

YouTube Trending Video Analytics –Project Report

Introduction

YouTube is one of the most visited platforms globally, with millions of videos being uploaded and viewed daily.

Understanding what makes a video trend can help content creators, marketers, and analysts craft better strategies.

This project analyzes trending video data from different countries to uncover insights about content performance, audience engagement, and sentiment trends.

Abstract

The goal of this project is to perform data-driven analysis on YouTube trending videos across multiple regions.

We cleaned and merged datasets, applied sentiment analysis on video titles, and created visualizations to highlight patterns across countries and content categories. The findings help identify what types of content generate more engagement and how emotions in titles relate to virality.

Tools Used

- Python (Pandas, Matplotlib, Seaborn, TextBlob)
- Power BI (for dashboard and visuals)
- Excel (optional pre-processing)

Note: SQL was not used in this project.

Steps Involved in Building the Project

1. Data Collection

Collected YouTube trending datasets from different countries (CSV format).

2. Data Cleaning & Preprocessing

- Removed duplicates and missing values
- Standardized date formats
- Mapped `category_id` to human-readable category names

3. Sentiment Analysis

- Used Python's TextBlob to assign sentiment polarity to each video title
- Labeled each title as **Positive**, **Neutral**, or **Negative**

4. Data Visualization (Power BI)

- Created pie and donut charts for **sentiment distribution**
- Built **stacked bar charts** to compare sentiments by region
- Added **bar charts** to rank categories by average views
- Included **time-series charts** for trending durations

Conclusion

The analysis revealed that:

- **Positive sentiments** are most common in trending titles
- **Music and Entertainment** dominate viewership across all regions
- Viewer engagement often spikes during **weekends**

This project highlights how simple analytics combined with sentiment analysis can provide actionable insights for content creators and digital marketers.