



Sudhanshu

Bachelor of Technology
in Mechanical Engineering (Minor in Mathematics)
Indian Institute Of Technology, Ropar

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GitHub | Website
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EDUCATION

Degree	Institute/Board	CGPA/Percentage	Year
Bachelor of Technology	Indian Institute of Technology, Ropar	7.23 (Till 5th Sem)	2023-2027
Senior Secondary	Rajasthan Board of Secondary Education	84.40%	2022
Secondary	Rajasthan Board of Secondary Education	91%	2020

EXPERIENCE

- Technology Business Incubator Foundation (TBIF)** July 2025 - Present
WebDevelopment Intern IIT ROPAR | [Website](#)
 - I am currently engaged as an Intern at IIT Ropar TBIF, where I developed the official website entirely from scratch and continue to handle its maintenance and updates to keep it user-friendly and aligned with the institute's objectives. Alongside website management, I assist senior officials with various assigned tasks, gaining valuable exposure to both technical and administrative aspects in a professional environment.

PROJECTS

- Checkers Game** April 2025 - June 2025
C++, 2D Arrays, Graph Concepts, Minimax Algorithm [GitHub](#)
 - Developed a Checkers game in C++ using 2D arrays to represent the board and unique values to manage piece states and player turns.
 - Implemented core gameplay mechanics including turn-based moves, capture logic, king promotion, and accurate win and game-ending conditions.
 - Built an AI opponent using the Minimax algorithm with fixed-depth search to evaluate board states and make optimal move decisions.
- CoSketch** March 2025 - June 2025
Web Development Project [GitHub](#)
 - CoSketch: Developed a real-time collaborative drawing application enabling multiple users to sketch together with live updates and session persistence.
 - Frontend: Built with NextJs, TypeScript, and HTML5 Canvas, integrating WebSocket connections for sub-100ms synchronization of drawing events.
 - Backend: Designed a Node.js/Express API and WebSocket server for room management, message broadcasting, and user presence, backed by a PostgreSQL database.
- KD-Tree** Oct 2024 - Dec 2024
C++, Data Structure and Algorithms, KD-Tree, KNN, Median of Medians [Github](#)
 - Implemented a KDTree in C++ to efficiently find the nearest k d-dimensional points to a specified d-dimensional point with an average time complexity of $O(k \log k * d \log n)$.
 - Achieved a creation time complexity of $O(d * n \log n)$ from an array or vector using algorithms like Median of Medians. Priority Queue was used to perform the search of k Nearest Neighbour to a point.

TECHNICAL SKILLS

- Programming Languages:** Python, C++, Rust, Solidity, JavaScript, TypeScript, SQL.
- Development tools:** Git, GitHub, Code Editor (VS Code, Cursor), Postman.
- Web3:** Solana, Anchor, Dapps, Solana Native Contract in Rust, Ethereum Contract in Solidity, Private Key Managment.
- WebDevelopment:** HTML, CSS, JavaScript, Tailwind CSS, TypeScript, React, NextJs, NodeJs, Postgress, Prisma, Monorepo, MongoDB, WebSocket, Pub Subs(Redis), WebRtc.
- Devops:** CI/CD pipeline, Docker, Nginx(Reverse Proxies), AWS(EC2), Serverless(Cloudflare), Kubernetes(K8s).
- Competitive Programming:** Quite experienced in competitive programming and have a good grasp on data structures and algorithms.

KEY COURSES TAKEN

- Mathematics:** Probability and Statistics, Linear Algebra and Integral Transforms, Calculus, Differential Equations.
- Mechanical:** Theory of Machines, Fluid Mechanics, Solid Mechanics, Thermodynamics, Engineering Mechanics.
- Others:** Introduction to Computing and Data Structures, Economics, Basic Electronics.
- Additional Certified Courses:** Web Development, DevOps, Web3. | [Link](#)

MISCELLANEOUS

- Achievement 1,** Web Development Internship | [Link](#) 2025
- Achievement 2,** Secure AIR 9863 among 150K candidates in JEE Advance | [Link](#) 2023
- Achievement 3,** Get 98.18 percentile in JEE Mains | [Link](#) 2023
- Specialist on Codeforces,** Max Rating 1497 on handle Sudhanshu_Gaur | [Sudhanshu_Gaur](#) 2025
- 3 Star on Codechef,** Max Rating 1765 on handle sudhanshu_g | [sudhanshu_g](#) 2025