

# Ishan Rawat

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## Education

Indian Institute of Technology, Roorkee

BACHELOR OF TECHNOLOGY

Roorkee, India

July 2019 - Present

- Cumulative Grade Point Average, CGPA: 8.133/10

## Work Experience

### Monado

India

Google Summer of Code

May 2022 - Present

- Monado is the **first open-source XR runtime** based primarily on **GNU/Linux** which implements the **OpenXR API** by Khronos.
- Working on creating an **OpenXR extension** to add support for a **head-tracked Fishtank form factor** for **monoscopic** displays.
- Expanding XR support to non-head mounted devices with an **average accuracy** of **84.5%** without the need for stereo sensors.

### Solana Labs

India

Major League Hacking Fellowship

May 2022 - Aug 2022

- Ideated and prototyped a crypto wallet based **whitelisting smart contract** leading a team of **10 fellows** in the MLH fellowship.
- Conceptualised the smart contract using **Rust**, **Anchor** and **Solana**, wrote **unit tests** and the frontend using **TypeScript**.
- Created whitelisting application is **cryptographically secure** and a **foolproof** gate-keeping solution for minting MFT tokens.

### MathWorks

India

Internship

May 2022 - July 2022

- Modified the **Simulink Design Verifier** logic and ported the old summary window UI from **MATLAB** code to **JavaScript**.
- The refined UI performed **100% faster** in terms of analysing and logging the output of Simulink Design Verifier Result.

## Projects

### Rootex | C++ DirectX11 3D game engine

IIT Roorkee

SDSLABS, IIT Roorkee

May 2020 - Present

- Rootex is a C++ 3D game engine based on an impure **ECS architecture**, which uses an in-house rendering engine atop the **Direct3D11 API**, a **publisher-subscriber design** based Event Manager, and a visual level editor using **Dear ImGui**.
- Implemented engine's **skeletal animation system** which renders rigged animated models in the game, imported using **Assimp**.
- Coded animation system renders **rigged models** at an average frame rate of **50fps**, with an average loading time of **3.5 seconds**.

### Studyportal | Online Resource sharing site

IIT Roorkee

SDSLABS, IIT Roorkee

March 2020 - May 2020

- StudyPortal is an academic resource sharing forum used by **5000+ students**, made in **ReactJS** with **Redux** as state management utils, **Axios** for API versioning as the frontend and **Django-DRF** for the backend service with **PostgreSQL** as the database.
- Containerised the application using **Docker** and setup forwarding of requests to the container using an **NGINX reverse proxy**.
- Assimilated **user feedback**, fixed **UX flaws** in the login/signup flow along with solving issues with **stateless authentication**.

## Skills

**Programming:** C++, C, Rust, JavaScript, Python, PHP, HTML/CSS

**Technologies:** OpenGL, OpenXR, Win32 API, NodeJS, Anchor, Solana, Django, Django REST, ExpressJS, ReactJS

**Developer Tools:** Git/Github, Visual Studio, Visual Studio Code, Unix, CMake, Postman, Docker

## Achievements

2022 **MLH Fellow**, Major League Hacking Fellowship under **Software Engineering** track

IIT Roorkee

2020 **Winner**, HAB-59 Hackathon Atmanirbhar Bharat with **100+** national teams

IIT Roorkee

2020 **2nd position**, Synhacks: Hack the world with **250+** international teams

IIT Roorkee

2019 **2502 rank**, JEE(Advanced) rank 2502 among **12,50,000 students**

IIT Roorkee

## Extracurricular Activity

### SDSLabs

Roorkee, India

DEVELOPER

January 2020 - PRESENT

- Involved in **maintaining, developing** and **testing 10+ applications** for campus students as well as those open to the internet
- **Mentored 15+** freshers in **open-source** programs such as Winter of Code and annual campus hackathons like Syntax Error.
- Regularly conducted hackathons, workshops, public lectures, and competitions with a participation of **500+ students**.