Robert Keller

robertkelleriv.com | robertkelleriv@gmail.com | linkedin.com/in/rkiv/

Education

University of Michigan Engineering 2019-2023
CSE Undergraduate Degree - GPA: 3.84/4.0
Courses Include: Algorithms, Compilers, Operating Systems, Linear Algebra, Physics

Skills

Proficient in
- C++, C
- UE4, UE5
- Perforce, Git LFS, Jira
- VS, Rider, VSCode

Familiar with
- C#, Python, JS, Java
- D3D11/12, Vulkan, Unity
- WPF, XAML, MVVM
- Valgrind, PIX

Experiences

Ascendant Studios

Software Engineer (C++, UE5, PS5, XSX/S) Oct 2023 - Present
- ┗ Junior Gameplay Engineer Sep 2022 - Oct 2023
- ┗ Engineering Intern Jun 2022 - Sep 2022

○ Immortals of Aveum - AAA single player, story-driven, fantasy FPS in Unreal Engine 5.1

Combat
- Worked with Combat Designers to prototype and build major bosses (Exalted Construct, Sandrakk, Morbane)
- Fixed bugs in major systems including AI (Behavior Trees), Motion Correction (Animation Adjustment), Recoil, and Combat Ability flow
- Implemented difficulty system used throughout the game to tune enemy damage and health

Level Systems
- Took ownership of Encounter System (AI enemy spawning) and reworked major portions of it to better support handoffs, suspend/resume, and save/load. Also improved performance of preloading, spawn throttling, and pooling.
- Completely reworked quest breadcrumb algorithm with a focus on improved performance and player experience
- Worked closely with Level Designers to assist in using features and fixing bugs in all previously mentioned systems

○ Unannounced UE5 Multiplayer Project
- Completely rearchitected Inventory, Talent, and Character Attribute systems to replicate reliably and efficiently over all network conditions
- Architected and implement account data system integrated with EOS
- Optimized combat abilities for efficient replication and prediction

MCubed VR Network Visualization Research

Lead Programmer (C#, Python, Unity) May 2021 - June 2022
- ┗ Network Research Programmer February 2020 - May 2021

○ Interactive Social Network and Graph Visualizations for VR
- Developed real time graph analysis algorithms for community detection, completely rewriting the code-base from scratch to ameliorate tech debt accumulated over the course of the project
- Optimized forced-directed graph layout methods using compute shoulders
- Wrote up detailed reports and research for Ross Business School to more effectively analyze community based graphs

Lenticular Games

Founder/Lead Programmer (C++, UE5) September 2021 - Present

○ Codename M.O.G.U. - Indie Atmospheric Puzzle Game
- Engineered and architected custom player movement solution and rigid body physics simulation from scratch featuring variable gravitation directions
- Implemented and optimized custom shaders, overseeing lighting and VSM budgets, evaluating level streaming solutions, and taking advantage of cutting edge rendering features
- Organized and outlined production schedule to ensure the team stays on schedule and can hit deliverable deadlines

University of Michigan XR Initiative

Project Lead/System Architect (C#, WPF) July 2021 - August 2021

○ Personal Protective Equipment Detection App

- Architected multi-threaded layer to interface with Azure Kinect cameras, maximizing application responsiveness
- Designed readable UI allowing medical professionals to easily determine if they have correctly applied PPE

Mushroom Stewdios

Level Designer and Gameplay Programmer *(C#, Unity)* July 2021 - May 2021

○ Mogu: Indie 2D Puzzle Platformer

- Designed numerous puzzles that explored our unique mechanic, increasing player interaction and interest
- Edited and filmed captivating trailer, immediately hooking potential players of the game

WolverineSoft Studio

Gameplay Programmer (C#, Unity) September 2019 - May 2023

○ Circuitry, Desolation Place, and IO

- Built 3 full 2D and 3D games from start to finish in Unity with a team of more than 30 other students
- Developed internal scripts that allowed designers to quickly iterate and implement different designs