

Aniket Rajnish

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Summary

I'm a junior undergraduate at IIT Gandhinagar. I'm into developing games, VFX, shader programming, editing videos, computer graphics, and simulations. I occasionally post on [YouTube](#).

Education

Degree	Institution	CPI/%	Year
B.Tech	IIT Gandhinagar	7.83	2019 - Present

Skill Summary

- **Languages:** C#, HLSL, GLSL, C++, C, Python
- **Tools:** Unity, OpenGL, Adobe Premiere Pro, Adobe After effects, Photoshop, Blender, Adobe XD, GameMaker Studio 2, MATLAB, Autodesk Inventor

Experience

- **Game Developer, [CrazyLabs](#)** [Aug 2021- Present]
 - Working as a partner game studio to help create scalable hypercasual games.
 - I look after the ideation and development of the games and the marketing & publishing side of things is looked over by CrazyLabs.
 - The projects I've worked upon with them are listed [here](#). The source code and the build for the games can't be shared publicly as this comes under NDA.
- **Secretary, [DigiS IITGn](#)** [Aug 2020 - Apr 2021]
 - Led a team of over 100 game developers and taught them the basics of Unity & Game Development.
 - The club is now regarded as the biggest game development college club in India.
 - We've been the leading Indian game development team in several game jams.
 - Organized an AR workshop attended by 300 people from IIT Bombay, IIT Hyderabad & IIT Gandhinagar.
 - Organized [GameJam 2020 AD](#) in collaboration with Amalthea IIT Gandhinagar. 600+ people participated to make 90+ games making it the third biggest Indian game jam to be held on itch.
- **Technical Coordinator, IIT Gandhinagar** [Apr 2021 - Present]
 - Leading a team of 10 people to assist the Technical Secretary to conduct the Technical activities held at IITGN efficiently.
 - Overlooking the functioning of all the technical clubs and events.
- **Eureka Video Coordinator** [August 2019]
 - Led a team of 12 video editors.
 - Made the [Foundation Programme Video](#) of Btech'19, IITGn.

Projects

- **[Raymarching Engine](#)**
 - Currently writing a raymarching engine in Unity.
 - This technique allows rendering complex geometry like fractals, n-dimensional objects, volumetric clouds, etc. using very little computation costs by just comping up with a distance function for the surface that we want to render.
- **[Project Holly](#)**
 - Built a platform for interactive movies to unify games and movies.
 - Developed an asset for Unity that allows one to stream a video in small chunks according to his choices using Firebase.
- **[3D Render using Gaussian elimination](#)**
 - Mathematically modeled a 3D rendering technique that uses numerical methods to calculate the intersection of planes and render 3D objects.
 - Done as a part of a project of the MA202 course at IITGN.

- **Rendering a 4D Hypercube**
 - Demonstration of a 3D section of a rotating 4D Hypercube (with hardcoded coordinates) by using rotation and projection matrices. Done as a part of a project of the MA202 course at IITGN.
 - Extended this approach to render the 4D Hypercube (with faces) in Unity using mesh generation and GL Library. Repo [here](#).
 - Created an [NFT collection](#) of these 4D Hypercubes as well.
- **Raycast 3D Renderer**
 - 3D renderer implemented in scratch that using the traditional concept of raycasting used in games like VCOP2 and Wolfenstein 3D.
 - Any 2D map you input into the game gets converted into a 3D world for you to explore.
- **Jelly Physics in Unity**
 - Jelly physics implemented in Unity using mesh deformation.
 - Extended this approach for slime simulation in Unity by decreasing the stiffness.
 - Used this simulation in a [game](#) as well.
- **Non-Euclidean World in Unity**
 - Optical illusion made by using multiple intersecting single-sided planes instead of a 3d mesh.
 - Made [another non-euclidean world](#) using portals and layered camera texture on a plane.

Games

- **Two Opposites**
 - Made in 7 days for the 2021 Brackeys Game Jam (2nd biggest game jam on itch with 10k+ participants)
 - Game ranked #22 in the innovation category, #44 in the Game Design category, and #71 overall.
 - Programmed every mechanic of the game (mirror movement, multiple-camera setup, etc.)
 - Made my own 2d lighting system from scratch using raycasts. Repo [here](#).
- **Faster Than Light (Hyper Casual)**
 - Won the [JAMBOOST](#) game jam hosted by [Chartboost](#) and a prize of 1000\$
 - Did fairly well in CPI tests.
 - Got 180\$ for promotion by [Kwalee](#).
 - Programmed every mechanic & enemy AI of the game.
 - Looked after the lighting and shaders used in the game.
 - Optimized time control mechanics for the mobile platform.
 - Optimized real-time indoor lighting on mobile platform
 - Repo [here](#).
- **Faster Than Light (PC)**
 - Made in 7 days for the 2020 Brackeys Game Jam (3rd biggest game jam on itch with 9k+ participants)
 - Game ranked #71 in Audio category and #132 overall.
 - Programmed every mechanic & enemy AI of the game.
 - Looked after the lighting and shaders used in the game.
 - Implemented bullet-time mechanics.
 - Implemented player physics from scratch that would allow the player to move in space independent of the world's timescale.
- **Shoot The Numbers**
 - Made under a week for CrazyLabs.
 - Optimized multiple navmesh agents for mobile devices.
 - Wrote a shader that supports both transparency and interpolation between two colors.
 - Wrote swerve mechanics trending in hypercasual games these days.
 - Wrote mechanics for algebraic gates trending in hypercasual games these days.
- **Hoof Cleaning ASMR**
 - Made under 2 weeks for CrazyLabs.
 - Wrote texture masking algorithm to erase/paint textures over meshes.

Find other games developed by me [here](#).

VFX & Edits

- [Shaders - GameJam 2020 AD Trailer](#)
 - This shader used in the video uses one-sided features of multiple planes for a non-euclidean look.
 - Also wrote a shader to replicate the look of HDRP reflective materials using Unity's built-in render pipeline and a reflection probe for the mascot and jar.
- [VFX Graphs - GameJam 2020 AD Theme Reveal Video](#)
 - Used VFX graphs for the particles in this video.
 - Everything that you see in this video is made out of '2020', which was the theme for the JAM itself.
- [Recreated Coldplay's Up&Up Music Video](#)
 - Used Motion Tracking in Blender and After Effects
- [Particle Systems - Psychedelic Edit](#)
 - Used Unity's particle system.
- [Recreated Interstellar's Black Hole](#)
 - Used Blender's particle system.
- [Twixtor - Blith'20 Teaser](#)
 - Used twixtor in Adobe Premiere Pro.
- [Particle System - Fractals](#)
 - Used Unity's particle system.

Achievements

- Top 0.4 percentile in JEE Mains 2019 out of 1.3 million students.
- Top 2 percentile in JEE Advanced 2019 out of 2 lakh students.
- One of the 100 students selected for [Chennai Mathematical Institute](#) in 2019.
- One of the 27 authors whose story was published in [Cobalt Blue](#) across a nationwide competition amongst all students of DPS across India.
- Ranked #22 in Brackeys Game Jam out of 10k+ participants.
- Won Jamboost game jam.

Website - <https://aniketrainish.github.io/me/>