

# SHREYAS NISAL

Gameplay and Engine Programmer

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## SKILLS

C, C++, C#, Java, JavaScript, HTML/CSS, Python, OpenGL, DirectX11, WebGL, GLSL, HLSL, Perforce, Visual Studio, RenderDoc, Unreal Engine (Blueprint/C++), Unity, OpenXR, NodeJS, React, React Native, Flutter, Arduino

## PERSONAL PROJECTS

**Custom C++ Game Engine** | C++ | DirectX 11 **Aug 2024 - Present**

- Developing a custom game engine with a DirectX-11 rendering pipeline supporting 2D and 3D rendering.
- Using the game engine for several projects including a VR level editor and a 3D tower defense game.

**ArchiLeap: VR Platformer with an In-game Level Editor** | Custom C++ Game Engine **Aug 2024 - Present**

- Integrated OpenXR with my custom C++ game engine to support development of VR games.
- Developing a first-person Virtual Reality (VR) platformer with an in-game level editor.
- Implementing a level editor for Entity creation, translation, cloning, rotation and scaling using intuitive VR controls.

**Custom JavaScript Game Engine** | JavaScript | WebGL **Jan 2025 – Present**

- Developing a custom game engine with a WebGL rendering pipeline supporting 2D and 3D rendering.
- Using the game engine for projects including a 3D demo scene and a top-down 2D game.

**ReyTD** | Custom C++ Game Engine **May 2024 – Jul 2024**

- Developed a complete 3D tower defense game with 9 enemy types, 5 tower types and 6 levels.
- Created data-driven architecture to add new maps, environments, tower types, enemy types and levels.
- Implemented an event-driven UI system for the game with support for buttons and sliders.
- Implemented CPU-driven billboarded particles for wind simulated using Perlin noise.

**SimpleMiner** | Custom C++ Game Engine **May 2024 – Jul 2024**

- Developed a voxel-based infinite, deterministic world generation system.
- Added support for lighting using influence maps, glowstone flickering, day-night cycles and fog.
- Created rivers and biomes including deserts, oceans, frozen water bodies and forests using Perlin noise.
- Added VR support using OpenXR.

**Doomenstein** | Custom C++ Game Engine **Jan 2024 – May 2024**

- Developed a first-person shooter with billboarded 8-facing sprites and directional lighting.
- Implemented 3D model loading and shadow maps and added VR support using OpenXR.

## SHIPPED TITLES

**Imvi: Echoes of Harmony** | Unreal Engine 5 | Lead Programmer | [Steam](#) **Jul 2024 – Dec 2024**

- Worked in a team of 23 developers including programmers, producers, level designers and artists.
- Contributed to milestone delivery documents, task planning and stakeholder presentations.
- Assisted programmers with math and code.
- Contributed to UI development using the Advanced Menu System.

**Festival** | Unreal Engine 5 | Programmer | [Steam](#) **Jan 2024 – Jun 2024**

- Worked as the sole support programmer for most of the development.
- Set up daily builds, enforced perforce practices, fixed bugs and assisted programmers where necessary.
- Implemented the multiplayer system and contributed to the input system and menu UI.

## EXPERIENCE

**Hearty Adventures in Food and Play Lab** | Research Intern **Melbourne** **Mar 2023 – Jul 2023**

**Twilio** | Software Engineer 1 **Bengaluru** **Aug 2022 – Feb 2023**

**MIT Media Lab, Fluid Interfaces** | Research Intern **Cambridge** **Jan 2022 – Jul 2022**

**Exertion Games Lab** | Research Intern **Melbourne** **Jul 2021 – Dec 2021**

**Twilio** | Software Engineering Intern **Bengaluru** **Jun 2021 – Jul 2021**

## EDUCATION

**Southern Methodist University, Guildhall** **Aug 2023 - Present**

Master of Interactive Technology, Software Development

**Birla Institute of Technology and Science, Pilani** **Aug 2017 – Jul 2022**

Master of Science, Physics

Bachelor of Technology, Computer Science