Guanlin Huang

Portfolio: https://virulentkid.github.io/personal_web/index.html
+86 18098907436 | terrprot@qq.com

Personal Summary

Technical Artist and game enthusiast with a sharp eye for cross-disciplinary integration. Synergized photographic techniques with in-game PBR workflows,and optimized toolchains which has achieved up to 200% efficiency gains.

Education

University of Pennsylvania - **M.S.E. in Computer Graphics and Game Technology** 2021-09 ~ 2023-05

- Related Courses: GPU Programming, Physically-based Rendering, Computer Animation, Computer Vision

Case Western Reserve University - **B.A. in Computer Science & Economics** 2017-09 ~ 2021-05

- GPA 3.92/4.00 *magna cum laude*

Work Experience

Gala Sports - **Technical Artist (Generalist)** 2023-07

Lead the development of AAA-level Rendering:

- Overseing the overall quality of character rendering, animation, environment, lighting, and post-processing.
- Established a LookDev environment and defined PBR texture specifications (Albedo, Smoothness, Curvature, AO) for characters, benchmarking skin texture quality against AAA competitors.
- Developed shaders for cornea,tear, and skin detail normal and cavity mapping.
- Refactored legacy code to enhance maintainability; restructured module encapsulation to decouple code from prefabs.

Spearheaded realistic rendering solutions:

- Redesigned stadium lighting systems by creating a parameterizable lighting setup model based on real-world photography, replicating global illumination across diverse weather conditions.
- Implemented a localized tonemapping solution for high-contrast lighting scenarios, drawing from photography principles and AAA-grade exposure techniques.
- Built a URP RenderFeature for dynamic bokeh depth of field inspired by real-world camera optics, alongside auto-focus/focus-switching algorithms.

Re-engineered 3D character asset workflows to minimize human-induced flaws:

- Optimized the production-to-deployment pipeline, reducing friction costs by 66% (from 1.5 workdays to 0.5 days).
- Created a CV-driven body proportion editing tool, decreasing head-to-shoulder ratio inaccuracies by ~90%.
- Developed tools for albedo texture highlight detection and automated mask generation/modification.

Projects

Path Tracing Renderer - **Developer**

- Developed a CUDA-based path tracer; users can import 3D models and light sources.
- Implemented diffuse scattering, perfect specular, anti-aliasing, texture and normal mapping, GLTF mesh loading
- Cached first light path collision intersection points, reducing computation time by up to 2.7 times

Past-Due Panic - **Lead Designer & Developer**

- Led the design and development of a first-person 3D horror MEME game; players must find and submit their homework before being caught by teaching assistants.
- Designed core stealth/puzzle mechanics & reactive TA
- Optimized claustrophobic level layouts via iterative playtests
- Implemented dynamic audio system with stress-responsive sound mixing

Skills

- Languages: English (fluent), Chinese (Native)
- Coding Languages: C#, HLSL, Python, C++
- Development Tools: Unity, Unreal, Cline, Maya, Git