Aniket Rajnish

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Demo Reel

Skills

- Unity Generalist
- Tools Programming
- 3D Math, Algebra, Calculus
- Technical UI Creation
- Version Control
- Optimization, Profiling
- Material & Shader Creation
- Particle Systems & VFX
- Generative AI APIs
- Technical Documentation
- Video Editing
- Understanding of 3D, Animation & Rendering Pipeline

Tools & Languages

- Unity, C#, HLSL
- Python, PyMEL, PyQT
- Adobe XD
- Unreal Engine
- Git, GitHub, Perforce
- Maya
- Substance Designer
- Adobe Photoshop
- Adobe Premiere Pro

Achievements

- **Summer Geometry Initiative Fellow** at MIT Computer Science and Artificial Intelligence Laboratory.
- Recipient of the **Gold Medal for Outstanding Innovation** at IIT Gandhinagar.
- Recipient of the **Director Fellowship Award** at FIEA.
- **1 of 100** students selected for Chennai Mathematical Institute in 2019.
- **Ranked #2 Nationally,** Indian Commerce Olympiad (Maths, Aptitude).
- **Top 0.4 percentile** in JEE Mains & **0.3 percentile** in JEE Advanced.
- **Ranked #22,** out of 10k+ participants, Brackeys Game Jam 2021.1.
- **Ranked #1,** Jamboost Game Jam out of 300+ participants, won $1000.
- Received **Silver Medal** at Inter IIT Tech Meet for IGDC Gamedev Challenge
- Developed games **downloaded over 521K+** and **played 2M+ times.**

Education

2024 | MIT Computer Science and Artificial Intelligence Lab | Geometry Processing
2023 - 25 | FIEA, University of Central Florida | MS, Technical Art Track
2019 - 23 | IIT Gandhinagar | B.Tech, Mechanical Engineering, Design Minor

Experience

Technical Artist, Dragonfly Games **(Nov 2023 - Ongoing)**
[FIEA Coursework Capstone Project for a student run studio]

- Developed post effects and VFX for the game contributing to its comical look.
- Responsible for all the tool development for the team, automating many tasks.
- Developed an optimized curly hair solution for UE5, reduced its performance overhead by 64x. A document about all my contributions can be found here.

Technical Artist & Project Lead, Lockheed Martin **(Jan 2024 - April 2024)**
[FIEA Coursework Contract Project for Lockheed Martin]

- Led a team of 8 to develop a VR experience that demonstrates the JADO system and has a modular 3D asset gallery with a conversational AI companion.

Third Party Developer, CrazyLabs **(Aug 2021 - Aug 2022)**

- Partnered as a game studio, and led a team of four, resulting in development of 6 prototypes, 30 concept pitches and a market-ready game (unannounced).

Technical Art & Design Intern, 19 Souls on Board **(May 2022 - July 2022)**

- Worked as a remote contractor, provided assistance in shader & gameplay programming, and VFX. Logs about my contribution that can be found here.

Secretary, Game Dev Club, IIT Gandhinagar **(Aug 2020 - Apr 2021)**
[IIT Gandhinagar Technical Council POR]

- Guided 100+ game developers about Unity & basics of game development establishing connection with Kwalee, Homa Games & Crazylabs.
- Successfully organized GameJam 2020 AD, the third largest Indian game jam on itch.io at the time, with 600+ people submitting 90+ games.

Personal Projects

Collider Optimizer for Unity [300+ stars on Github] [80.lv Article]

- Developed a tool that optimizes Mesh and Polygon Colliders in Unity.
- A C# implementation of the Ramer Douglas Peucker Algorithm is used to smooth polylines and reduce number of paths created by Polygon Colliders.
- A C# implementation of the Quadric Error Metric simplification is used on the shared mesh of the Mesh Collider to reduce its poly count.

Text to Material for Unity

- Developed a plugin for Unity that generates materials from text prompts in Unity.
- Sets material properties, generates base & normal maps using OpenAI API calls.
- Implemented algorithm to parse material properties from natural language input.

PyQt Multi-Window Sync [300+ stars on Github] [100k+ views on YouTube]

- Developed a windows GUI application using PyQt5 and qtSignal that demonstrates real-time synchronization between multiple window instances.

Constructive Solid Geometry Dataset Generator

- Developed a GPU-accelerated tool that helps create procedurally generated raymarched 3D shape datasets consisting of 17 primitives & 3 operations allowing control over transformations of primitives, quality and size of dataset.

Maya Auto Rigger [Work in Progress]

- A work in progress Auto Rigger that contains functionality for IK/FK switching & snapping, space switching, stretchy joints, wrist roll and reverse foot IK.

C# Implementation of a 4D Raymarching Engine

- A raymarcher that helps render 4D objects. Implemented algorithms for lighting, AO and shadow calculation, compute-buffers, raymarching signed-distance functions, a shader math library for C# and a custom editor window.

Two Opposites (Ranked #22 internationally, Brackeys Game Jam)

- Formulated and developed a 2D Lighting System in C# for Unity using ray casting, and Unity started official support for it in a later update.