



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. Enginee

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