



EDUCATION

| Year | Degree/Exam | Institute | CGPA/Marks |
|------|-------------|----------------------------------|------------|
| 2026 | B.TECH | IIT Kharagpur | 8.61 / 10 |
| 2021 | CBSE(XII) | Senior Secondary School Sector-X | 97.4% |
| 2019 | CBSE(X) | Senior Secondary School Sector-X | 96.6% |

PROJECTS

Chess++ | Project on C++ and Object-Oriented Programming [Jun-2024]

- Architected an intricate chess game with **C++**, leveraging **object-oriented** design principles like **abstraction**, **encapsulation**, **inheritance**, and **polymorphism** to create an engaging and functional gameplay experience
- Playable completely on the **terminal**, the game provides the player with an appealing and intuitive interface, providing clear instructions before the game begins and updating the chess board **instantly** after each move
- Enabled gameplay against both real-life opponents and an **AI** built using the **Minimax algorithm** with **alpha-beta pruning**, offering three difficulty levels to provide versatile and challenging gaming exposure to the user
- Successfully integrated complex chess mechanics including castling, en-passant, pawn promotion as well as the option to **save games**, ensuring a comprehensive and authentic gameplay experience

LinkedOut | Project on Front-end Development and Web Scraping [May-2024]

- Deployed a web application using **CSS**, **ReactJS**, **Python**, **Selenium** and the **Beautiful Soup** library to scrape information about an organization's employee count and followers from **LinkedIn**
- Mechanized LinkedIn login and data extraction, mimicking **legitimate browser activity** to reduce the risk of bans, and handles OTP verification with a user defined waiting period before proceeding
- Utilized **asynchronous data fetching** in the React frontend using **Promises**, enabling the application to handle **multiple API requests** simultaneously, ensuring efficient data retrieval for multiple companies
- Configured **CORS** in the project to enable efficient and secure data sharing between the frontend and backend

Flush-Reload Attack | Hardware Security Course Project [Apr-2024]

- Executed a microarchitectural side-channel hardware attack, demonstrating a **Flush + Reload** cache attack
- Flushed the victim's entire cache, loaded it with attacker's data to identify the **cryptographic key storage**
- Harnessed understanding of OS concepts, Makefiles, and cryptographic algorithms (**AES**) to conduct the attack
- Successfully retrieved the **16-byte AES key** and hence, decrypted the ciphertext to plaintext

Conflict Based Search | Course Project on Artificial Intelligence [Nov-2023]

- Implemented a state-of-the-art multi-agent pathfinding algorithm (**Conflict Based Search**) using **Python**
- Incorporated the **A*search algorithm** at the lower level for optimal single-agent pathfinding
- Designed a **conflict resolution** mechanism at the higher level to handle agent collisions efficiently

AWARDS AND ACHIEVEMENTS

- Peak rating of **1954 (Knight)** on **Leetcode** and **1405 (Specialist)** on **Codeforces**
- Secured a **global rank** of **62** out of **40,000** participants in **Codechef Starters 126**
- Solved over **1500** problems across multiple coding platforms including Leetcode, Codeforces, and Codechef
- Ranked **1378** in **JEE Main** among **1 Million** candidates and **5925** in **JEE Advanced** among **150K** candidates
- Granted **Departmental Change** to Electrical Engineering after first year of college for obtaining a **CGPA** of **9.33**

SKILLS AND EXPERTISE

Languages : Proficient : C, C++, HTML, CSS, Javascript Familiar : Python, SQL

Libraries and Frameworks : STL, NodeJS, ExpressJS, BcryptJS, Mongoose, Axios, Matplotlib, Numpy, Pandas

Softwares: Colab, Matlab, Simulink, LT Spice, Github, VSCode, MS Office, Photoshop

COURSEWORK INFORMATION

Computer Science: Computer Architecture and Operating Systems, Database Management Systems, Programming and Data Structures, Hardware Security, Machine Learning: Foundations and Applications, Artificial Intelligence: Foundations and Applications, Data Structures and Algorithms

Mathematics: Probability and Statistics, Linear Algebra, Numerical Analysis, Transform Calculus, Advanced Calculus

EXTRA CURRICULAR ACTIVITIES

- Actively participated in the institute **athletics** events, and completed NSO Athletics as a part of the curriculum
- Core member of the Rajendra Prasad Hall **Illumination Design team**, having won gold for 14 consecutive years
- Currently serving as a highly accomplished Student Mentor at **Physics Wallah Private Limited**, one of the largest edTech organizations in India, and helped over **1000+** students achieve their academic and career goals