

Real-Time Analysis of Blinkit Dataset

PROBLEM STATEMENT

Students often struggle with managing their study schedules effectively. Factors such as past performance, attendance, and subject importance need to be considered to optimize study time. Without a data-driven approach, it becomes difficult to allocate time efficiently and improve learning outcomes.

PROJECT OVERVIEW

This project leverages machine learning techniques to optimize study schedules. It aims to analyze student data, including academic performance and attendance, to generate personalized study plans. The project provides interactive visualizations and reports to help students and educators track progress and make informed decisions.

SOLUTION OFFERED

The project builds a study schedule optimizer using RandomForestRegressor and MinMaxScaler to process student data and recommend study plans. The key features include:

- **Personalized Study Plans:** Optimized study schedules based on performance, attendance, and subject importance.
- **Data Analysis:** Understanding study habits, subject priorities, and improvement areas.
- **Performance Tracking:** Monitoring academic progress over time.
- **Visualization Tools:** Graphical representation of study schedules for better planning.
- **Interactive Dashboard:** A user-friendly interface for students to explore study recommendations.

WHO ARE THE END USERS?

- **Students:** To get optimized study plans and track progress.
- **Teachers & Mentors:** To analyze student performance and guide study improvements.
- **Educational Institutions:** To support data-driven learning methodologies.

TECHNOLOGY USED TO SOLVE THE PROBLEM

- **Python (Streamlit):** For building an interactive web application.
- **Machine Learning (RandomForestRegressor):** To predict and optimize study schedules.
- **Data Processing (MinMaxScaler, Pandas, NumPy):** To handle and normalize student data.
- **Visualization Tools:** Frontend JavaScript and possible Python libraries (Matplotlib/Plotly) for graphical representation.
