SHANTANU SHRIPAD MANE - GAMEPLAY CONTROLS PROGRAMMER

Phone No.: +1-385-202-9752 | **Email:** shantanu.m934@gmail.com
Portfolio: shantanumane.com | linkedin.com/in/shantanusmane

EDUCATION

University of Utah - *Expected Graduation - May 2019*
Pursuing a Masters in Entertainment Arts & Engineering - Game Engineering Track

K.J. Somaiya College of Engineering, Mumbai, India - *June 2015*
Secured a Bachelor of Engineering in Computer Engineering with *First Class Honors*

SKILLS

Programming Languages - C++, C#, Blueprints
Software Experience - Unreal Engine 4, Unity, Maya, MotionBuilder
Soft Skills - Iteration, Collaboration, Problem Solving, Organization
Computer Science - 3D Math, Data Structures, Memory & Cache, Code Optimization & Design
Software Architecture - UML, Dia

GAME PROJECTS

Combat Animation System Project - *Gameplay Animation Programmer - C++, UE4* - Current Project - Portfolio Page

- Created a gameplay and animation system for chain attacks/combos based on input timing and animation events, which is robust enough to allow adding any number of combat moves by designers and chaining between them.
- Improved responsiveness by accepting next attack input before an attack finishes and later executing the 'Pending Attack'.
- Performed and worked with motion capture for a movement animation system based on Ubisoft's Motion Matching.

Hard Light Vector - *Gameplay Programmer - C++, Blueprints, UE4* - Current Project - Portfolio Page, Project website
An action-adventure FPS game with your fast-paced traversal techniques as tools to conquer giant mechanical monsters.

- Implemented a system to provide action-style feedback by controlling flair elements based on player actions & state.
- Worked on an interaction system to talk to, indicate and handle interacting with interactable elements near the player.
- Implemented the player character's 'Thrusters' that give a small upward boost when you are in-air.
- Contributed to player-side design to create a unique character and resonating abilities that make you feel fast and fierce.

Memory Manager - *Engine Core Programmer - C++* - Oct '17 to Dec '17 - Portfolio Page

- Created a memory manager in C++, with Fixed Size & Dynamic Size Allocators, that passes a robust unit test.
- Implemented Fixed Size Allocators for certain allocation sizes that use arrays of bits to track their memory blocks.
- Optimized bit operations with Compiler Intrinsic instructions to speed up looking through the bit-arrays.
- Created a Dynamic Size Heap Allocator to allocate memory of requested size from the reserved heap of memory.

2D Collision System - *Gameplay Tech Programmer - C++* - Feb '18 to May '18 - Portfolio Page

- Created the Collision & gameplay supporting systems for a 2D Game Engine and implemented Pong using it.
- Implemented the Swept Separating Axis Test for collision checks, and two types of responses to them - block & overlap.
- Optimized collision system by updating coordinate transformation matrices only for moveable objects, checking collision of only the ball with other objects & responding to only the earliest collision, capitalizing on the game world being sparse.
- Created libraries of 4x4 Matrix & Vector4 operations for transformations used primarily by collision system.

Warlocks - *Gameplay Programmer - C#, Unity* - Aug '18 to Dec '18 - Portfolio Page
A recreation of a MOBA-esque King-of-the-Hill PvP where you cast spells to fight and defeat other players.

- Created an input system that can switch between input types - selection & movement, spell-casting & targeting types.
- Created robust Unit Statistics, Damage and Status Effects systems and pipelines.
- Implemented a well-rounded spell system with ability interactions, spell-cast types, spell levels, cast times, and cooldowns.
- Implemented Object Pools to instantiate spells/abilities before game start to eliminate overhead of on-demand creation.