

RUIJIA HUANG

GAME ENGINEER

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[Portfolio](#)

[GitHub](#)

TOOLS

Unity3D
UE4 (Blueprint/C++)
Git Perforce SVN

LANGUAGES

C++ C#
LUA SQL
DirectX WebGL

EDUCATION

University of Utah

August 2021 - May 2023

Master of Entertainment
Arts and Engineering,
Engineering Track

Fudan University

September 2017 - June 2021

Bachelor of Software
Engineering

WORK EXPERIENCE

Game Engineer

Jan 2022 - Present

Therapeutic Games and Apps Lab (Salt Lake City)

- Developed the Achievement System of a Unity game including front-end and back-end. Wrote PHP and SQL to implement data access logic.
- Performed achievement system localization in Spanish.
- Optimized and fixed bugs in existing scene-switching features.

Gameplay Programmer Intern

Mar - May 2021

Poker City Network Technology (Shanghai) Co., Ltd.

Developed the prop mall client of an online 3D mobile game using Unity3D.

- Wrote and tested Lua and C# code to implement prop mall functions.
- Communicated with the server to fetch and update user data.
- Performed prop mall UI implementation and optimization.

Unity3D Engineer Intern

Jan - Feb 2020

Shengqu Information Technology (Shanghai) Co., Ltd.

- Implemented Unity shaders such as water shaders and cartoon shaders.
- Developed backpack system UI and optimize it to increase object reusability.
- Built games for Android and performed testing and debugging using Unity Profiler to locate memory leaking.

PROJECTS

C++ 3D Game Engine Framework

Dec 2022 - Jan 2023

A multithreading framework based on ECS for creating 3D games using Direct3D API and Windows API.

- Developed an AI pathfinding system with obstacles, based on polygon mesh, AStar and RVO algorithm.
- Developed collision system. Supported collision detection and response. Optimized it using Octree.
- Implemented the render system in Direct3D. Supported translation and projection.
- Developed script system in C++, scene loading system in Lua, and a Maya plugin to load models in the Engine.

C++ 3D Custom Renderer

Sep 2020

A Windows Desktop renderer in C++ with graphics rendering functions.

- Implemented a math library that included Vector and Matrix calculations.
- Performed line and triangle rasterization. Programmed Flat Shading, Grouard shading, and Phong shading.
- Implemented 3D world space and perspective camera. Supported camera movement.

UE4 Project: PenguinDy500

Jan - Apr 2022

A two-player split-screen racing game developed with Unreal Engine.

- Worked on character control and Implemented core gameplay logic.
- Developed the checkpoint system to respawn the character after death.