



## » Education

Jaypee Institute of Information Technology, Sector-62  
Bachelor of Technology - C.S.E

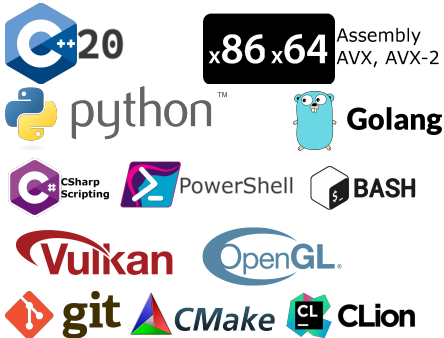
NOIDA, India  
July 2019 - present

**Courses:** Operating System, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases

## » About Me

As a passionate and dedicated **C++ Graphics Programmer**, I excel in delivering high-quality, outcome-oriented solutions by focusing on the process and maintaining a positive attitude. My strong problem-solving and superb debugging skills, coupled with patience and adaptability, enable me to tackle complex challenges. Committed to writing clean and maintainable code, I take responsibility for my work and continuously strive for self-improvement.

## » Tools And Tech.



## » Other Tools

Visual Studio, Re-Sharper, Visual-Assist, Blender, Unity, Unreal-Engine

## » Soft Technical Skills

- Rendering/Graphics Pipeline
- CPU, GPU Architecture
- Engine Architecture
- Acceleration Data Structures
- 3D & Vector Mathematics
- GPGPU Programming
- Procedural Generation
- Ray-Tracing Concepts
- Image processing
- Network Programming
- Android C++ Native
- Prompt Engineering

## » Volunteering

NSS volunteer - Oct 2019-20  
JIIT NOIDA, India

Helped out at NGOs, campaigns in interest of environment, blood donation, food distribution etc.

## » Experience

### 1. Viga Entertainment Studios

- (a) Graphics Engineer (Remote) (Feb 2023 - May 2023, 4 mos)  
Conversion of video with depth data to 3D mesh/point-cloud for "volumetric streaming" between individuals using ZED cameras.
- (b) Graphics Engineer (Remote) (June 2022 - Aug 2022, 2+ mos)  
As part of the Core Team,
  - i. Creating Documentation for products
  - ii. Speeding up Face Capture for Real-time Applications.
  - iii. Code maintenance for multiple projects
- (c) Graphics Engineer Intern (Oct 2021 - Apr 2022, 7 mos)  
Learned a lot as an Intern.
  - i. **Mesh refinement** Optimizing No. of vertices in captured mesh then adding lost details using mean curvature. *Multi-threading, real-time editable and disk caching.*
  - ii. **Camera calibration** Intrinsic-Extrinsic parameter estimation of cameras for face reconstruction with AprilTags. (*Python*)
  - iii. **Deploying scalable build systems** CI/CD Ready, single step, cross platform build process with CMake, VcPkg, QT-5,6 support including a custom file-patcher for libraries and automatic dependencies resolution from servers.
  - iv. **Project architecting** Planned architecture for "Scan Stage" and was praised for the same
  - v. **Wand calibration for Motion capturing** on synthetic dataset.

## » Projects

- SETU Game-Engine (major)** (July-Nov '22)  
Cross-platform(Windows, Linux, Android) Modular engine in OpenGL & C++
- OpenGL-TestSite** (May-Oct '21)  
(see also: NutCracker) Framework for rapid prototyping of OpenGL in C++
- NutCracker (WIP)** (May-Till '22)  
Multiplatform Framework for Vulkan, OpenGL, DirectX using C++ Modules
- Particle Swarm Optimization algorithm Visualization** (May '22)  
with interactive GUI rendering from scratch in Vulkan
- RayTracing-Tests (GPGPU-Accelerated)** (Jun-Aug '21)  
Based on Peter Sherley's "Ray-tracing in one weekend" Series.
- Scene perception for visually impaired (minor)** (Apr '22)  
Python based with object recognition, depth estimation and text-to-speech
- Live depression detection on Tweets (minor)** (Nov '21)  
Python based with sentimental analysis, twitter APIv2, tkinter, torch
- Bank Management System** (May '21)  
A BMS with interactive UI rendering from scratch.
- NotPing-OnlyPong** (Nov '20)  
Pong game with rasterized graphics, GUI, in game tutorials, VFX, SFX, music, ester eggs and more. Tech: C++, Win32.

## » Award(s)

Won µCR, Microcontroller based System & Robotics Hub event Eximietas, 2019

## » Courses

- |                               |                            |
|-------------------------------|----------------------------|
| Sentimental Analysis          | Game Engines(Hazel, Kohi)  |
| Procedural terrain Generation | C# Unity Developer 2D, 3D  |
| Games with go                 | Go Bootcamp, and many more |