# YU Shiqi

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## 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*

## PUBLICATION

**Shiqi Yu** and Casper Harteveld. 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 see-through XR solutions combined with 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 interdisciplinary teams to ensure user-friendly interfaces and validate clinical outcomes.

**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, enabling intuitive spatial interaction with complex datasets.
- Created novel interaction paradigms for manipulating volumetric medical data in mixed reality environments.
- 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 (proficient), C# (moderate); Platforms: Microsoft HoloLens, Meta Quest, Magic Leap, Oculus Rift
- **Programming** - Python (moderate), C/C++ (basic), 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