

SHREYAS NISAL

VR, Gameplay and Tools Engineer

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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

SHIPPED TITLES

Lead Programmer (Imvi: Echoes of Harmony) | Unreal Engine 5.4 | Team Size: 23 **Jul 2024 – Dec 2024**

- Imvi is an open-world space exploration game with orbiting mechanics and arbitrarily oriented floating islands.
- Collaborated with programmers on challenging math and code problems through whiteboard conversations.
- Contributed to milestone delivery documents, task planning and stakeholder presentations.
- Contributed to UI development using the Advanced Menu System.

Programmer (Festival) | Unreal Engine 5.3 | Team Size: 50 **Jan 2024 – Jun 2024**

- Festival is an arcade racing game with up to 4-player split-screen local multiplayer.
- Supported cross-discipline teams as a floating programmer on urgent and high-priority tasks.
- Maintained code health through daily builds using a python script on a build server and good perforce practices.
- Implemented the multiplayer system and contributed to the input system and menu UI.

INDIVIDUAL PROJECTS

Rey Engine | C++ | DirectX 11 **Aug 2024 – May 2025**

- Developed a custom game engine with a DirectX-11 rendering pipeline supporting 2D and 3D rendering.
- Used 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 | Rey Engine **Aug 2024 – May 2025**

- Engineered a reusable system for VR support using OpenXR in my custom engine.
- Implemented a VR level editor to allow map creation using intuitive VR controls.
- Implemented a custom binary file format for saving/loading maps with in-game perforce integration.
- Polished the editor experience through iterations with designers.

Rey Web Engine | JavaScript | WebGL **Jan 2025 – May 2025**

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

Throttle Ball | Rey Web Engine **Jan 2025 – May 2025**

- Developed a top-down 2D game that can run in a browser with realistic collision physics.
- Implemented support for Xbox controllers with up to 4-player shared-screen local multiplayer.
- Added a GitHub workflow for automatic versioning with every commit.

ReyTD | Rey 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.

SimpleMinerVR | Rey 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.

EXPERIENCE

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

- Developed a smartphone game designed to encourage real-world activities that support human gut health.
- Contributed to the design of the app in accordance with the research goals.

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

- Worked in the Auth team on the Role-Based Access Control (RBAC) platform.
- Contributed to an internal tool and API endpoints that can be integrated with other Twilio products.

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

- Worked on the KALM project for anxiety management using Affective Brain-Computer Interfaces.
- Designed and developed a neurofeedback training protocol using electroencephalography.

Exertion Games Lab Research Intern	Melbourne	Jul 2021 – Dec 2021
<ul style="list-style-type: none"> • Explored Electrical Muscle Stimulation (EMS) for novel interactions between users and systems. • Designed social bodily games using EMS to study shared agency between multiple users and the EMS system. 		
Twilio Software Engineering Intern	Bengaluru	Jun 2021 – Jul 2021
<ul style="list-style-type: none"> • Contributed to the Role-Based Access Control (RBAC) platform using the vaadin framework. • Developed API endpoints for the access manager service (XMS). 		

EDUCATION

Southern Methodist University, Guildhall	Aug 2023 – May 2025
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	

PUBLICATIONS

• Shared Bodily Fusion: Leveraging Inter-Body Electrical Muscle Stimulation for Social Play ACM Digital Library	DIS 2024
• Go-Go Biome: Evaluation of a Casual Game for Gut Health Engagement and Reflection ACM Digital Library YouTube	CHI 2024
• Joie: A Joy-based Brain-Computer Interface (BCI) ACM Digital Library YouTube	UIST 2023
• Demonstration of Joie: A Joy-based Brain-Computer Interface (BCI) with Wearable Skin Conformal Polymer Electrodes ACM Digital Library	UIST 2023
• Fused Spectatorship: Designing Bodily Experiences Where Spectators Become Players ACM Digital Library YouTube	CHIPlay 2023
• TouchMate: Understanding the Design of Body Actuating Games using Physical Touch ACM Digital Library YouTube	CHIPlay 2022