

Aseem Apastamb

Software Engineer

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Skills:

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

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 other enemies
- 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

Behaviour Tree – Planning System Hybrid

Jan '22 – Apr '22

- Showcased advanced AI in games using a project developed in Unity Engine, utilizing C# scripts
- Combined the benefits of Behaviour Trees and Planning Systems
- Demonstrated the simplicity and control of BTs with the flexibility of planning

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 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 Moment shadow maps
- Integrated other techniques like ambient occlusion and image-based lighting

3D Animation Framework

Aug '22 – Dec '22

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

Personal

Box Shooter

Jan '21

- 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

- 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

Publications and Seminars:

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

Seminar

2019

- Delivered a 20-minute seminar on the "Use of Raspberry Pi in Game Design and Development" as part of an undergraduate course

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)