SHANTANU SHRIPAD MANE - SOFTWARE ENGINEER
LEAGUE OF LEGENDS, GAMEPLAY: CHAMPIONS

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

EDUCATION

University of Utah, Salt Lake City, USA - *May 2019*
Secured a Master of Entertainment Arts & Engineering - Game Engineering Track with *GPA 3.88/4.00*

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, Lua, GLSL
Software - Unreal Engine 4, Unity, OpenGL, Maya, MotionBuilder
Soft Skills - Iteration, Collaboration, Creative Problem Solving

Computer Science - 3D Math, Data Structures, Algorithms, Code Optimization & Architecture, Memory & Cache, Computer Graphics

WORK EXPERIENCE

SIE Santa Monica Studio, Los Angeles, USA - *Gameplay Software Engineer Intern - C++, C#, Lua* - Jul '19 to Sep '19

- Implemented a root-motion related animation tool feature to make viewing animations in game more convenient.
- Improved a combat collision system to perform more accurate shape intersection tests to better support designers' vision.
- Optimized a fact-checking system to keep certain types of fact buckets pre-sorted and sort other fact buckets only when necessary which saved 0.2 - 0.3 ms of frame time.

Actually A Game Company, Salt Lake City, USA - *Gameplay Software Engineer - C++, Blueprints, UE4* - Sep '18 to May '19
Hard Light Vector - Released on Steam Mar '19 - Portfolio Page, Project website
An action-adventure FPS game with your fast-paced traversal techniques as tools to conquer giant mechanical monsters.

- Implemented an action-elements system to control VFX and screen effects for flair & feedback based on player state.
- Worked on an interaction system to indicate and handle interacting with interactable elements near the player.
- Implemented the HUD and various UI elements to achieve a sci-fi feel and power fantasy.
- Implemented & iterated on 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.

GAME PROJECTS

Combo Attacks System Project - *Gameplay Animation Software Engineer - C++, UE4* - Aug '18 to Present - Portfolio Page

- Created a gameplay and animation system for chain attacks/combos based on input timing, animation events & branches 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'.

Warlocks - *Gameplay Software Engineer - 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 target types, levels, cast times & cooldowns.
- Optimized spells' Game Object creation by instantiating into Object Pools before game start rather than during gameplay.
- Integrated network functionality for gameplay elements like movement, animation & spells for multiplayer mode.

2D Collision System - *Gameplay Software Engineer - 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.