Linzhi Wei

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Github | **itch.io** | **Portfolio** | **Youtube** | **Bilibili** | **LinkedIn**

Personal Summary

- MSc Computer Games Programming student at Goldsmiths, University of London, specialising in real-time rendering, HLSL shaders, and procedural systems. Experienced with Unreal Engine and Unity, developing GPU-driven rendering and procedural environment systems. Seeking a Graphics Programmer or Technical Artist internship in London.

Technical Projects

GPU-Driven Stylized Rendering & Procedural VFX System | link — 04/2026

Unity · HLSL · Compute Shader

- Developed a GPU-driven interactive grass system using GPU instancing, indirect draw calls, batching, and frustum culling, supporting 100k+ real-time grass instances at stable frame rates
- Implemented wind animation and vertex-based player interaction while reducing CPU rendering overhead through GPU-oriented workflows
- Built procedural stylized fire shaders using UV scrolling, noise distortion, emissive masking, and vertex displacement
- Prototyped volumetric cloud rendering using ray marching and FBM noise techniques
- Explored real-time procedural animation and rendering optimization for stylized environments

Procedural Ocean & Terrain Generator System | link — 12/2025

Unreal Engine 5 · C++

- Developed a procedural terrain generation system combining Diamond-Square and FFT algorithms, reducing terrain repetition artifacts and improving environmental variation
- Built an extensible Unreal Engine C++ framework enabling real-time in-editor switching between terrain generation methods Implemented FFT spectral and Gerstner wave models for real-time ocean simulation with adjustable LOD
- Optimized rendering and memory workflows for large-scale environments, reducing draw-call overhead and improving real-time performance
- Compared deterministic and spectral wave approaches to balance visual realism, scalability, and runtime cost

Procedural Water Rendering & Interactive Buoyancy System | link — 11/2025

Unreal Engine 5 · Blueprint

- Built a GPU-driven water rendering pipeline using WPO and sine-wave simulation
- Designed a Material Function + MPC architecture for efficient CPU/GPU parameter synchronization. Built mathematical buoyancy and normal calculation systems for realistic floating behavior
- Implemented animation-driven and physics-driven (Archimedes-based) buoyancy interaction and collision response
- Built reusable Blueprint and Scene Component systems for scalable multi-object interaction

Additional Experience / Hackathon

VR Developer | Cambridge RealityX Hackathon 2026 | link — **04/2026**

- Implemented a real-time AI narrative pipeline with Gemini API and TTS-based voice output
- Co-developed the AI-driven mixed reality project “Dream Lens”, awarded the “Hosts’ Favourite” Special Award

Landscape Design Intern | Hualan Design Group — **07/2023 – 09/2023**

- Conducted geographic data analysis using ArcGIS to support environmental planning and site research
- Developed landscape designs and visual presentations via CAD drafting and SketchUp modeling

Head of Publicity | University Volunteer Association — **11/2022 – 07/2025**

- Liaised with community partners to source roles and organized publicity to recruit student volunteers

Drummer & Event Coordinator | Western Music Orchestra — **09/2021 – 07/2025**

- Collaborated with performers and organisers to deliver live performances and events.
- Coordinated rehearsals, venue arrangements, equipment logistics and communication with venues
- Awarded Third Prize at the Zhejiang Provincial University Student Arts Festival

Education

MSc Computer Games Programming | Goldsmiths, University of London — **09/2025 – 09/2026**

- Course: Programming for Game Engines; Mathematics for Games and V/AR; Games Programming

BE Landscape Architecture | China Academy of Art — **09/2021 – 07/2025**

- GPA: 3.7 / 4.0

Technical Skills & Others

- **Languages**: C#, C++, Python, Blueprint, HLSL
- **Engines**: Unreal Engine, Unity
- **Graphics:** Rendering Pipelines, Compute Shader, GPU Instancing, PCG, Shader Development, VFX
- **Tools**: Git, Visual Studio, Houdini