



SUDARSHAN KUMAR ORAON



ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech and M.Tech in Chemical Engineering	Indian Institute of Technology Delhi	6.81
2022	CBSE Board	Indian Public School, Madhubani	96.2%
2020	CBSE Board	Indian Public School, Madhubani	94.8%

SCHOLASTIC ACHIEVEMENTS

- **WorldQuant International Quant Championship' (IQC) 24:** Secured **World Rank 17** among 40k+ Teams from 100+ countries, got **All India Rank of 9** (14k+ Teams) & **IIT Delhi Rank- 2** (350+ Teams) in WorldQuant IQC'24 Stage-1 (2024).
- **CBSE Merit Certificate (2020):** Awarded in Class 10 for achieving a perfect score of **100% in Mathematics**, placing among the **top 0.1% of students nation-wide**, underscoring outstanding academic achievement and exceptional proficiency in the subject.

INTERNSHIPS

- **Ignite Intern (Remote)** (June, 2024 - July, 2024) : *Chat Application*
 - Created a real-time chat application from scratch, using **ReactJS for the front-end** and **Express with NodeJS for the backend**.
 - Used **MongoDB** for database management, **JWT for auth.**, **Socket.io** for real-time communication, **Redux**, and **Daisy UI** for styling.
 - Developed **APIs** for authentication, messaging, and notifications, ensuring secure endpoints and scalable communication.

PROJECTS

- **Efficient Hashmap Implementation for Banking Systems :** **[June 2024]**
 - Developed a **hashmap** for a national banking system using IFSC codes and account numbers for unique identification.
 - Enabled **account creation**, **balance retrieval**, **transaction processing**, and **account deletion** with efficient hash functions.
 - Implemented collision strategies like **linear probing**, **chaining**, and **cubic, quadratic probing** for efficient data management.
 - Developed core functionalities for balance retrieval, and account checks, ensuring comprehensive online banking operations.
- **Chem X React** (Professor Manjesh Kumar): **[May 2024]**
 - Developed a **dynamic website** using **React.js** and **Node.js** to calculate chemical reactor parameters, achieving **top project scores**.
 - Implemented algorithms for conc., volume, catalyst weight, and pressure drop calculations, focusing on chemical engineering principles.
 - Designed user-friendly solutions addressing practical challenges encountered in chemical process simulation and optimisation.
- **Twitter Sentiment Analysis :** **[June 2024]**
 - Created a sentiment analyser using **natural language processing** to determine whether tweets are positive, or negative.
 - Developed a comprehensive workflow involving a **Logistic Regressor**, illustrating a solid understanding of classification models and their applications. This workflow included **data preprocessing**, **model training**, and **evaluation of model**.
- **Food Order App :** **[Dec 2023]**
 - Developed a food ordering website with **React.js frontend** and **Node.js backend**, ensuring seamless browsing and intuitive functionality.
 - Implemented a **website chatbot** using **Shepherd.js for interactive tours** and API development, enhancing user engagement.
 - Created an admin panel to manage orders, inventory, ,integrating **MongoDB for data storage** and **Toastify** for notifications.
- **House Price Prediction :** **[Dec 2023]**
 - Utilised **Decision Tree**, **Random Forest**, and **Support Vector Regression (SVR) algorithms** to model and predict house prices.
 - Evaluated the **performance of each model using metrics such as accuracy score**, which quantifies the percentage of correct predictions made by the models, and **confusion matrix for model precision** and overall predictive capabilities.
- **Numerical Analysis of Time-Temperature Profile** (Professor Jayati Sarakar): **[April 2023]**
 - Developed a comprehensive model using **C++ and COMSOL Multiphysics** for simulating the **Time-Temperature Profile** in microwave heating processes, utilizing the **fourth order Runge-Kutta method** and simplified assumptions.
 - Implemented efficient algorithms to ensure accurate calculation of temperature profiles under varying heating conditions.

TECHNICAL SKILLS

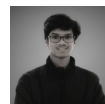
- **Languages** - C/C++, HTML, CSS, Javascript, Python (Pandas, Numpy, Tensorflow, Scikit-Learn, OpenCV), Matlab.
- **Tool and Framework** - Data Structures and Algorithms, React, NodeJs, Express, MongoDB, PostgreSQL, Material UI, JWT, Socket.io, Github, Postman, Firebase, NLP, CNN, XGBoost, Matplotlib, AutoDesk Inventor, COMSOL, LatTex.

POSITIONS OF RESPONSIBILITY

- **Activity Head, RendezvousX , BRCA** (June, 2023 - May, 2024)
 - Served as Activity Head for Rendezvous, leading a team to ensure seamless coordination and smooth execution of all activities.
 - Managed event logistics, coordinated with various verticals, and ensured the successful implementation of fest-related tasks, including scheduling, resource allocation, and vendor management to guarantee a seamless and enjoyable experience for all participants.



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IIT COURSE

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COURSES DONE

Intro. To Electrical Engg., Calculus, Electromagnetic Waves & Qua.mec., Intro. To Computer Science, Engg. Visualization & Comm., Introduction To Chemistry, Engineering Mechanics, Linear Algebra & Diffe. Equa., Product Realization Through Manufacturing, Transport Phenomena, Numerical Methods In Chemical, Chemical Engg. Thermodynamics, Discrete Mathematical Structur, Chemical Reaction Engg I, Heat Transfer For Chemical Eng, Fluid Mechs. For Chem. Engineer

POSITIONS OF RESPONSIBILITY

- Activity Head, RDV'23, BRCA (June, 2022 - May, 2023)
- Activity Head, RendezvousX , BRCA (June, 2023 - May, 2024)