



YOUTUBE TRENDING VIDEO ANALYTICS

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1. Introduction

This project analyses YouTube trending videos across multiple countries to understand regional trends, content performance, viewer engagement, and sentiment. It provides a data-driven view of what makes content popular on a global video-sharing platform.

2. Abstract

Using a dataset of trending YouTube videos from regions including CA, DE, FR, GB, IN, and US, this project explores key metrics like average views, trending days, and sentiment from video titles. Python was used for data analysis and sentiment labelling, while Power BI was used to create a dynamic dashboard with KPIs, charts, and filters.

3. Tools Used

- **Python (Anaconda, Jupyter Notebook)** – For data cleaning, sentiment analysis, and aggregation.
- **Power BI** – For building an interactive and visual dashboard.
- **TextBlob** – For sentiment classification (positive/neutral/negative).
- **Excel** – For data transfer between Python and Power BI.

4. Steps Involved in Building the Project

1. Data Preprocessing:

- Merged regional CSV files.
- Handled missing values, duplicates, and encoded categorical data.

2. Sentiment Analysis:

- Analyzed video titles using TextBlob to classify sentiment into positive, neutral, or negative.

3. Aggregation:

- Calculated average views by category and region.
- Determined number of trending days for each video.

4. Export to Excel:

- Consolidated all insights into multiple sheets within a single Excel file.

5. Power BI Dashboard:

- Created dynamic visuals (cards, KPIs, slicers, bar and pie charts).
- Added filters by region, sentiment, and category.
- Incorporated a custom goal metric and interactive breakdown by sentiment.

5. Conclusion

This project successfully uncovered patterns in YouTube trending videos across countries and categories. For example, the United States had the highest number of trending videos, while positive sentiment videos often received more views. The interactive dashboard allows users to drill into region-wise trends and sentiment impacts, making it a valuable tool for content strategists, marketers, and data enthusiasts. The combination of Python and Power BI created a robust end-to-end analytics solution.