**YouTube Trending Data Analysis Report**

**1. Introduction**

The primary objective of this project was to analyze trending YouTube video data across various countries including Germany, France, Canada, and Great Britain. The aim was to identify patterns in video categories, performance metrics (likes, views, comments), and publication trends. This analysis helps understand what drives content popularity and audience engagement on YouTube.

**2. Abstract**

This project explored YouTube trends from 2006 to 2018, focusing on video popularity by category, engagement metrics, and regional differences. Entertainment videos dominated the trending lists in Germany, France, Canada, and GB. Specific channels such as *VikatanTV* from France and *ibighit* showed remarkable performance, while *Logan Paul Vlogs* recorded both high dislikes and video removals. Time-based patterns also revealed a peak in comments between 16:00 to 16:40, with strong performance observed during January and December. Video titles typically used neutral or slightly positive language to attract broader audiences.

**3. Tools Used**

* **Python** (Pandas, Matplotlib, Seaborn) – Data cleaning, analysis, and visualization
* **SQL** – Data querying and aggregation
* **Tableau / Power BI** – Interactive dashboards
* **Jupyter Notebook** – Code execution and documentation

**4. Steps Involved in Building the Project**

1. **Data Collection**: Obtained public YouTube trending datasets by region.
2. **Data Cleaning**: Removed duplicates, handled null values, and standardized formats.
3. **Exploratory Data Analysis (EDA)**:
   * Identified dominant video categories by country (Entertainment highest).
   * Analyzed top-performing channels (e.g., *ibighit*, *WWE*, *VikatanTV*).
   * Assessed metrics: likes, dislikes, comments, views.
4. **Time-Based Analysis**:
   * Found highest uploads during January and December.
   * Comments peaked between 16:00–16:40.
   * Noted strong video performance since 2016.
5. **Language Sentiment**: Evaluated titles; found mostly neutral to mildly positive tones.
6. **Anomaly Detection**: Flagged 28 videos as removed or delisted.
7. **Visualization**: Created dashboards and graphs to present findings.

**5. Conclusion**

The YouTube trending data offers critical insights into audience preferences, engagement patterns, and content strategies. Entertainment remains the most popular category across major regions. Channels like *ibighit* (high likes/comments) and *WWE* (highest views) exemplify content success. *Logan Paul Vlogs* experienced both high attention and controversy. Posting time and title sentiment also influence engagement. These insights can guide creators and marketers in crafting content strategies to boost reach and interaction.