



# REHAN ALI



## ACADEMIC DETAILS

Year	Degree / Board	Institute	GPA / Marks(%)
---	B.Tech in Biochemical Engineering & Biotechnology	Indian Institute of Technology Delhi	7.89
2021	CBSE	Railway H. S. School, Ratlam	95%
2019	CBSE	Railway H. S. School, Ratlam	92.8%

## PROJECTS

### • Tryst'24 Website (January, 2024 - March, 2024)

- Collaboratively developed the frontend for the official website of IIT Delhi's annual **technical fest, Tryst**, using **React.js**
- Contributed to the development of **dynamic form** tailored for event administrators, facilitating **registration management**
- Developed and integrated a **brick breaker game** on the website, utilizing **HTML5 canvas** and **React's useEffect hook** for enhanced interactivity and user engagement, This addition significantly **boosted user engagement** on the website
- The website was utilized for a range of functions including publicity, marketing, event registration, pronites passes bookings, managing accommodations, processing payments, resolving issues, and facilitating common communication
- The website attracted over **10,000 visitors**, significantly contributing to the overall success and conduction of the fest

### • Chemical Reactor Conversion Calculator (Prof. Manjesh Kumar, CLL122)

- Developed a **full-stack chemical reactor calculator web app** that calculates the **expected conversion** of reactants to products based on input parameters and the type of chemical reactor used, employing comprehensive calculations
- Developed the frontend using **React.js** and utilized **Material-UI** to develop a user-friendly and dynamic input form
- Developed the backend infrastructure using **Flask** in **Python** to perform advanced **mathematical calculations**, such as **integrals**, leveraging the robust capabilities of Python libraries like **SciPy**, Successfully handled all the **edge cases**
- Successfully deployed the frontend on **Vercel** and the backend on **Render**, effectively demonstrating the project's capabilities and features to an audience of over **200 students** in an official **presentation cum evaluation session**

### • Todo List App (Personal Project)

- Developed a dynamic personalized Todo list Web app using **MERN stack** to facilitate organization of daily activities
- Utilized **React.js** in conjunction with the **Bootstrap framework** to develop frontend components with appealing visuals
- Developed the backend using **Node.js**, **Express.js**, and **Mongoose** for efficient user data storage in **MongoDB Cloud**
- Utilized **Redux** for efficient state management, cookie handling and deployed the final web application on **Vercel**

### • Taxi Tip Prediction (Personal Project)

- Utilized the **NYC Taxi Trip Records dataset** from June 2019, obtained from the **Taxi & Limousine Commission (TLC)**, New York
- Implemented a **Decision Tree Regressor model** using both **Scikit-Learn** and **Snap ML Python APIs** for predictions
- Evaluated the trained Decision Tree Regressor models to assess their **predictive performance**, Metrics such as **Mean Squared Error (MSE)** and **R-squared** were used to measure model accuracy and generalization capability

### • Weather Prediction Model (Personal Project)

- Utilized **weather data** sourced from the **Australian Government's Bureau of Meteorology** for training and testing
- Conducted comprehensive **data preprocessing** through **Scikit-Learn** using steps to enhance model performance
- Trained multiple **classification models** including **Logistic Regression, KNN, Decision Trees, SVM, and Linear Regression**, Each model was evaluated using a variety of metrics to assess their **predictive performance** on the data

### • Credit Card Fraud Detection System (Personal Project)

- Implemented a credit card fraud detection system using **Scikit-Learn** and **Snap ML** on real data from **European cardholders**
- Conducted **data preprocessing** and trained **classification models**, including **Decision Trees** and **Support Vector Machines**
- Evaluated **model performance** and **accuracy**, employing high-performance CPU/GPU implementations provided by Snap ML

## TECHNICAL SKILLS

- **Programming Languages** : C++, Python, MATLAB, HTML, CSS, JavaScript, MySQL, Git
- **Libraries, Tools & Frameworks** : React, Node.js, Express.js, MongoDB, NumPy, Pandas, Scikit-Learn, GitHub

## POSITIONS OF RESPONSIBILITY

- **Technical Coordinator, Board for Recreational and Creative Activities** (June, 2024 - ongoing) : held as Technical Coordinator for BRCA responsible for **maintenance** of official BRCA Website and **Development** of BRCA Android App
- **Technical Activity Head, Tryst** (January, 2024 - March, 2024) :Served as Technical AcHead for Tryst 2024, assuming responsibility for overseeing the **website development** and ongoing **maintenance** throughout the fest's duration



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## IIT COURSE

### Degree

B.Tech in Biochemical Engineering & Biotechnology

### Institute

Indian Institute of Technology Delhi

### CGPA

7.89

## COURSES DONE

Physics Laboratory, Intro. To Electrical Engg., Intro. To Electrical Engg., Calculus, Electromagnetic Waves & Qua.mec., Intro. To Computer Science, Profe. Ethics & Social Resp., Language & Writing Skill, Introduction To Engineering, Engg. Visualization & Comm., Introduction To Chemistry, Chemistry Laboratory, Engineering Mechanics, Language & Writing Skill-2, Linear Algebra & Diffe. Equa., Product Realization Through Manufacturing, Profe. Ethics & Social Resp.-2, General Microbiology, Mass & Energy Balances In Bio., Principles Of Biochemistry, Transport Phenomena, Introduction To Materials Science And Engineering, Intro. To Biology For Engineer, Differential Equations, Microeconomics, Chemical Reaction Engg I, Heat Transfer For Chemical Eng, Fluid Mechs. For Chem. Engineer

## QUALIFYING EXAM

- Joint Entrance Examination (JEE) Advanced Rank: 859 (GE)

## POSITIONS OF RESPONSIBILITY

- Activity Head, TRYST'24, CAIC
- BRCA Rep - Literary, Aravali, BHM (June, 2023 - May, 2024)
- Hostel Representative, Literary, BRCA (June, 2023 - May, 2024)
- Literati Activity Head, BSP (June, 2023 - May, 2024)

## EXTRA CURRICULAR ACTIVITIES

- BSP Trophy'23 Winners, BSP Trophy'23 (June, 2022 - May, 2023)
- Final Take Second Runner-Up, Final Take Second Runner-Up (June, 2022 - May, 2023)
- Winner, BSP Trophy (June, 2022 - May, 2023)
- Executive, Veiled Verses
- Executive, IIT Delhi Scrabble Open