

HUZHUYUAN LONG

huzhiyuan.long@outlook.com · c-none.github.io · WeChat: miseinenn-lh

EDUCATION

The University of Hong Kong , <i>MSc</i> in Computer Science	Sep 2025–Dec 2026
Tongji University , <i>B.Eng.</i> in Software Engineering	Sep 2020–Jul 2024

PROFESSIONAL EXPERIENCE

NetEase Games — Knives Out Business Unit, Graphics Development Intern	May 2026–Aug 2026
- Enhanced the ray-tracing component by building a path tracer as the engine's global illumination reference and adding emissive-light sampling. - Extended GPU Lightmass to support partitioned baking for World Composition scenes, reducing peak VRAM and memory usage while improving baking efficiency and stability for large-scale scenes.	
Tencent — LIGHTSPEED STUDIOS, Game Engine Intern	May 2025–Aug 2025
- Reimplemented SHaRC from RTXGI 2 in UE5 to replace Lumen's surface cache as a world-space radiance cache. - Conducted controlled experiments to compare the two cache systems, quantify trade-offs, and guide radiance cache optimization.	

PUBLICATIONS

SRSSIS: Super-Resolution Screen Space Irradiance Sampling for Lightweight Collaborative Web3D Rendering Architecture.	
Huzhiyuan Long , Yufan Yang, Chang Liu, Jinyuan Jia. <i>CAD/Graphics (CCF-C)</i> .	Aug 2023
Proposed a super-resolution-based collaborative rendering architecture.	

PROJECTS

Real-time Neural Material Renderer
- Implemented a Vulkan/Slang GPU Neural Appearance trainer for diffuse and specular material responses. - Built a Vulkan 1.4 research renderer with C++26 modules and Slang, integrating path tracing and DLSS Ray Reconstruction. - Designed a cross-frame, multi-queue render dependency graph that derives resource barriers, layouts, and queue ownership to overlap graphics, compute, and transfer work.
WebGPU Ray Tracing
- Built a hybrid rendering pipeline on WebGPU with V-buffer, ray tracing, denoising, and super-resolution modules. - Implemented an SAH-based BVH, reproduced ReSTIR DI & GI for real-time global illumination, and integrated SVGF and ReLAX for denoising.

HONORS AND AWARDS

China Collegiate Programming Contest — Shanghai Collegiate Programming Contest, Bronze Medal	Sep 2022
Group Programming Ladder Tournament, Individual Third Prize	May 2022
Tongji University Undergraduate School-level Scholarship, Third Prize ×2	2022, 2021

TECHNICAL SKILLS

- Programming Languages:** C/C++, JavaScript, WGSL, GLSL, Python
- Frameworks and Tools:** Vulkan, WebGPU, UE, Three.js, Blender, Unity
- Languages:** English, Japanese (JLPT N2)