Zhening ZHU

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EDUCATION

University of Leeds, Leeds, UK **2025.09 - Present**
PhD Computer Science (EPSRC Doctoral Landscape Award Studentship)
Topic: Perceptual graphics / bandwidth reduction using perceptual rendering

Cornell Tech (Cornell University), New York, USA **2024.08 - 2025.05**
MEng Computer Science | GPA: 4.0

University of Nottingham, Ningbo, CN; Nottingham, UK **2020.09 - 2024.07**
BSc Hons Computer Science | GPA: 3.99

RESEARCH EXPERIENCE

Real-Time Perceptual Spatial Quantization for Foveated Rendering **2025.12 - 2026.04**
EGSR2026 (Accepted) | Visualization and Computer Graphics Lab, University of Leeds

- Conducted a comprehensive literature review on color perception and gaze-contingent rendering.
- Designed algorithm and workflow for gaze-contingent color bit-depth reduction for foveated streaming.
- Conducted perceptual experiments to examine discrimination for spatial quantization.
- Achieved 83% data bandwidth reduction compared to standard 24-bit true color frame.

MRTodo: Synchronizing Paper and Digital To-Do Lists in Mixed Reality **2025.04 - 2025.09**
VVAI Lab, Texas A&M

- Designed and developed a context-aware productivity application.
- Designed and executed user study, including both qualitative interviews and quantitative surveys to evaluate usability, effectiveness, and user satisfaction.

Real-time Localization & 3D Scene Visualization **2024.07 - 2024.08**
Advanced Display and Sensing Research Center, Yongjiang Laboratory

- Developed a web-based interactive tool to visualize real-time SLAM localization of camera pose and 3D scene reconstruction results.

Transmogrifier Game: Visuomotor misalignment for Non-humanoid Avatars **2023.10 - 2024.05**
Undergraduate Dissertation | Mixed Reality Lab, University of Nottingham

- Designed physics-based locomotion for non-humanoid avatars and movements of extra body parts through inverse kinematics and procedural animation.
- Designed haptic feedback and visuomotor misalignment to simulate varied body weights and forces.
- Simulated vision features including color perception, echolocation, blurring vision.
- Conducted user study and semi-structured interviews, gathered qualitative data exploring body ownership.

Fire Safety Training Through Virtual Reality Serious Gaming **2022.06 - 2022.10**
China Beacon Institute, University of Nottingham

- Designed and developed fire extinguishing equipment training in non-immersive and immersive settings.
- Designed experiment workflow for analyzing the effectiveness of different simulation in terms of learning outcomes and user engagement and evaluating interaction preference of users.

HONORS AND AWARDS

Product Studio Finalist at Innovation Meets Impact **2025**
University of Nottingham Ningbo China Outstanding Graduate **2024**
Undergraduate Best Overall Performance Award **2024**
Academic Excellence Scholarship (Provost's Scholarship) **2021, 2022**
Zhejiang Provincial Scholarship **2021**

SKILLS

Languages: C#, C++ (OpenGL, Vulkan), Python, JavaScript
Tools: Unity, Unreal Engine, Figma, Adobe Photoshop, Blender