

YouTube Trending Video Analytics (IN)

Intrainz Data Analyst Internship Project Report

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1. Introduction:

YouTube is one of the most influential digital platforms in India, serving as a content hub for entertainment, education, and marketing. Understanding the patterns of trending videos can help content creators, marketers, and businesses improve visibility, engagement, and relevance. This project explores the trending YouTube videos in India using data analytics and visual storytelling.

2. Abstract:

This analysis focuses on identifying viewing trends and performance metrics among trending YouTube videos in India. We cleaned and processed publicly available data to explore metrics such as views, likes, trending duration, and engagement rate. A dynamic dashboard was created in Power BI to visualize these insights and answer key business questions such as: Which content categories trend the most? What makes a video go viral? What is the average duration a video stays trending?

3. Tools & Technologies Used

- Python (pandas): for data preprocessing and CSV export
- Power BI: for interactive dashboard creation and visualization
- Microsoft Excel: for basic sanity checks and formatting

4. Steps Involved in Building the Project

a) Data Collection & Cleaning

We selected the India-specific YouTube trending dataset (INvideos.csv) and performed preprocessing using Python. This included parsing datetime columns, removing duplicates, and standardizing column formats.

b) Metric Engineering

Calculated trending duration (number of days a video stayed trending), engagement rate (likes/views), and like-to-dislike ratio. Extracted publish month and year for temporal analysis.

c) Visualization & Dashboard Design

We used Power BI to create a visual dashboard that included:

- Bar Chart: Average Views by Content Category
- Line Chart: Total Views Over Time

- KPI Cards: Total Views, Likes, Comments
- Table: Top 10 Trending Videos by Views
- Histogram: Frequency of Trending Days
- Donut Chart: Like vs Dislike Ratio
- Filters: Month, Category ID

5. Key Insights

- The average trending video in India stays on the trending list for 3 to 4 days.
- Some categories consistently outperform others in terms of views (e.g., Entertainment, Music).
- High engagement ratios are commonly seen in music and regional content.
- Many top-viewed videos are published mid-week (Wednesday–Friday), possibly due to content release schedules.
- Likes and comments correlate positively with longer trending duration, but dislikes show no strong effect.

6. Conclusion

This project provided valuable insights into India's digital content consumption behavior on YouTube. By analyzing trends in video performance and viewer engagement, stakeholders can make data-driven decisions for content planning, scheduling, and audience targeting. Future improvements could include integrating multi-country datasets, sentiment analysis of video titles/tags, or exploring user comments for deeper emotional analysis.