Phuong (Airi) Pham

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EDUCATION

University of Southern California – BS & MS Computer Science (Games)/Game Animation Minor (Graduation: 5/2025)– GPA: 3.80

TECHNICAL SKILLS – Python, C#, C++, Unity, Maya, Blender, Nuke, Photoshop, OpenGL, GLSL, HLSL, GitHub, Perforce

COLLABORATIVE WORK

Technical Artist | HLSL, Unity, Perforce | Link 09/2023 – Present

The Veiled Ones, Los Angeles: *A student-run horror game from University of Southern California*

- Leverage Unity shader and post-processing tools to design immersive visual features such as caustics-scrolling looking glass, night vision filter, VFX smoke trail, and full-screen curse effect that enhance the game's horror aesthetics.
- Take ownership of environmental and interior lighting work & a flashlight mechanic that adjusts brightness according to screen render's luminance, optimized with GPU compute shader.
- Collaborate closely with cross-functional teams, including four artists, two designers, and two programmers, to seamlessly integrate and debug visual elements, maintaining a cohesive and optimized player experience.

President 12/2023 – Present

USC SIGGRAPH Club, Los Angeles: University of Southern California's chapter in graphics

- Work closely with six executive board members to strategize and host study/workshop sessions on diverse topics, including animation, video games, and visual effects.
- Diligently attend, maintain records of attendance during club meetings, and inform over 30 members about upcoming activities.

PERSONAL PROJECTS

Renderer From Scratch | C++ | Link 12/2023 – 01/2024

A software renderer built in C++ and the glm math library

- Developed a working rendering pipeline capable of parsing .obj Wavefront files, rendering 3D objects using the Gouraud shading technique (including diffuse, specular, and ambient lighting), and incorporating support for normal, glow, and shadow mapping with gamma correction.

Tarot Tempo | C#, Unity, GitHub | Link 10/2023 – 11/2023

A mobile rhythm-based game with a Tarot themed narrative

- Implemented camera movement with collision detection along with character joystick movement using Unity Blend Tree.
- Orchestrated rhythmic gameplay synchronized with audio, including the creation of button touch combos for gameplay.
- Enhanced visual effects with shaders, such as door portal, ghost-skin effect, and ocean wave, to create a captivating environment atmosphere.

Something Fishy | C#, Unity, Blender, GitHub | Link 08/2023 – 09/2023

A 3D clicking puzzle murder mystery game, play as a fish

- Successfully recreated realistic water caustic, ocean wave motion, bubble particle effects, and fish swimming animation via Unity Shader Graph, further improving the experience's style and immersion.
- Skillfully implemented key gameplay systems, including an inventory management system, object inspection feature, and dialogue system for a more engaging player experience.

ACADEMIC PROJECTS

Ray tracer | C++, OpenGL | Link 03/2023

CSCI 420: Introduction to Computer Graphics

- A ray tracer for rendering opaque surfaces using 3D intersection calculations, Phong shading, and recursive reflection.

Portal | C++, SDL2 | Link 04/2023

ITP 380: Video Game Programming

- Implemented realistic player movement physics combined with teleport portal gun mechanics for player and object interactions. Built stateful AI script for enemy robots to search for player and shoot damaging laser.