

Krishna Pandey

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Objective

Proficient in systems and low-level programming, computer graphics, cryptography, and reverse engineering. Actively participates in CTFs. A versatile developer with a broad range of experience across diverse tech domains.

Education

Indian Institute Of Technology, Roorkee *Aug 2023 – Present*

Bachelor of Technology in Chemical Engineering

- CGPA: 8.239/10.0
- **Relevant Coursework:** Data Structures and Course, Data Science, Probability and Statistics, Multivariable Calculus and Vector Algebra, Fluid Mechanics, Thermodynamics, Heat Transfer, Soft Skills

Shiksha Bharati Sr. Sec. School, Khatima *April 2021 – July 2022*

Class 12

- Percentage: 91.2% (Rank 11)
- **Coursework:** Physics, Chemistry, Mathematics, Physical Education, English

Experience

Software Developer *Roorkee, Uttarakhand*
SDSLabs *Feb 2024 - Present*

- Participated in multiple hackathons and game jams as a part of the SDS Labs team.
- Presented lectures on BitTorrent Protocol, Networking, Game Development, and Computer Graphics, attended by over 250 students across the university.
- Co-organized **Syntax Error 11**, a hackathon with 1,500+ participants.

CTF Player, Reverse Engineer and Cryptographer *Roorkee, Uttarakhand*
InfoSecIITR *July 2024 - Present*

- Took part in and won numerous Capture the Flag (CTF) events as a part of the InfoSecIITR team.
- Conducted lectures on reverse engineering and cryptography attended by more than 200 students throughout the university.
- Conducted **BackdoorCTF 2024** with 1200+ Participants Globally
- Conducted WinterHackCTF 2025 and n00bCTF 2025 with over 200 participants throughout the institute

Undergraduate Teaching Assistant and Web Developer *Roorkee, Uttarakhand*
Academic Reinforcement Program IIT Roorkee *Sep 2024 - Present*

- Mentored more than 40 first-year students for the course CHE-101: Energy Engineering.
- Made significant improvements in the ARP website.

Achievements

ETHIndia 2024: Won the first prize in the Walrus track by building a full Rust toolchain that does sharding, pinning, setup, encryption, and many more things with a team of 4. [ETHIndia](#) [Github](#)

CTF Profile

CSAW Qualifiers 2024: Stood 1st in India and 13th Globally with InfoSecIITR [CSAW-Quals](#)

CSAW Finals 2024: Stood 1st in India and 7th Globally with InfoSecIITR [CSAW-Finals](#)

JerseyCTF IV 2024: Stood 1st Globally with InfoSecIITR.

UMassCTF 2024: Stood 5th Globally with InfoSecIITR.

b01lersCTF 2024: Stood 6th Globally with InfoSecIITR.

BYUCTF 2024: Stood 5th Globally with InfoSecIITR.

AmateursCTF 2024: Stood 9th Globally with InfoSecIITR.

BackdoorCTF 2023: Stood 1st in IIT-R and 50th Globally among 1000+ participants.

n00bCTF 2023: Stood 2nd in IIT-R among 200+ participants.

Projects

Snake GL

[Snake GL](#) 

- Developed a modernized version of the classic Snake game using OpenGL 4.6, leveraging Direct State Access (DSA) for efficient management of GPU Vertex Arrays. Implemented smooth rendering techniques.
- Technologies: C, OpenGL 4.6

Ray Tracer

[Ray Tracer](#) 

- Built a fully functional blazingly fast Ray Tracer in Rust to simulate realistic light physics, including reflection, refraction, and shadows. Optimized for performance and memory safety.
- Technologies: Rust

Fluid Simulation

[Fluids](#) 

- Implemented a high-precision fluid simulation based on the Navier-Stokes equations, incorporating vorticity confinement for added realism. Simulated fluid dynamics for interactive and visually appealing effects.
- Technologies: C, OpenGL

Library Management

[MVC](#) 

- Designed and developed a fully containerized library management system using the MVC architecture. Integrated PostgreSQL for database management, implemented Bootstrap for responsive design, and Docker for streamlined deployment.
- Technologies: Golang, Bootstrap, PostgreSQL, Docker

F1 Racing Simulator

[F1 Racing Simulator](#) 

- Built an immersive F1 racing simulator from scratch for the SDS Labs Internal Hackathon. Focused on high-speed dynamics, realistic car physics, and engaging gameplay mechanics using Unity's robust engine.
- Technologies: Unity

A* Pathfinding

[A* Pathfinding](#) 

- Implemented the A* Pathfinding algorithm with advanced features like wall detection and dynamic evasion. Designed an interactive environment for visualizing the algorithm in real time.
- Technologies: Java, Processing

Eric

[Eric](#) 

- Developed an on-campus ride-sharing app, "Eric," for the Syntax Error X hackathon. Incorporated OpenStreetMap for real-time navigation and designed an intuitive UI for effortless ride booking and tracking.
- Technologies: Flutter, Dart, OpenStreetMap

Languages and Technologies

Languages: C, C++, x86.64 Assembly, Rust, Golang, Python, Java, JavaScript, Unity, HTML, CSS, Dart

Technologies: Git, Linux, Docker, OpenGL, Vulkan, Flutter, MySQL, PostgreSQL, ExpressJS, MongoDB, nginx, Processing Java, p5.js