Tsingtao Zhang

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Willing to relocate
zhangtsingtao.github.io/portfolio-website
github.com/ZhangTsingtao,

Projects

Ocean Simulator May 2024 Graphics Programmer Linear Algebra, OpenGL, GLSL, C/C++, CMake, Visual Studio
- Created a real-time interactive water renderer using GLSL in OpenGL, based on Whitted ray tracing.
- Added in real-time caustics effects to simulate underwater light behavior, enhancing visual realism.
- Created a clicking-promoted water circle waves on the surface, while keeping the frame rate above 30 fps.
- Applied tone reproduction methods to adapt to a wider range of image's brightness levels.

Purr Decor Dec 2023 Programmer Unity, C#, Github, Agile Development
- Implemented a grid-based building system to support precise placement and alignment of furniture.
- Worked in a group of 4, used Agile development method, Github and Trello to manage the project.
- Created an intuitive asset selection UI, quickly onboarding the player to the game.

Cutie Tower Defense July 2023 Programmer, Technical Artist Unity, C#, Github, Blender, Photoshop
- Designed and implemented an object pooling system, optimized game performance by 40%.
- Developed tower behaviors and an enemy route-changing system to enhance gameplay strategy.
- Created environmental assets, contributing to the visual appeal and thematic consistency of the game.

Experience

VR Exercise Game Research June - Aug 2024 Graduate Research Assistant Unity, C#, VR development, TCP/IP, Socket
- Enhanced an existing project by resolving leftover issues and optimizing gameplay, collected data items grew from 2 entries to 5, game time extended from 5 min to 30 min.
- parameterized all in-game variables with the user's physical measurements and expected exercise intensity level, enabled dynamic variable tuning.
- Configured a wireless environment for seamless data transfer and real-time streaming of headset imagery, reducing data collecting time by 80%.
- Designed and developed an AI shooter with physics-based aiming and block-avoiding capabilities.

Skills

Softwares/Skill Sets: Unreal 5, Unity, OpenGL, Linear Algebra, VR development, CMake, Visual Studio, TCP/IP, Blender, Substance 3D, Photoshop, Github, Perforce, Trello, Agile Development, UI/UX.

Programming Language: C/C++, C#, GLSL, HLSL, Java, Socket, Python, HTML, CSS

Speaking Language: English, Chinese (Simplified and Traditional)

Education

Game Design and Development, Master of Science August 2023 - May 2025 (expected), Rochester, USA. Rochester Institute of Technology. Current GPA: 3.82

Bachelor of Engineering Sep 2018 – June 2022, Beijing, China. China Agricultural University, Overall GPA: 3.44
Career-related courses: C and C++ Programming Language, Python Language Programming, Web Technology, Linux, Database Principles and Experiments, Data Structure

Extracurricular Activities

Bass in China Agricultural University Choir Participated in 4 performances in Beijing and 1 national competition with gold price.