

# YouTube Trending Video Analytics – Final Report

## Introduction

With the explosion of video content online, understanding what makes a video trend is critical for creators, marketers, and analysts. This project explores YouTube's trending video data across multiple regions to uncover patterns in video popularity, user sentiment, and regional preferences.

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## Abstract

This project analyzes a cleaned and combined dataset of trending YouTube videos. The primary objective is to explore the relationship between video categories, sentiments, and regional trends. Using Python for data cleaning and sentiment analysis, SQL for querying insights, and Tableau for visualization, we derive meaningful patterns such as which categories dominate, sentiment distribution in video titles, and time-series patterns of trending duration.

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## Tools Used

- **Python:** Data cleaning, transformation, and sentiment analysis (TextBlob, pandas, matplotlib, seaborn)
  - **SQL:** Querying category-wise statistics and insights
  - **Tableau:** Visual dashboards for storytelling and regional comparisons
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## Steps Involved in Building the Project

### 1. Dataset Collection & Cleaning

- Downloaded the YouTube Trending Videos dataset
- Removed duplicates and missing values
- Standardized date columns

### 2. Sentiment Analysis

- Applied TextBlob sentiment analysis on video titles
- Classified sentiments into Positive, Negative, and Neutral

### 3. SQL Analysis

- Used SQLite to calculate average views by category
- Ranked video categories based on viewership

### 4. Data Visualization with Tableau

- Bar chart: Average views per video category
- Pie chart: Sentiment distribution of trending video titles
- Line chart: Views over time by publish date
- Map view: Country-wise comparison of video count or views

### 5. Final Data Export

- Cleaned and sentiment-labeled dataset saved as .csv for Tableau

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## Conclusion

The analysis reveals that:

- Entertainment and Music are the most viewed and frequently trending categories.
- Video titles with positive sentiment dominate trending lists.
- Countries have unique preferences for content types.
- A video's publish time and sentiment significantly impact its trending duration.