

Final Report: YouTube Trending Video Analytics

This project analyzes trending YouTube videos to uncover patterns in audience engagement, popularity, and sentiment. The dataset consists of 1000 video entries, including metrics such as views, likes, dislikes, categories, and publication details. Using Python (Matplotlib, Seaborn) and Tableau, we visualized performance metrics and relationships across different video categories.

Key Objectives:

- 1. Identify most viewed and most engaging video categories.
- 2. Analyze correlation among views, likes, and dislikes.
- 3. Perform sentiment analysis on video titles.
- 4. Visualize engagement and sentiment patterns.

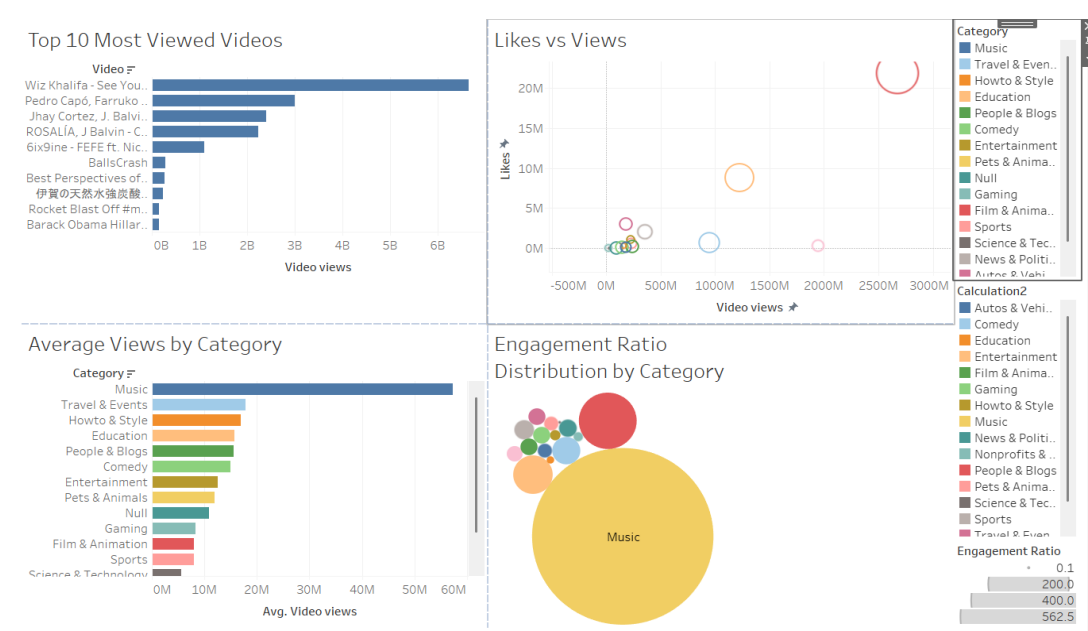
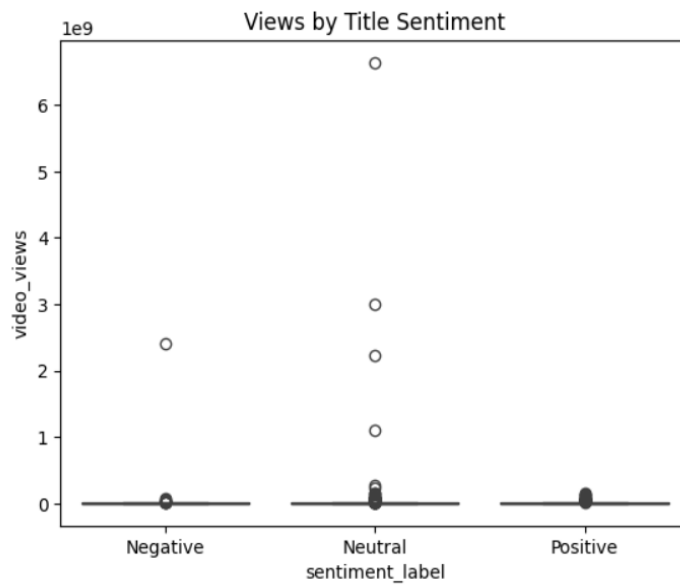
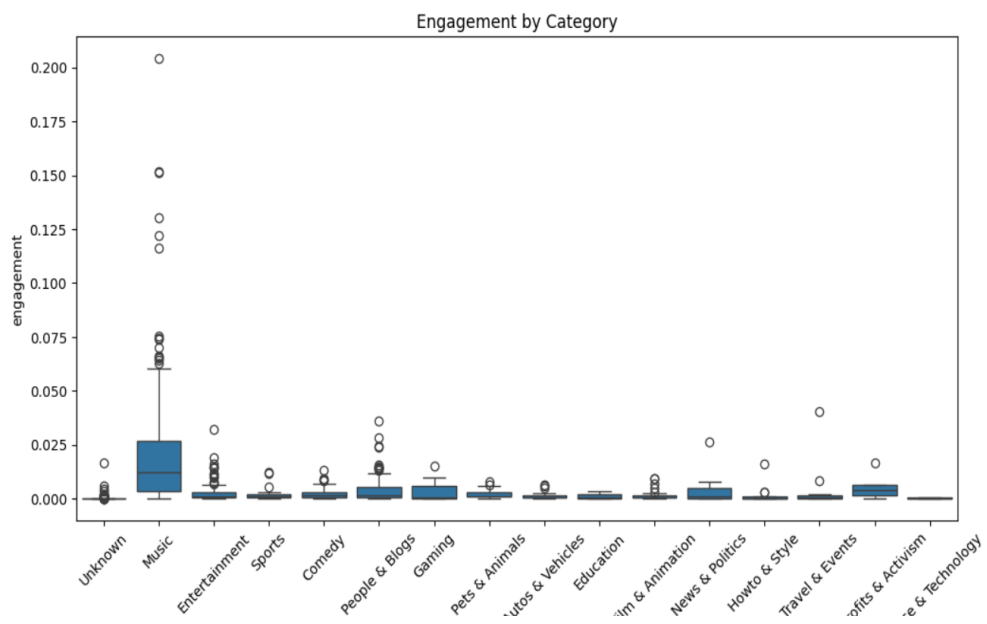


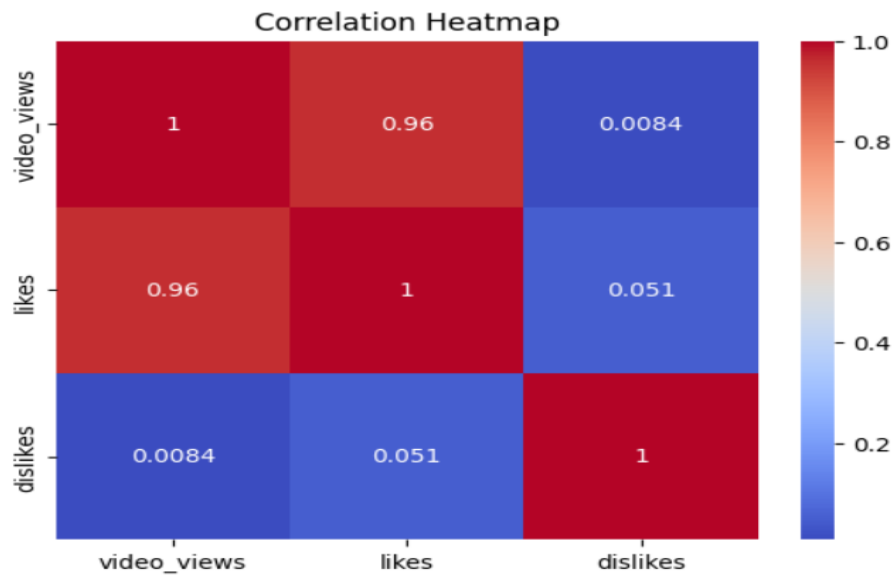
Tableau Dashboard: Overview of Most Viewed Videos, Likes vs Views, and Category-wise Engagement.



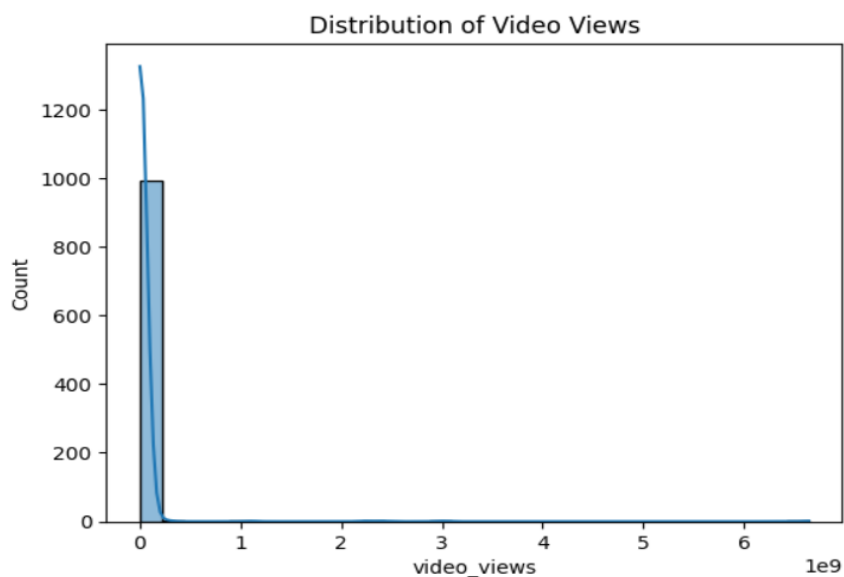
Boxplot: Views by Title Sentiment - Showing engagement distribution across sentiment categories.



Engagement by Category - Music and Entertainment have the highest engagement ratios.



Correlation Heatmap - High correlation (0.96) between Likes and Views.



Distribution of Video Views - Most videos fall under a lower view range, few achieve viral success.

Insights and Findings:

- Music videos dominate the trending list, achieving the highest average views and engagement ratios.
- The correlation heatmap reveals a strong relationship between likes and video views ($r = 0.96$), indicating that audience engagement is closely tied to popularity.
- Sentiment analysis shows that videos with positive or neutral titles attract more views on average compared to negative sentiment titles.
- Boxplot distributions highlight that the 'Music' and 'Entertainment' categories outperform others in engagement.

Conclusion:

This analysis provides clear evidence that certain content types—particularly music—consistently outperform others in terms of engagement and reach. Brands and creators can leverage this insight to optimize their video strategies, focusing on high-engagement genres and positive messaging to maximize audience interaction.

Tools Used: Python (Pandas, Matplotlib, Seaborn), Tableau, Excel

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