Aseem Apastamb

Software Engineer

aseem.apastamb.05@gmail.com
https://github.com/aseemapastamb
https://aseemapastamb.github.io
https://www.linkedin.com/in/aseemapastamb/
+1 206 581 6532

Skills:

- **Languages:** C++, C#, Lua, C, GLSL, Python
- **Other Software:** Unity, Unreal, RenderDoc

Projects:

Academic

3D Isometric Car Game - DTBB **Aug '22 – Apr '23**

- Developed in a custom engine using C++, Lua, and OpenGL
- Designed player mechanics like car drifting and other car gadgets
- Implemented enemies that use the same car mechanics as the player, and various others
- Worked on a Lua scripting system for use in gameplay systems and behaviours
- Integrated a C++ type reflection system for automatic serialization of common types

3D Rendering Framework **Jan '23 – Apr '23**

- Rendered a scene using deferred shading that allows for a large number of local light sources
- Implemented soft shadows using a blurred shadow map
- Calculated shadow value using two different techniques – Variance Method and Moments Method

2D Puzzle Platformer - Lights Out **Jan '22 – Apr '22**

- Developed in C++, using an ECS based game engine
- Contributed to the level design, physics engine, and gameplay systems
- Learnt the basics of an Entity-Component-System architecture pattern
- Experienced team-based project development, including practices like source control

3D Animation Framework **Aug '22 – Dec '22**

- C++ graphics framework that loads complex 3D models and animations
- Supports soft body simulation and cloth simulation
- Developed a path following model that generates a Bezier curve from given control points
- Built a quaternion library for use in inverse kinematics based bone animations

Behaviour Tree - Planning System Hybrid **Jan '22 – Apr '22**

- C++ graphics framework that loads complex 3D models and animations
- Combines the benefits of Behaviour Trees and Planning Systems
- Implements the simplicity and control of BTs with the flexibility of planning

Personal

Box Shooter **Jan '21**

- A 3D first-person shooter built in Unity - points gained by shooting objects in the environment
- Demonstrated player input, interactive UI, some basic scripting, and 2 different levels

Roller Madness **Dec '20**

- A 3D third-person game created in Unity - control a ball, collect coins, and avoid enemies
- Showcased user input, basic physics-based movement, and enemy behaviour

Publication **Jun '21**

- A research paper on data analysis and machine learning called *Investigating the Impact of Data Analysis and Classification on Parametric and Non-Parametric Machine Learning Techniques: A Proof of Concept* - published for Springer's 3rd ICCNCT 2020

Education

Master of Science in Computer Science **Expected Graduation Apr '23**
DigiPen Institute of Technology

Bachelor of Engineering in Computer Engineering **Graduated Nov '20**
Maharashtra Institute of Technology, Pune (Savitribai Phule Pune University)