**Aniket Rajnish**
Senior Undergraduate
Mechanical Engineering (Minors in CSE)

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## EDUCATION

| Degree | Institution | CPI/% | Year |
|---|---|---|---|
| B.Tech | IIT Gandhinagar | 8.1 / 10 | 2019-2023 |

## EXPERIENCES and INTERNSHIPS

- **Game Developer, CrazyLabs** **[Aug 2021- Mar 2022]**
  Contracted as a partner game studio to help create scalable hyper-casual games by looking after their ideation & development. Delivered 6 prototypes, 30 concept pitches and 1 market-ready game currently under further development for publishing.
- **Technical Art intern, FIEA, University of Central Florida** **[May 2022- Present]**
  Assisting the 19SOB team at FIEA with their capstone project as a tech artist for shader programming, gameplay programming, and the development of various particle and VFX systems under the guidance of **Prof. Ron Weaver and Prof. Chris Roda**. Curated development logs and documentation to the game which can be found here.
- **Game Design Intern, Electronics Arts** **[June 2022 - July 2022]**
  Conceptualized three game ideas and worked upon ongoing project (Sims Social) under the lead designer. Worked on in-studio game engine & tools for quick prototyping.

## PUBLISHED VIDEOGAMES

- SoulShard **(FIEA, University of Central Florida)** published on Steam.
  - Developed dynamic footprinting system, VFX systems like fire, smoke, debris, dynamic snowstorm system, rope physics for cables, in Unreal Engine 4.
- Two Opposites **(Ranked #22 internationally, Brackeys GameJam)**
  - Wrote my own 2D Lighting System from scratch in C# for Unity using raycasts before Unity started support for it in a later update. Programmed every mechanic for the game (including mirror movement, multiple camera setups, etc.)
- Faster Than Light? **(#3 in Popularity, Brackeys GameJam 2020.1)**
  - Implemented Enemy-AI, inverse superhot bullet-time mechanics & shaders in Unity.

## PAST and ONGOING PROJECTS

- C# + Unity Implementation of Raymarching-based Graphics Engine.
  - Single-handedly developed a fast, open-source raymarcher for Unity with support for 28 primitives (including fractals, n-dimensional objects, volumetric clouds).
  - Implemented compute-buffers, raymarching signed-distance functions, built a custom interface for manipulating shader parameters through the editor.
- Mathematical Model for 3D Rendering through Gaussian Elimination.
  - Mathematically modeled and implemented a 3D rendering technique that uses numerical methods to calculate the intersection of planes and render 3D objects.
  - Extended this approach to render 3D dimensional projection of 4D hypercubes.
- Procedural Generation of 3D space from 2D Image through Ray Casting.
  - Single-handedly developed a 3D Renderer in Scratch using principles of raycasting, with features such as varying camera field-of-view and shadow-mapping.
- CSG + Neural Radiance Fields to extract 3D Models from 2D images.
  - Using Constructive Solid Geometry (CSG) and Neural Radiance Fields (NeRFs) to predict symmetric 3D Models from 2D images under Prof. Shanmuganathan Raman.
- MHRD-Project for graphical reconstruction of Jantar Mantar.
  - Working with Prof. Sameer Sahasrabudhe to design, develop, and implement 3-Dimensional recreations of yantras housed in the Jantar Mantar, New Delhi.

## POSITIONS OF RESPONSIBILITY

- **Secretary, Game Development Club, IIT Gandhinagar** **[Aug 2020 - Apr 2021]**
  - Led a team of 100+ game developers, taught basics of Unity, Game Development.
  - **Organized AR workshop attended by 300 people** from multiple IITS and NITs.
  - Led a 7-week effort to publish one game weekly to the IIT Gandhinagar community.
  - Organized **the third biggest Indian game-jam** where **600+ people submitted 90+ games**.
- **Technical Secretary, IIT Gandhinagar** **[Apr 2022 - Present]**
  - Got elected by students to serve as the Technical Secretary of IIT Gandhinagar, following my acclaimed term as overall technical coordinator in the previous year.
  - Leading a team of 35 people in the council across various technical disciplines.
  - Pioneering the institute's maiden **Student Satellite Programme, Student-led Short-Courses, building spaces for Technical Innovation,** among others.

## RELEVANT SKILLS

**Very Proficient:** Unity, C#, Unreal Engine 4, Adobe XD, Git, GitHub,HLSL, PremierePro
**Proficient:** OpenGL, GLSL, C++, C, Python, GameMaker Studio 2, Godot, MATLAB, Blender

## RELEVANT ACHIEVEMENTS

- **Among 100 students across India** selected for Chennai Mathematical Institute in 2019.
- **Ranked #22 Internationally,** out of 10k+ participants, **Brackeys GameJam 2021**.
- **Ranked #1 Internationally, Jamboost GameJam** out of 300+ participants, won $1000..
- **Ranked #2 Nationally,** Indian Commerce Olympiad in Mathematics & Aptitude in 2013.
- **One of 27 student-authors nationally** published in **Cobalt Blue** amongst all dipsites.
- **Developed games downloaded over 347K+ times on Play Store** and played 500K+ times.