



EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2028	4YRS B.S	IIT Kharagpur	8.67 / 10
2024	AISSCE	Maa Bharti Sr Sec School	89.0%
2022	AISSE	Indian High School	94.4%

PROJECTS

- SyncSketch | Real-time collaborative whiteboard | Self Project** May 2026 - June 2026
- Built **real-time** whiteboard app enabling **multi-user** creation, editing, and canvas management using Next.js and Express.js
 - Implemented backend with Node.js, Express, TypeScript, PostgreSQL and Socket.IO and **REST APIs** for boards and sessions
 - Integrated *safe authentication flow* with **secure user sessions** to manage access and maintain consistent workspace state
 - Developed **Socket.IO** based real-time web-socket server for cursor and board updates **enabling low-latency** collaboration
 - Built **role-based access control** supporting view/comment/edit permissions and also enabled **secure public sharing** via links
- MemFS | In-Memory file system with encryption | Self Project** May 2026 - May 2026
- Built in-memory hierarchical file system with efficient directory structure using **n-ary tree** and fast lookup using **trie indexing**
 - Implemented **file versioning system** enabling history tracking and rollback, simulating **Git-like** snapshot behavior at file level
 - Developed CLI **supporting core operations** like cd, mkdir, file management, plus secure dump with **encrypted persistence layer**
 - Applied object-oriented design principles with modular architecture separating into core, **command parser**, and other modules
 - Added structured error and **edge-case handling** across filesystem operations ensuring *stable CLI behavior* under invalid inputs
- CGS Website | Computer Graphics Society** Oct 2025 - Nov 2025
- Migrated legacy static CGS website to a **full-stack Next.js** application with MongoDB database and improved architecture
 - Built complete backend with **authentication, authorization**, and secure **JWT-based** user sessions for protected server routes
 - Developed user **dashboard** and **admin panel** enabling *content management*, project uploads, blogs, and role-based access
 - Integrated **Cloudinary** for secure image and asset uploads with optimized *media storage, retrieval, and delivery pipeline*
 - Enabled members to **publish** projects and blogs, transforming a static website into a **fully dynamic** society-based platform
- ALFCP | Coupled Pendulum Simulation & Visualization System | Lab Project** Aug 2025 - Aug 2025
- Developed coupled pendulum simulation engine in C++ using ODE solving and RungeKutta 4 (RK4) numerical integration
 - Generated **motion datasets** and Lissajous curve trajectories through time-stepping simulation and **physics-based modeling**
 - Orchestrated execution of a C++ differential equation solver from a Node.js backend using **runtime parameter injection**
 - Built a **full-stack system** integrating a C++ **simulation engine**, Node.js backend, and browser-based visualization pipeline
 - Implemented interactive trajectory animations and **playback controls** for simulation analysis by loading dataset in browser

COMPETITION/CONFERENCE

- Build and Break Hackathon | Hostel Bird** Apr 2026 - May 2026
- Secured **1st place** in the *Build and Break Hackathon* organized by Hostel Bird and identified **6 bugs and security vulnerabilities**
 - Performed **structured testing** of app workflows and APIs to detect functional bugs, edge cases, and security flaws thoroughly
 - Documented **reproducible steps** and impact analysis for each issue to **support clear validation** and responsible fixing process

SKILLS AND EXPERTISE

- Programming Language:** C++ | JavaScript | TypeScript | HTML | CSS **Familiar:** C | Python
- Computer Science Core:** Object Oriented Programming (OOP) | Operating System | Computer Networking
- Libraries/Frameworks:** React.js | Next.js | Tailwind CSS | Node.js | Express.js | Axios | Socket.IO | Prisma
- Software/Tools:** Git | GitHub | Postman | WSL **DBMS:** PostgreSQL | MongoDB | Redis
- DevOps/Others:** Docker | Docker Compose | Nginx | Portainer | MongoDB Atlas | Supabase | Vercel

AWARDS AND ACHIEVEMENTS

- Qualified in the **SIH 2025** college round at IIT Kharagpur, ranking among the **top 45** teams out of 200+ participating teams
- Awarded the **Bronze Medal** in the Indian National Olympiad in Informatics (INOI) 2022, organized nationally by the IARCS
- Solved over **300+** coding problems on LeetCode, maintaining a 1500+ contest rating (under the handle *athena_segua*)
- Achieved a global rank of **322** in CodeChef Starters Contest 147 among 25,000+ participants, showing DSA and CP skills
- Secured **8th Rank** in the second round of the NMTC 2019 Sub-Junior Competition, conducted nationwide by the AMTI

COURSEWORK INFORMATION

- Computer Programming:** Programming and Data Structures (Theory and Lab) | Essentials of Machine Learning
- Mathematics and Others:** Mathematics for Physics - I | Linear Algebra, Numerical and Complex Analysis | Probability and Statistics | Advanced Calculus | Electrical Technology | Basic Electronics

EXTRA CURRICULAR ACTIVITIES

- Successfully completed a two-year training program under NCC IIT KGP, culminating in the award of the **NCC B Certificate**
- Recognized with a **Silver Medal** for academic excellence during CATC-2026 organized by NCC at IIT Kharagpur campus
- Member of the Physics Society (PhySoc), assisted in planning and coordination of the 2025 Freshers' Introduction Meet
- Actively participated in national service initiatives including Swachh Bharat Abhiyan and Tree plantation drive in campus.