

YU Shiqi

shiqiyu1412@gmail.com
https://www.yu-shiqi.com/
linkedin.com/in/shiqiyu1412

EDUCATION

Northeastern University

Boston, USA

PhD Student in Interdisciplinary Design and Media

Sep. 2024 - Dec. 2025

- Research focus: Human-Computer Interaction (HCI), Extended Reality (XR).

University of Edinburgh

Edinburgh, UK

M.S. in Design Informatics - School of Informatics

Sep. 2021 - Nov. 2022

- Research: HCI, XR, Data Visualization. Supervised by Dr. Benjamin Bach.
- Thesis: An Immersive 3D Visualization of Medical Data in HoloViz Office.

Beijing Language and Culture University

Beijing, China

B.Eng in Digital Media Technology - School of Information Science

Sep. 2017 - Jul. 2021

- Relevant coursework: Virtual Reality, Artificial Intelligence, Principles of Artificial Intelligence, Computer Graphics, Digital Image Processing, Advanced Game Programming, Data Structures.

PUBLICATION

Shiqi Yu and Casper Hartevelde. 2025. “HoloViz Office: Location-Independent Mixed Reality Workspace for 3D Medical Data Visualization.” In *Proceedings of the 2025 31st ACM Symposium on Virtual Reality Software and Technology (VRST '25)*. Association for Computing Machinery, New York, NY, USA, Article 122, pp. 1–2. DOI: 10.1145/3756884.3768396. (*MSc dissertation work, University of Edinburgh, 2022. Supervisor: Dr. Benjamin Bach*)

RESEARCH EXPERIENCE

Non-Occlusive XR for Older Adults with KOA: Improving Adherence & Pain Management via Wearable Sensors

Boston, USA

Researcher & Developer - Northeastern University

Jan. 2025 - May 2025

- Designed a see-through XR solution combining wearable biofeedback and exergames to support older adults with pain management and exercise adherence.
- Explored non-visual modalities (haptic feedback, wearable sensors) as alternatives to fully immersive visual displays.
- Collaborated with an interdisciplinary team across design, computing, and health to align interface decisions with clinical requirements.

Teaching with XR in Higher Education

Boston, USA

Research Assistant - Northeastern University

Sep. 2024 - Aug. 2025

- Conducted structured literature review of 40+ peer-reviewed studies on XR implementation in education (2020–2025).
- Built comparative analysis of XR platforms (Engage, Spatial, VRChat) for classroom use, evaluating strengths, limitations, and responsible deployment considerations.
- Conducted stakeholder interviews to identify pedagogical needs, curricular gaps, and XR opportunities across disciplines.
- Synthesized insights to inform the design of pilot XR classroom experiences; advised on implementation strategies including student interaction models.

XR Training Solutions for Automotive Manufacturing

Bedford, UK

Research Fellow in XR - Cranfield University

Apr. 2024 - Aug. 2024

- Contributed to the *Faraday Battery Challenge* and Innovate UK's *DEBUT-WM project*, developing VR training solutions for battery manufacturing.
- Collaborated across institutions (University College Birmingham, University of Warwick, RAV-MAC Ltd) to create VR demos for industry expos.
- Supported funding proposals and supervised students in XR research and development.

XR Security Testbed: Privacy Threat Research in XR

London, UK

XR Software Developer & Research Team Lead - University of Greenwich

Apr. 2023 - Apr. 2024

- Led development of an XR security testbed within the EU-funded *SUN* project, addressing the need for privacy threat research in extended reality.
- Demonstrated and analyzed four privacy attacks across XR platforms (Meta Quest, HoloLens), showcasing capabilities for developing and testing security measures.
- Developed intrusion detection mechanisms for cyber threats to XR systems using Unity3D.

HoloViz Office: Mixed Reality Medical Data Visualization

Edinburgh, UK

MSc Dissertation Research - University of Edinburgh

May 2022 - Nov. 2022

- Designed and developed a location-independent MR workspace for 3D medical data visualization on Microsoft HoloLens 1, enabling intuitive spatial interaction with complex datasets.
- Created novel interaction paradigms for manipulating volumetric medical data in mixed reality environments.
- Ran a formative evaluation with ten participants using a five-point Likert questionnaire on ease of operation, location independence, convenience, and immersion.
- Published at ACM VRST 2025; supervised by Dr. Benjamin Bach.

Additional Research Projects

Edinburgh, UK

University of Edinburgh

Sep. 2021 - Apr. 2022

- **VR for Nutritional Awareness (*FALLING MANNA*)**: Developed immersive VR application for dietary self-tracking on Oculus Rift using Unity3D.
- **Text-based Dynamic Video Generation for VR Scenes (*TIV*)**: Built framework converting text descriptions into VR scene videos using TensorFlow.
- **Accessibility-Oriented Cartography (*PATTERNMAP*)**: Developed web platform using colorblind-friendly design for inclusive geospatial data representation.
- **HCI-Driven PTSD Therapy Innovation (*Dream Controller*)**: Designed conceptual therapeutic aid for sleep disturbances, emphasizing empathetic user engagement.

TEACHING EXPERIENCE

Northeastern University

Boston, USA

Teaching Assistant - COMM 2110: Sports Communication

Sep. 2025 - Dec. 2025

- Led discussion sections for 120 students (two sections of 60), designing and facilitating weekly case study exercises.
- Graded assignments, conducted office hours, and bridged HCI/XR expertise with communication studies.

TECHNICAL SKILLS

- **XR Development** - Unity3D, C#; Platforms: Microsoft HoloLens 1 & 2, Meta Quest, Magic Leap, Oculus Rift
- **Programming** - Python, C/C++, TensorFlow
- **Design & 3D** - 3ds Max, Adobe After Effects, Adobe Audition
- **Research Methods** - User studies, stakeholder interviews, systematic literature reviews, comparative platform analysis
- **Languages** - English (fluent, C1+); Mandarin (native)

REFERENCES

- **Prof. Casper Harteveld** - Professor and Associate Dean, Art + Design and Computer Science, Northeastern University. Research supervisor & co-author of ACM VRST 2025 publication. Email: c.harteveld@northeastern.edu
- **Prof. Stephen Warren** - Assistant Teaching Professor, College of Arts, Media and Design, Northeastern University. Teaching supervisor for COMM 2110 (Fall 2025). Email: s.warren@northeastern.edu