

# HASSAN SHAFQAT

India

☎ [+91-9682165725](tel:+91-9682165725)

✉ [hassanshafqat392@gmail.com](mailto:hassanshafqat392@gmail.com)

🌐 [hassan-shafqat](https://www.linkedin.com/in/hassan-shafqat)

🔄 [BrotherIndeed](#)

## EDUCATION

**Thapar Institute of Engineering and Technology**

*Bachelor of Technology, 7.79 CGPA*

**2024**

*Patiala, Punjab*

## Skills

- C++
- Valgrind
- Embedded systems
- Python
- OpenGL
- Linux
- GitHub

## PROJECTS

**Euclid engine** [↗](#) | [OpenGL](#)

- A render engine in C++ using **OpenGL**.
- Model loading using **Assimp**.
- GUI using **Dear ImGui**.

**Low Polygon Terrain Generator** [↗](#) | [OpenGL](#)

- A terrain generator written in C++.
- Uses **Perlin** noise for height map.
- **GLFW** library used to manage inputs.

## EXPERIENCE

**Minus Zero** [↗](#)

**02 2022 – 04 2022**

*Software Development Engineering Intern*

*Patiala, Punjab*

- Worked on porting python AI code to pure C++ for speed(over 5000 lines codebase).
- Used Nvidia Drive AGX SDK to detect objects(pedestrians, cars, stop signs, traffic lights, etc) position, speed, and acceleration changes.
- Developed a rig file object to initiate USB cameras regardless of port and host device, saving valuable development time by reducing setup time on every camera change.
- Developed a subroutine to detect changes in aspect ratios of objects and hence determine whether their view is obstructed or not and measure the distance from the camera.
- Implemented a database to store the position, speed, and acceleration of objects.
- Developed a test to precisely measure render delay in USB cameras

**ThapSat**

**02 2022 – 06 2022**

*Image processing team*

*Patiala, Punjab*

- Implemented Discrete Wavelet Transform compression pipeline for the onboard camera in C++.
- Made comparison report for existing compression algorithms for satellite camera-specific raw image using bash scripting automation.
- Developed tests to check file integrity for lossless image decompression.

**GDSC** [↗](#)

**06 2022**

*Project Mentor*

*Patiala, Punjab*

- Managing ongoing projects.
- Authorizing new project proposals.
- Lead a project to make an AES encryption program in C++ .