

# SHREYAS NISAL

## Software Engineer- Gameplay and Engine Systems

[shreynisal@gmail.com](mailto:shreynisal@gmail.com) | [reynisal.com](http://reynisal.com) | [linkedin.com/in/shreynisal](https://linkedin.com/in/shreynisal)



## SKILLS

**Languages:** C++, C#, HLSL, GLSL, Java, JavaScript, Python    **Game Engines:** Unreal, Unity

**Tools and Technologies:** Perforce, Git, DirectX, OpenGL, WebGL, Virtual Reality, OpenXR, WebXR, Visual Studio, ReactJS, React Native, NodeJS, Windows APIs, Linux, Android, 3D Math, Linear Algebra, 3D Rendering

## PROJECTS

### Rey Engine: Custom C++ Game Engine | C++ | DirectX 11 | OpenXR

Aug 2023 – May 2025

- Developed a custom game engine with a DirectX-11 rendering pipeline supporting 2D and 3D rendering.
- Created custom math and physics utilities including vectors, Euler angles and matrices for collisions and raycasts.
- Authored reusable core engine systems including a multithreading system, a networking system with TCP connections using web sockets and a VR system built using OpenXR.
- Used the engine for several 2D, 3D and VR games including a first-person shooter, a 3D tower-defense game with data-driven architecture and a voxel-based infinite, deterministic world generator.

### ArchiLeap: VR Platformer with an In-game Level Editor | Rey Engine

Aug 2024 – May 2025

- Engineered a reusable VR system using OpenXR and used it to integrate VR in past projects.
- Implemented first-person platformer mechanics using custom physics utilities with intuitive 6-DoF VR interactions.
- Built a designer-friendly in-game level editor for User-Generated Content (UGC) with Perforce support for collaboration.
- Polished the PC and VR editing experience through iterations with designers and usability testing feedback.

### Rey Web Engine: Custom JavaScript Engine | JavaScript | WebGL | WebXR

Jan 2025 – May 2025

- Developed a custom in-browser game engine with a WebGL rendering pipeline supporting 2D and 3D rendering.
- Created math and physics utilities and core engine classes including a custom parser for 3D models from OBJ files.
- Used the engine to build an in-browser 3D scene with immersive VR support and a 2D top-down physics-based game.
- Implemented a GitHub workflow for automatic engine and per game versioning using commit message parsing.

## EXPERIENCE

### Lead Engineer ([Imvi: Echoes of Harmony](#)) | SMU Guildhall | Unreal 5.4 | Team Size: 23

Jul 2024 – Dec 2024

- Collaborated on 3C's challenges for a third-person open-world exploration game with Unreal custom gravity.
- Worked with cross-discipline teams on implementing game mechanics and system design for space traversal.
- Handled sprint planning and backlog refinement in Jira, milestone delivery documents and progress presentations.
- Set up a Python script for daily builds using Unreal Automation Tool (UAT) and uploads to Steam and Epic Games Store.
- Worked on customizing the Advanced Menu System for the custom game UI.
- Tackled game optimization using Unreal tools and Trace server for shaders, lights, Niagara VFX and Unreal Landscape.

### Tools Engineer ([Fastival](#)) | SMU Guildhall | Unreal 5.3 | Team Size: 50

Jan 2024 – Jun 2024

- Supported cross-discipline teams on urgent and high-priority tasks on race logic, UI and optimization.
- Implemented multiplayer controls for menu UI with UMG and Enhanced Input System.
- Built windows executables and managed configuration for Linux builds for Steam Deck compatibility.

### Gameplay Engineer (DonuTilt) | SMU Guildhall | Unity | Team Size: 5

Sep 2023 – Dec 2023

- Authored input mechanics for the game involving tilt-based controls using Unity Input accelerometer with dead-zone correction and tap-based mechanics for world-gravity shifting.
- Created the game's UI with settings stored across user sessions on Android devices.
- Collaborated with a programmer, an artist and a designer to establish the game's mechanics and design goals.

### Software Engineer | Twilio | Java | MySQL | Jenkins | AWS

Aug 2022 – Feb 2023

- Worked on developing REST API endpoints in Java for role-based access control for Twilio users.
- Authored unit and cluster tests working with Jenkins for automated testing and AWS Box for deployments.

## EDUCATION

### Southern Methodist University, Guildhall

Master of Interactive Technology in Digital Game Development, Software Engineering

### Birla Institute of Technology and Science, Pilani

Master of Science, Physics

Bachelor of Technology, Computer Science