PARTH SINGH RANA

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EDUCATION

Bachelor of Science | Kumaon University   **2018-2021**

Master of Computer of Application | G.B.P.U.A&T University   **2022-2025**

SKILLS

- **Programming Languages:** Python, C/C++, SQL
- **Frameworks:** Django, Flask, Streamlit, Beautiful Soup, Selenium, SQLAlchemy
- **Data Visualization:** Plotly Dash, Seaborn, Matplotlib, Streamlit
- **Data Analysis:** Numpy, Pandas, NLTK
- **Technologies:** MySQL, SQLite, Git/Github, Linux
- **Platform:** Pycharm, Jupyter Notebook
- **Soft Skill:** Adaptability, Problem Solving, Quick Learner

PROJECTS

Real-Time Sentiment Analysis on Social Media Posts

- **Description**: Built a real-time sentiment analysis pipeline to monitor and classify sentiments (positive, negative, neutral) on tweets about a specific brand.
- **Data Ingestion**: Streamed real-time tweets using the **Tweepy API** and stored data in a relational database using **SQLAlchemy**.
- **Text Analysis & Sentiment Classification**: Preprocessed text data using **NLTK** and implemented a sentiment analysis model with **Hugging Face Transformers**.
  Dashboard Development: Deployed a dashboard using **Flask** to visualize sentiment trends and frequent keywords over time.

E-Commerce Product Recommendation System

- **Data Preparation**: Loaded and transformed transactional data using **pandas** and created a user-item interaction matrix.
- **Model Implementation**: Built a collaborative filtering model with **scikit-learn** and evaluated performance using metrics like **RMSE**.
- **Deployment**: Deployed the system as a web service using **Django** and integrated it into a mock e-commerce website for demonstration.
- **Outcome**: Delivered personalized product recommendations with a precision score of **78%**, improving customer engagement and satisfaction.

Customer Churn Prediction for a Subscription-Based Service

- **Data Collection & Preprocessing**: Collected customer interaction and subscription data using **Python (pandas, NumPy)** and performed feature engineering to derive insights from user behavior.
- **Model Building & Training**: Built and trained a classification model using **scikit-learn** to predict churn probability, incorporating metrics like engagement and subscription duration.
- **Dashboard Visualization**: Created a dashboard using **Plotly Dash** to provide actionable insights for retention strategies.