

Zihan Wang

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PROFESSIONAL SUMMARY

Graphics-, Engine-, and XR-focused M.S. Computer Science student at RIT with strong experience in real-time rendering, game/engine systems, VR interaction, and AI-driven 3D applications. Former NetEase VR and Alibaba Unity developer intern. Specialized in physically based rendering, graphics engine development, XR systems, and computer vision / machine learning applied to 3D content, virtual humans, and intelligent interactive environments.

CORE COMPETENCIES & TECHNICAL SKILLS

Programming Languages: C++, C#, Python, Java, JavaScript

Graphics & Game Engines: Unreal Engine 5, Unity, OpenGL, Vulkan, HLSL, Physically Based Rendering

AI / Machine Learning / Vision: PyTorch, TensorFlow, OpenCV, 3D Gaussian Splatting

XR Platforms & SDKs: OpenXR, Meta SDK, ARCore, ARKit, Vuforia

Tools & Pipelines: Git, Docker, Blender, Maya, Figma, Jira, Adobe Suite

EDUCATION

Rochester Institute of Technology

Rochester, NY

M.S. in Computer Science

Aug 2023 – Present

- Relevant Coursework: Advanced Object-Oriented Programming, Foundations of Algorithms, Foundations of Computer Graphics, Computational Problem Solving, Foundations of Machine Learning, Foundations of Computer Vision

Xiamen University

Xiamen, China

B.S. in Digital Media Technology

Sep 2019 – Jun 2023

- Relevant Coursework: C/C++ Programming, Data Structures, Operating Systems, Game Design, Game Development, Game Engine Design

PROFESSIONAL EXPERIENCE

VR Developer (Research Studio)

Aug 2025 – Present

MAGIC Spell Studios, Rochester Institute of Technology

Rochester, NY

- Developed immersive VR applications and research prototypes using Unreal Engine 5, focusing on real-time interaction systems and virtual environment architecture.
- Implemented core VR modules including interaction mechanics, character control, and scene systems, building reusable components for rapid prototyping.
- Integrated and optimized XR pipelines for performance and stability, supporting multiple rounds of user testing and live demonstrations.
- Collaborated with researchers and designers to translate experimental goals into technical implementations for VR-based perception and interaction studies.

Virtual Reality Developer Intern

Mar 2023 – Aug 2023

NetEase, Inc.

Guangzhou, China

- Developed core VR gameplay demos using Unity and Meta Quest, reducing frame drops by 15% through logic and rendering optimization.
- Improved interaction stability using geometric and mathematical modeling, increasing internal test engagement by 30%.
- Collaborated with designers, artists, and QA, shortening development cycles by 20% while maintaining feature quality.

Unity Game Developer Intern

Jun 2022 – Aug 2022

Alibaba Group

Hangzhou, China

- Designed an optimized inventory and resource system, reducing memory usage by 25% and query latency by 30%.
- Worked cross-functionally to improve prototype usability, raising playtest satisfaction by 15%.
- Applied agile iteration workflows, increasing task completion efficiency by 10%.

SELECTED PROJECTS

- Real-Time 3D Asset Style Transfer** | Python, PyTorch, 3D Gaussian Splatting Dec 2025
- Designed and implemented a real-time 3D style transfer system based on StyleSplat, focusing on temporal stability.
 - Proposed a hybrid loss combining LPIPS perceptual loss and reprojection consistency to preserve geometry-aware structure.
 - Reduced warping error by 4% and eliminated temporal flickering across 8 NeRF-Synthetic scenes.
- Kulla-Conty BRDF Integration in UE5** | C++, HLSL, Unreal Engine 5 May 2025
- Built an offline Monte Carlo GGX integration tool to precompute BRDF LUTs for multi-scattering energy compensation.
 - Integrated custom HLSL nodes into UE5 materials, implementing Fresnel, A/B blending, and multi-bounce correction.
- Uncanny Valley Exploration in VR** | Unity, Meta SDK Nov 2024
- Developed a research-oriented VR system studying facial realism and perceptual discomfort.
 - Reduced negative user feedback by 35% and improved perceived realism by 20% via refined facial tracking and visual tuning.
- Graphics Rendering Engine** | C++, OpenGL May 2024
- Built a modular rendering engine supporting PBR, shadows, HDR, post-processing, and extensible global illumination.
 - Implemented ray tracing and super-sampling modules for real-time and offline comparison.
- GIT-COCO Vision-Language Model** | PyTorch, Computer Vision May 2024
- Improved image-to-text transformer performance by 10% BLEU score on the COCO dataset.
 - Reduced training time by 25% through architecture and batch pipeline optimization.
- Horror Hotel** | Unreal Engine, PC Jan 2023
- Led a 4-person team building a survival horror puzzle game, earning a 90% positive beta rating.
 - Implemented core interaction systems and puzzle mechanics, improving immersion and engagement.

PAPERS & RESEARCH

- The Impact of Visual Interface on Flow Experience in Video Games** Dec 2022
- Studied the influence of visual interface design on player immersion and flow states.
- Design and Development of Color Perception Treatment Video Game for Autistic Children** Oct 2022
- Investigated serious game design in therapeutic contexts for children on the autism spectrum.