Jay Nakum

Graphics Programmer ⋄ Engine Programmer

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EDUCATION

Pandit Deendayal Energy University (School of Technology)	Gandhinagar, Gujarat
Bachelor of Technology - Computer Science and Engineering - 9.79 CGPA	Aug 2021 - Present
A. V. Parekh Technical Institute (Gujarat Technological University)	Rajkot, Gujarat
Diploma - Computer Engineering - 9.74 CGPA	Aug 2018 - Jun 2021

EXPERIENCE

Ubisoft Entertainment PVT LTD — Pune, Maharashtra, India (On Site)
Intern - 3D Programmer (Rendering Team) — January 2024 - July 2024
- Worked as a graphics programmer on an unannounced project and fixed bugs on Ubisoft's game engine.
- Went through extensive training for advance C++, 3D Mathematics and Computer Graphics.
- Developed a graphics renderer and wrote a mathematics library with SIMD optimizations during training.
- Got mentorship of senior engineers and graphics programmer from the rendering team.

eInfochips (An Arrow Company) — Ahmedabad, Gujarat, India (Hybrid)
CSE Trainee — May 2023 - June 2023
- Our team developed a full e-commerce website from scratch. And we also worked on 3 research based tasks.

vigIT Solutions (Completion Letter) — Jaipur, Rajasthan, India (Remote)
Flutter Intern — Jun 2022 - Sept 2022
- Helped the team develop and publish 2 flutter apps where we worked in agile software development model.

PROJECTS

Vibrato — C++ — GitHub
- Explored ray tracing and implemented various raytracing techniques and raycollision methods.

Happy Face — C++, OpenGL — Blog Post/GitHub
- Developed a scene based opengl renderer. Merged all the bits and pieces of my learning into one project.
- Implemented shaders, textures, transformations and coordinate systems, lighting, model loading.

BitsApriori (University Project) — C++ — Blog Post/GitHub
- Implemented apriori algorithm for association rule mining using binary encoding for representing transaction database to minimize its memory consumption.

BitNCrypt (University Project) — C++ — Blog Post/GitHub
- Designed an algorithm based on the similar concepts of hashing which can be used to generate and manage passwords without storing them.

CPU Scheduling Simulator (University Project) — Python, Flutter, Firebase — GitHub
- Developed a simulator for process scheduling algorithms (FCFS, SJF, SRTF and RR) in OS.

LiViD (University Project) — Flutter, Firebase — GitHub
- Developed a live streaming app using Agora SDK.
- This project won 2nd place in SSIP competition for Saurashtra Kutch Region, Gujarat.

CERTIFICATIONS

NPTEL: GPU Architectures and Programming
EDX: UCSD CSE167x: Computer Graphics
UDEMY: Flutter and Dart - The Complete Guide
TRINITY: Grade 4 - Theory of Music

SKILLS

Tech: C/C++, OpenGL, GLSL, DirectX9 & DirectX12, HLSL, Python, Flutter, SQL.

Tools: Git, Visual Studio, Premake, Perforce.

Operating Systems: Linux (Manjaro), Windows.

HOBBIES AND INTERESTS

Guitar Playing, Music Theory, Singing, Music Composing, Staff Notations, Orchestration, Harmonizing, Voicing, Digital Image Processing, Compiler Designing, Cryptography, Theory of Computation, Mathematics, Learning