University of Science and Technology (Guangzhou)** *Sep 2023 - Jul 2025 (Expected)*
  MPhil in Computational Media and Arts Guangzhou, China
  - GPA: 3.92/4.3
  - Advisor: Prof. Mingming Fan (Primary), Prof. Yi Cai (Co)
- **Tongji University** *Sep 2018 - Jun 2023*
  Bachelor of Engineering in Industrial Design, College of Design and Innovation Shanghai, China
  - GPA: 4.43/5.0 (Ranking top15%)
  - Thesis: Digital Partner Design for the Communication of ASD Children
  - Advisor: Prof. Xiaohua Sun (Graduation Thesis)

Peer-reviewed Conference Publications

[C.1] Qianjie Wei, Jingling Zhang, Pengqi Wang, Xiaofu Jin, Mingming Fan. 2024. **Augmented Library: Toward Enriching Physical Library Experience Using HMD-Based Augmented Reality**. In the *The 17th International Symposium on Visual Information Communication and Interaction (VINCI 2024)*.

Under-review Manuscripts

[M.1] Qianjie Wei, Xiaoying Wei, Yiqi Liang, Fan Lin, Nuonan Si, Mingming Fan. RemoteChess: Enhancing Older Adults' Social Connectedness via Designing a Virtual Reality Chinese Chess (Xiangqi) Community. Submitted to *ACM CHI Conference on Human Factors in Computing Systems (CHI '25)*.

[M.2] Yiqi Liang, Fan Lin, Nuonan Si, Qianjie Wei, Chutian Jiang, Mingming Fan. From Scenarios to Strategies: A Systematic Framework for Understanding Spatial Information Needs of BLV people. Submitted to *ACM CHI Conference on Human Factors in Computing Systems (CHI '25)*.

[M.3] Nuonan Si, Junchun Shen, Fan Lin, Qianjie Wei, Jinni Zhou, Mingming Fan. Exoskeleton Use in Lower Limb Rehabilitation: A Qualitative Study of Clinical Practices and Perspectives of Physiotherapists and Patients in China. Submitted to *ACM CHI Conference on Human Factors in Computing Systems (CHI '25)*.

Paper In Progress

[P.1] Beiyan Cao, Pengqi Wang, Qianjie Wei, et al. Exploring the Design of AI-mediated Emotion Communication for Deaf and Hard of Hearing People in Online Meetings.

[P.2] Jingling Zhang#, Qianjie Wei#, Xiaoying Wei, Mingming Fan. Exploring the Design of Virtual Reality Museums to Support Remote Visitation With Older Adults.

Selected Projects

- **Craftsman Journey: Career Development App for Construction Workers** *May 2022 - Jul 2022*
  University-industry Cooperation Program between Tongji University and Bosch China [📹]
  - Developed an App that integrates site management and personal development, facilitating site work and enhancing workers' awareness of career development.
  - Tools: used Figma for UX/UI design, and used React + TypeScript for development.
  - Applied think-aloud usability test, A/B testing, and heat-map analysis to assess the user experience of the App.
- **Smarthand: Hand Rehabilitation System for Hemiplegic Patients** *Apr 2022 - Jun 2022*
  Won the first prize in Shanghai Industrial Design Competition (top 5%)

- Developed a hand rehabilitation system (including two wearable devices and a mobile App) for hemiplegic patients to assist with home-based gripping exercises and precise hand movements.
- Implemented gesture image recognition in Python using Mediapipe and OpenCV for accurate motion tracking.
- Monitored the user's muscle activity by establish interaction between Arduino and EMG sensors.
- Conducted product modeling and rendering in Blender and created the App prototype in Figma.

- **ARFinding: Intelligent Home Tracking System for Older Adults** *Mar 2022 - May 2022*
  Advised by Prof. Xiaohua Sun at the Center for Digital Innovation of Tongji University [📹]
  - Developed a system to support older adults' lost items finding and management at home.
  - Hardware: constructed RFID indoor positioning system through RFID tags, NFC, terminal machine, and antenna box.
  - Software: implemented an AR navigation App through Unity.
- **Running Food: Carbon Story Game Design and Development in Roblox** *Nov 2021 - Dec 2021*
  University-industry Cooperation Program between Tongji University and Tencent [📹]
  - Developed a game that calls for less food waste and sustainable living concept.
  - Implemented the game's interaction logic through Roblox game engine and Lua programming language.

Internship Experience

- **Center for Digital Innovation, Tongji University [🌐]** *Mar 2023 - Jun 2023*
  Research Intern Shanghai, China
  Advisor: Xiaohua Sun. Research on an augmented assistive communication system based on large language models.
- **Fablab, Tongji University [🌐]** *Sep 2022 - Dec 2022*
  Research Intern Shanghai, China
  Advisor: Saverio Silli. Research on computational design and sustainable manufacturing.

Skills

- **Languages:** Mandarin (Native), English (Fluent, IELTS 7.0), German (Basic)
- **AR/VR Development:** Proficient in developing AR/VR applications using unity (e.g., Multiplayer VR development, write C# scripts to implement AR/VR interaction)
- **UX/UI and Interaction Design:** Skilled in Figma, Adobe kits (PS, AI, PR...)
- **Open-source Hardware and Programming:** Arduino IDE, PCB Engineering
- **Industrial Design and Engineering:** Familiar with Blender, Rhino
- **Scientific Writing and Publication:** Skilled in writing research proposals, literature reviews, and scientific reports
- **Others:** User study, Data analysis, Project management

Honors and Awards

- **National Encouragement Scholarship**, Offered by Chinese Ministry of Education *Oct 2022*
- **Shanghai Industrial Design Competition**, First Prize *Oct 2022*
- **The 7th Think Youth-Shanghai International Digital Creation, Innovation & Entrepreneurship Competition, First Prize** *Aug 2022*
- **The Best User Experience Design Project**, Held by Bosch China *Mar 2022*
- **Academic Excellence Scholarship in Tongji University**, Top 5% *Oct 2021*