Ishan Rawat

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Education

Indian Institute of Technology, Roorkee   *Roorkee, India*
BACHELOR OF TECHNOLOGY   *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.**