YouTube Trending Video Analytics Project Report

Abstract

This project analyzes YouTube trending video datasets to uncover patterns in user engagement, content categories, and video performance across time. The analysis provides insights into what type of content remains in trending lists for longer durations, which categories gain the highest views, and overall patterns in the YouTube trending ecosystem.

Introduction

YouTube is one of the largest platforms for video sharing and content consumption worldwide. Trending videos provide a snapshot of what is currently popular and widely viewed. This project focuses on analyzing trending datasets to explore how long videos remain in the trending list, category performance, and overall engagement patterns.

Tools Used

1. Python (for data cleaning and preprocessing) 2. Tableau (for building dashboards and visualizations) 3. SQL (for ranking categories by average views) 4. Excel (for preliminary data inspection and cleaning)

Steps Involved in Building the Project

1. Data Cleaning: Removed null values, standardized columns, and created a clean dataset (yt_trending_clean.csv). 2. Feature Engineering: Created a 'Trending Days' calculated field to measure how long each video stayed trending. 3. Visualization in Tableau: - Time-series chart showing average trending duration across months. - Category-wise analysis to identify which content categories trend the longest. 4. SQL Queries (optional extension): Rank categories by average views using SQL. 5. Insights and Reporting: Summarized findings in a structured report and dashboard.

Conclusion

The analysis revealed patterns in YouTube trending content, highlighting which categories remain popular for longer durations and how user engagement changes over time. Tableau visualizations provided clear insights through time-series and category-based charts. This project demonstrates practical data analytics skills combining Python, SQL, and Tableau.