# **Project Name: YouTube Trending Video Analytics**

Country Focus: United States  
Dataset Source: Kaggle – Trending YouTube Video Statistics

**1. Introduction – Project Goals:**

* Understand trends in YouTube videos trending in the US.
* Analyze content categories, user engagement, and sentiment.
* Measure how long videos stay trending and what influences popularity.
* Deliver insights through SQL queries, visualizations, and Tableau dashboard

**2. Dataset Overview:**

| **Column Name** | **Description** |
| --- | --- |
| video\_id | Unique YouTube video ID |
| trending\_date | Date when video was trending (YY.DD.MM) |
| title | Title of the video |
| channel\_title | Name of the channel |
| category\_id | ID of the video category |
| publish\_time | Timestamp of video publication |
| tags | Tags associated with the video |
| views | Total views |
| likes | Number of likes |
| dislikes | Number of dislikes |
| comment\_count | Number of comments |
| thumbnail\_link | Thumbnail URL |
| comments\_disabled | Comments enabled or not |
| ratings\_disabled | Ratings enabled or not |
| video\_error\_or\_removed | If video has error/removed |
| description | Description of the video |

**3.Data Cleaning :**

* Removed duplicates using drop\_duplicates().
* Converted trending\_date and publish\_time to datetime format.
* Created publish\_hour and trending\_duration columns.
* Removed rows with missing titles or views.
* Mapped category\_id to readable category names.

4. **EDA Insights – Category Trends & Correlations :**

* **Most Viewed Categories (Average Views)**

**Music**, **Entertainment**, and **Sports** are the top categories by average views.

* **Likes vs Views**

Strong positive correlation (0.84+), indicating more likes = more views.

* **Comments & Dislikes**

**Comments** also correlate positively with views.

**Dislikes** vary less but show engagement.

**5.Sentiment Analysis – Title Impact :**

* Used **VADER Sentiment Analyzer** to classify title text.
* Sentiment Score (compound) split into:
  + Positive: > 0.05
  + Neutral: between -0.05 and 0.05
  + Negative: < -0.05

**Sentiment Distribution:**

* **Positive titles** dominated trending videos (~60%).
* Neutral: ~30%, Negative: ~10%

**Insight:**

* Videos with **positive or neutral titles** tend to receive more views.

**6.Dashboard Visuals (from Power Bi)**

* Bar Chart: Top 10 categories by average views
* Pie Chart: Title sentiment distribution
* Time-Series Line: Views over publish date
* Filter by Category, Channel, Sentiment
* Map View (if multi-country data added later)

**7. Conclusion & Insights**

* **Music and Entertainment** dominate trending content in the US.
* **Positive sentiment** titles are more likely to trend.
* **Views, likes, comments** are tightly correlated.
* Shorter trending duration is common, with few viral exceptions.

GitHub Link: