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 & Partner Studio, CrazyLabs** **[Aug 2021- Mar 2022]**
  - Partnered as a game studio to create scalable hyper-casual games and concepts.
  - Led ideation & development phases to deliver 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- July 2022]**
  - Assisted 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.

PUBLISHED VIDEOGAMES

- **SoulShard (FIEA, University of Central Florida)** published on Steam.
  - Developed dynamic footprinting system, VFX systems like fire, smoke, debris, dynamic snowstorm system, and rope physics for cables in Unreal Engine 4.
- **Two Opposites (Ranked #22 internationally, Brackeys GameJam)**
  - Formulated and developed a 2D Lighting System in C# for Unity using raycasts and Unity started official 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)**
  - Developed 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 and raymarching signed-distance functions and built a custom interface for manipulating shader parameters through the editor.
- **CSG + Neural Radiance Fields to extract 3D Models from 2D images.**
  - Using Constructive Solid Geometry and GAN-based Neural Radiance Fields (NeRFs) to predict symmetric 3D Models from 2D images under Prof. Shanmuganathan Raman.
- **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 the 3D dimensional projection of 4D hypercubes.
- **Procedural Generation of 3D space from 2D Map through Ray Casting.**
  - Developed a 3D Renderer in Scratch (a 2D Game Engine by MIT) using principles of raycasting, with features such as varying camera field-of-view and shadow-mapping.
- **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 and 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, and 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, Pytorch, GameMaker Studio 2, Godot, Blender

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.