SARTHAK MISHRA | 20IE10029

INSTRUMENTATION ENGG. (B.Tech 4Y)

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2024	B.TECH	IIT Kharagpur	8.65 / 10
2020	AISSCE	DAV Public School Chandrasekharpur, Bhubaneswar	96.80%
2018	AISSE	Public School, Phulbani	96.60%

AWARDS AND ACHIEVEMENTS

- Secured an All India Rank of **2193** in **JEE Advanced**, 2020 among 2,00,000 shortlisted candidates.
- Secured an overall **99.7657949** percentile score in **JEE main**, 2020 among 1,100,000 registered candidates.

Competitive Programming:

- Attained **Specialist** rank on **Codeforces** and have achieved a highest rating of **1563**.
- Secured a global rank of **625** among 12,000 participants in Codeforces Round #797.
- Participated in **Google Kickstart 2022** and secured a global rank of **1464** in round D.
- Attained **4 Star** rank on **Codechef** and have achieved a highest rating of **1842**.

PROJECTS

Custom Header Files [Feb 2022]

- Created custom header files that can be included in **C++** programs for several data structures and algorithms.
- The **stack** and **queue** data structures were implemented using vectors while the **deque** used circular arrays.
- The *my_algorithm* header file can be used to get results using **Bellman-Ford** algorithm, **Dijkstra's** algorithm for shortest path, **Kadane's** algorithm for maximum subarray sum, **detect cycles** in a graph, etc.

Bus Reservation System [Dec 2021]

- Developed a **C++** program from scratch that allow the users to make use of the functionalities such as registering themselves, login, seeing details of a bus, checking for availability of seats on a bus, and booking tickets.
- The concept of **File handling** was used to store, read and update the users, passengers, and buses' data.
- Different **classes** were used to improve the readability of the code and keep it **DRY** (don't repeat yourself).

Personal Portfolio Website [Jun 2022]

- Built a personal portfolio website using HTML, CSS, and Bootstrap. It allows the viewer to know about me, and look at my projects, and skills with an option to connect with me or contact me.
- The Carousels, navigation bar, and cards were incorporated inside the code using the **Bootstrap** framework.
- The concepts of **web design** like colour theory were used while writing the code to improve the user interface.

Javascript Games [Jun 2022]

- Built 3 games using **Javascript** (*card-match-game, whack a mole, roll the dice*) that a user can play online.
- All the games are interactive and have front-end components responsible for enhancing the player's experience.

SKILLS AND EXPERTISE

- **Languages:** C++ | C | elementary: Javascript, Python
- **Libraries/Frameworks:** C++ STL | CSS | Bootstrap
- **Others:** Data Structures and Algorithms | Object-oriented Programming

COURSEWORK INFORMATION

- **Computer Science:** Programming and Data Structures*.
- **Mathematics:** Probability and Statistics | Advanced Calculus | Linear Algebra, Numerical and Complex Analysis.
- **Entrepreneurship:** Introduction to Innovation and Entrepreneurship.
- **Other relevant courses:** Digital Electronic Circuits* | Signals and Systems* | Data Communication | Network Theory* | Measurements and Electronic Instruments* | Electrical Technology*.

(* means the course had both theory and lab components)

EXTRA CURRICULAR ACTIVITIES

- Member of **Silver** winning **Short Film Making** team of Nehru Hall of Residence for the Inter-hall Social and Cultural events 2021-2022.
- Member of the **Choreography** team of Nehru Hall of Residence for the Inter-hall events 2021-2022.