Ajay Kumar

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EDUCATION

Institute	Degree / Board	Year	GPA / Marks (%)
Indian Institute of Technology, Delhi	B. Tech in Chemical Engineering	2021	6.261/10
J.N.V Bundi	Class XII (CBSE)	2017	90.8
J.N.V Baghpat	Class X (CBSE)	2015	9.8/10

TECHNICAL SKILLS

- **Languages:** Python, C, SML
- **Software:** MS Office, Jupyter Notebook, Autodesk
- **Web Development:** HTML, CSS, Django
- **Machine Learning Algorithms:** SVM, Naive Bayes, Linear & Logistic Regression, KNN, K-Means Clustering, Perceptron, GMM, PCA, Decision Tree, Random Forest, NLP

PROJECTS

- **University Admission Prediction |** *Python, ML*
  - After doing **Data Cleaning** and **Feature Selection**, applied various ML methods to predict if a candidate will get admission to university based on aptitude and verbal test data.
  - Compared and analysed the performance of **Logistic Regression, perceptron, SVM** and **GMM** with high accuracy.
  - For the visual presentation of the data, various libraries such as **Matplotlib, Seaborn** and **Pandas** were used.
- **Predicting Loan Defaulters** | *Python, ML*
  - Applied **Data Cleaning** and **Feature Engineering** techniques to deal with outliers and missing values in **pre-processing**.
  - Classified the defaulters using **Logistic Regression, Decision Tree, Random Forest,** and **K-Means**. **Random Forest** gave the **highest accuracy**.
  - Applied **K-Fold Cross Validation** and **GridSearchCV** for obtaining best hyper-parameters for the model.
- **Predicting Lifetime of Sessile Saliva Droplets |** *Fluid Mechanics, Python*
  - Derived the formula for the **volume of the saliva droplet** resting on a horizontal surface and for the **rate of the mass transfer** due to evaporation in terms of contact angle and other parameters.
  - Formed an **iterative equation** for **contact angle** in terms of **time** by using these both derived formulas.
  - Solved this iterative equation using **fsolve** function from **scipy.optimize** library of python. Plotted the graph of drying time vs time using the **matplotlib** library.
- **Enthalpy change of real gas |** *C*
  - Developed computer program using **C** language to determine **enthalpy change** of real gas in the region of the **phase diagram** where no phase boundary is crossed.
  - Mentioned enthalpy change for special cases like **isothermal** and **isobaric process**.

SCHOLASTIC ACHIEVEMENTS

- **IIChE Golden Jubilee Scholarship:** Awarded for academic performance in chemical engineering by IIChE **(2020)**
- **Dakshana Scholar:** Selected among top 1% of India's all JNV students in Dakshana Selection Test **(DST 2015)**
- **JEE Mains:** Secured a rank among top 3.2% out of 1.2 million appearing candidates in JEE Mains **(2017**

EXTRACURRICULAR ACTIVITIE

- **Marketing Activity Head, Sportech (2019)**
  - Responsible for pitching and bringing sponsors for the marketing of **Sportech 2019**, Annual Sports Festival
  - Supervised and guided a team of 4 members to ensure timely completion of the process.
- **OCS Volunteer (2019)**
  - Responsible for organising **TnP** process successfully. Worked as a mediator between companies and students.
- **Weightlifting Competition IITD, (2020)**
  - Participated in Inter-Hostel Weightlifting competition in 62 kg weight category and secured **5th** position.
- **Regional Level Chess Competition, (2013)**
  - Participated in 26th Regional Level Chess tournament in Jnv Mariahu (Jaunpur) and secured **2nd** place.