YOUTUBE DATA ANALYSIS: ANALYZING AUDIENCE SENTIMENT AND VIRALITY

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Course: MIS 301

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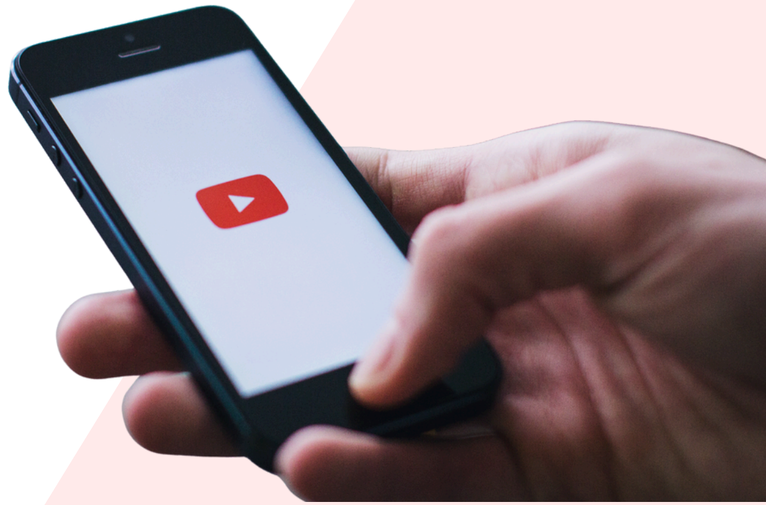
Table of CONTENTS

1. Project objectives
2. Data overview
3. Overall sentiment distribution
4. Type of comment get the most likes
5. TOP 3 topics receive most negative/positive comments
6. Discover factors of virality
7. Recommendation

PROJECT OBJECTIVES



1 .Understand the impact of comment sentiment

- Overall sentiment distribution of the audience?
- Which sentiment type receives the most **likes?**

2. Identify audience preferences and trends

- Topics generate the most positive and negative comments

3. Discover the factors of virality

- What are the **key characteristics** of successful videos?

OVERVIEW

2 datasets of YouTube data:

- Video Performance Stats: how well each video performed (Views, Likes, Comments)
- Audience Comments: what the audience actually thought (Positive, Negative, or Neutral feedback)

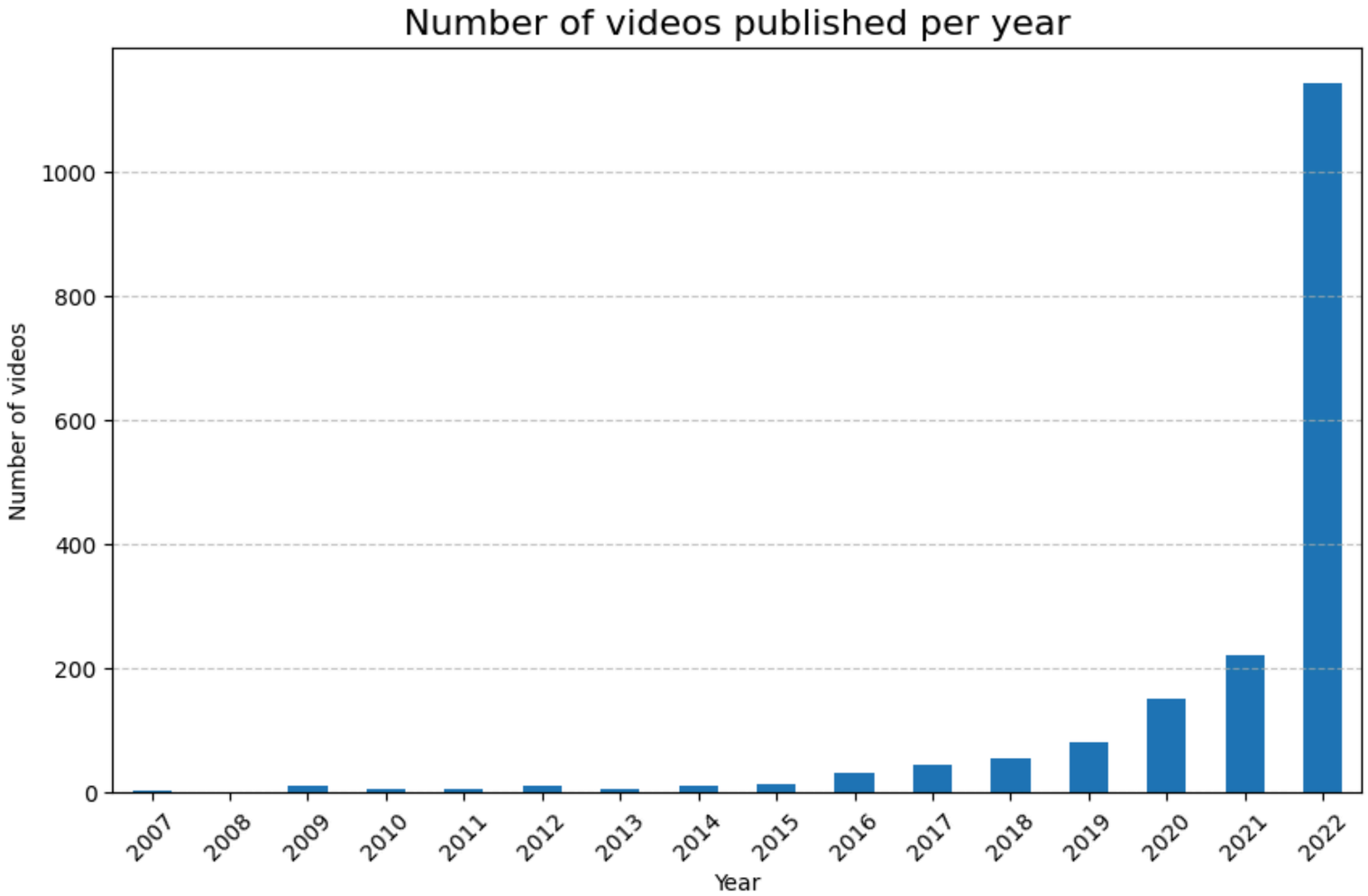
Our preparation was a 3-step process: CLEAN → MERGE → CLEAN AGAIN → FINAL DATASET

Final dataset:

🗓️ Time period: 2007 – 2022

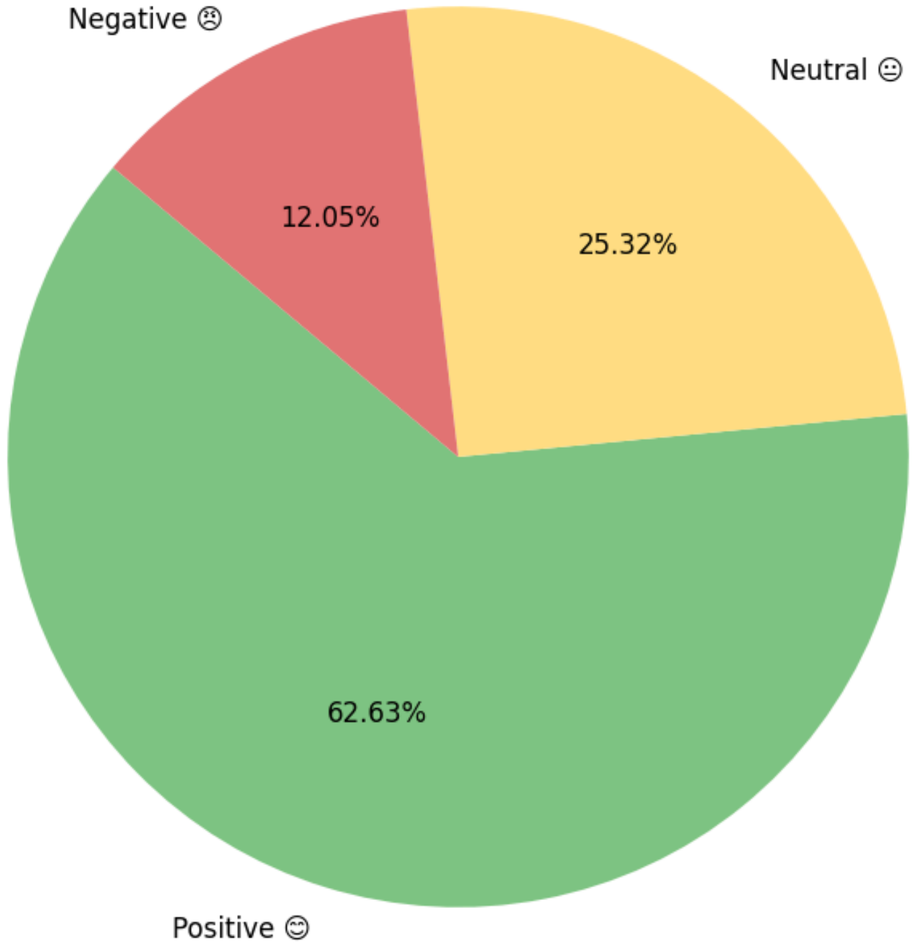
▶️ Unique videos analyzed: 1,784 videos

💬 Total comments analyzed: 25,451 comments



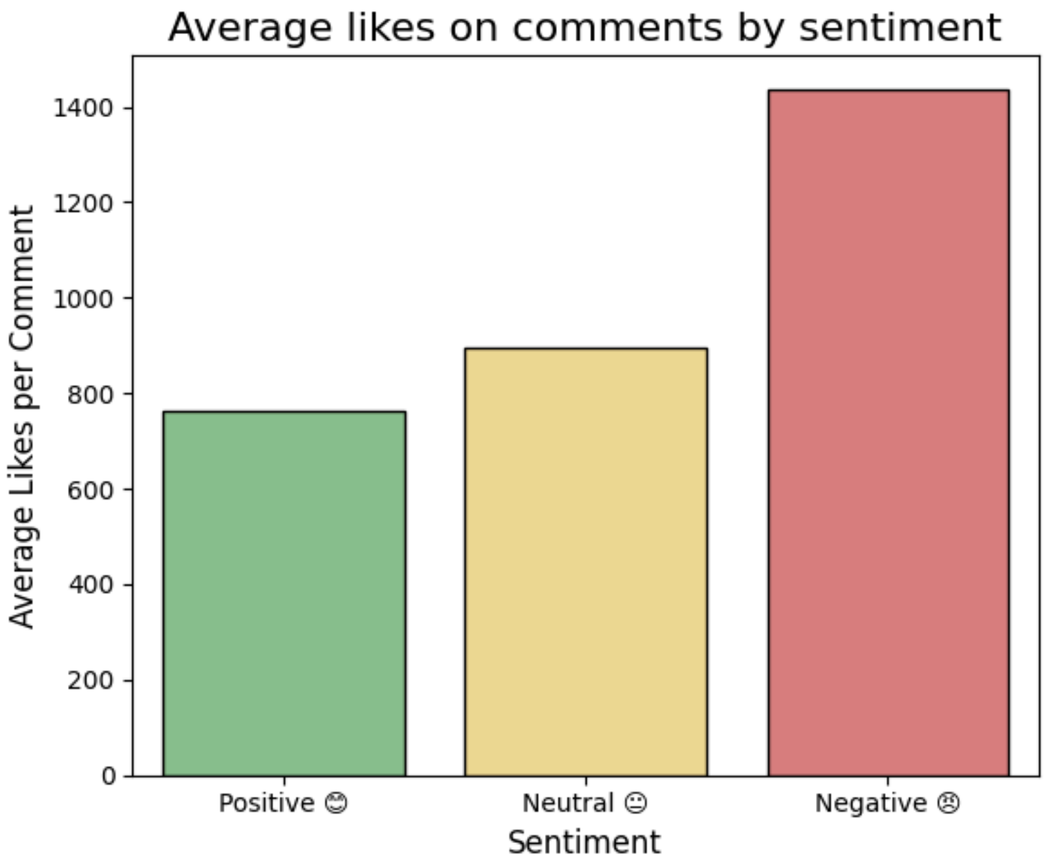
The majority of videos are uploaded in 2022

SENTIMENT DISTRIBUTION



- 😊 **Positive:** the majority of comments are positive and supportive.
- 😐 **Neutral:** many comments are just observations, without strong emotion.
- 😡 **Negative:** Negative feedback is minimal

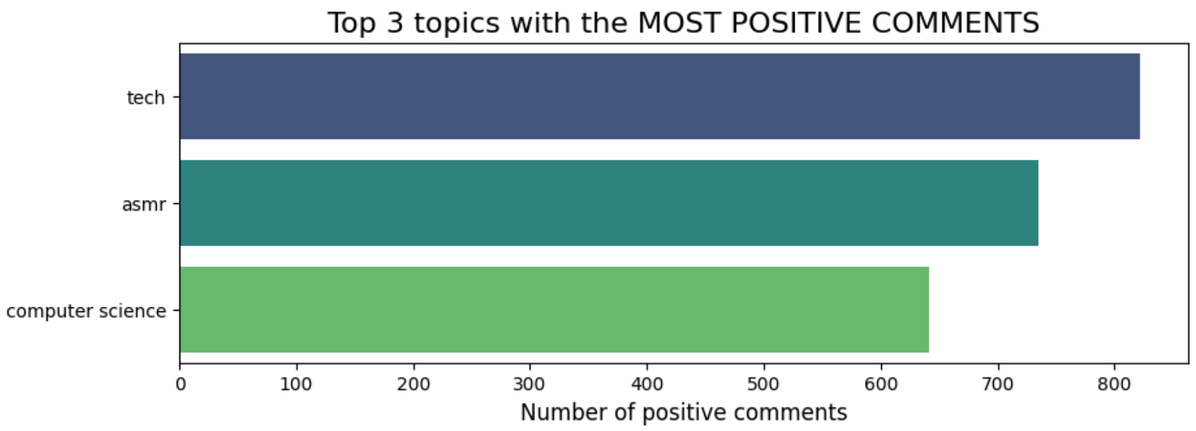
TYPE OF COMMENT GETS THE MOST LIKES



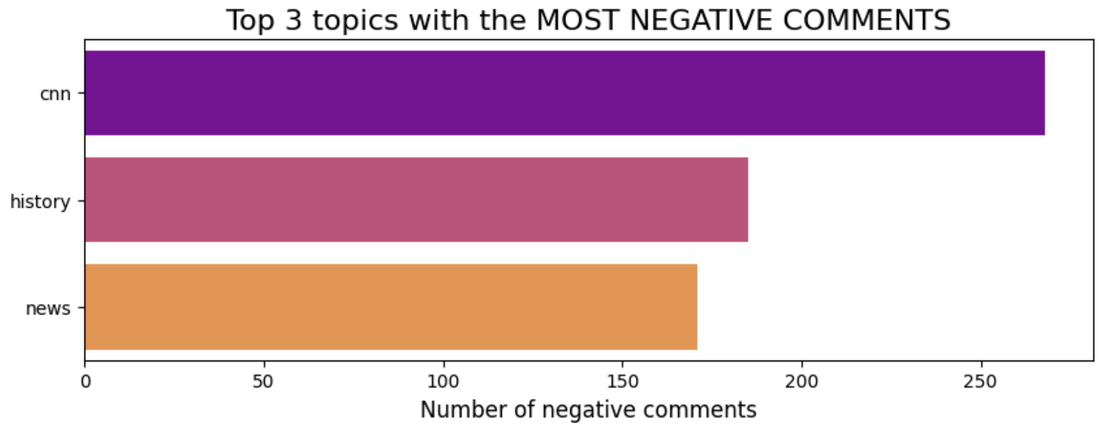
Negative comments receive the highest average likes (≈ 1,430 likes).

=> Controversial comments tend to attract more attention and agreement (or disagreement) from the audience.

TOPICS RECEIVE THE MOST NEGATIVE/POSITIVE COMMENTS

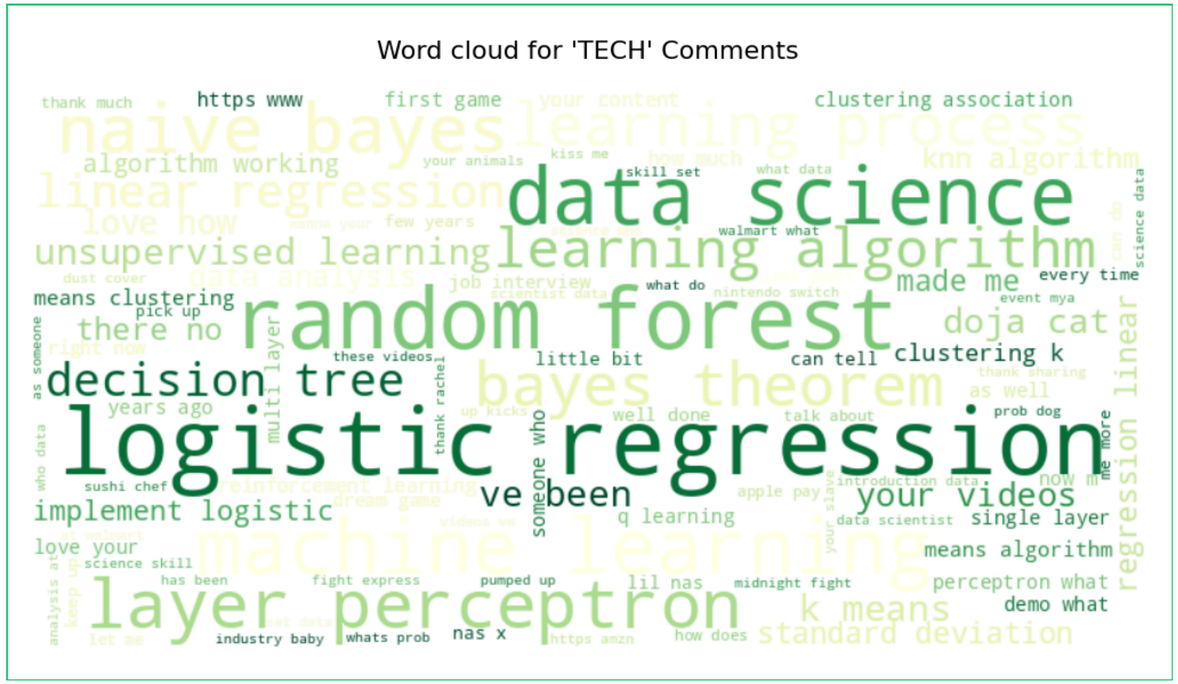


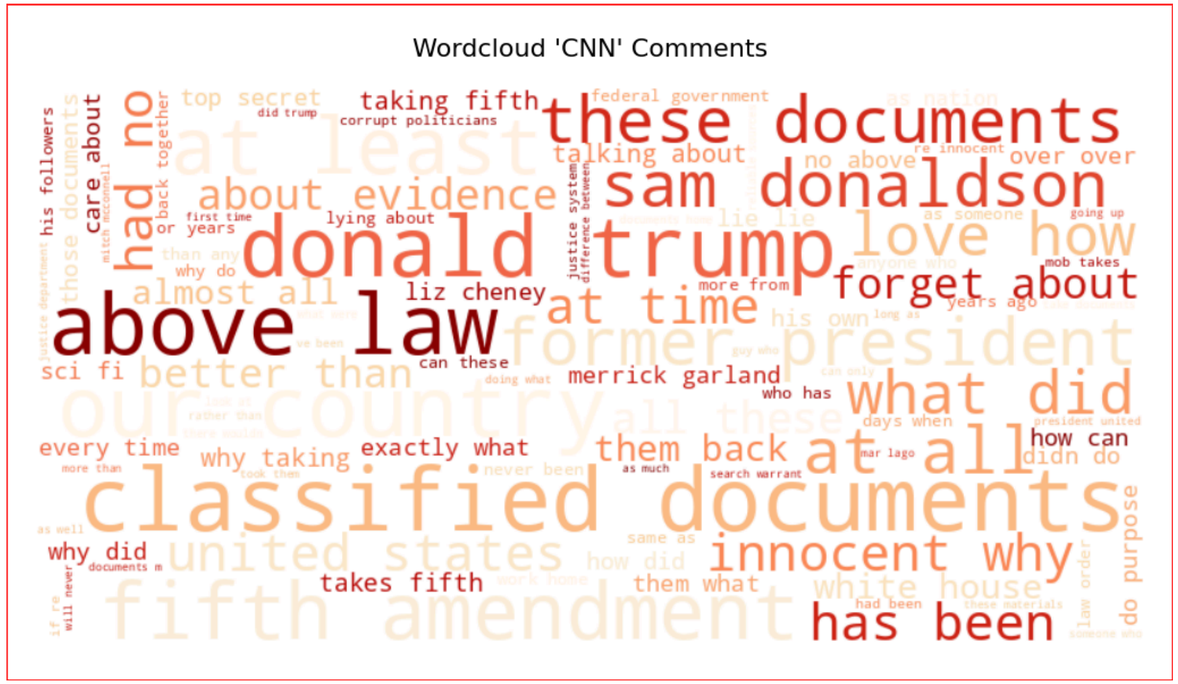
Most positive: Tech, ASMR, Computer Science → tech topics & light entertainment topics are well-liked.



Most negative: CNN, History, News → current affairs & politics cause more controversy.

What they are talking about in the most positive and negative topics?

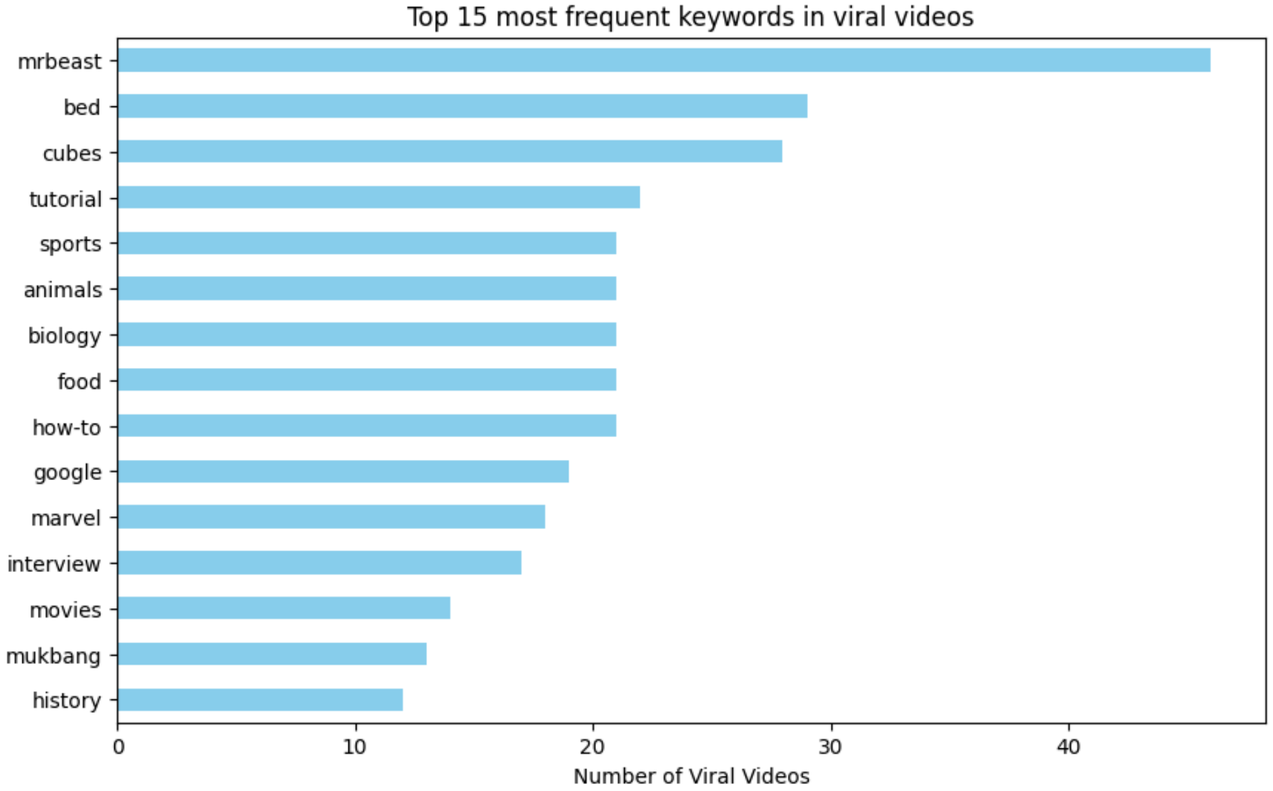




Positive topic (Tech) - People focus on machine learning concepts and tools like logistic regression, random forest, data science, and express appreciation for the content.

Negative topic (CNN) - Discussions center on Donald Trump, classified documents, and legal issues, often presented in critical or political terms.

THE FACTOR OF VIRALITY – KEYWORD



- Among videos exceeding the 2.85M view "viral" threshold, **MrBeast** dominates as the most frequent keyword, appearing in nearly 50 viral videos.

- Music-related content like **B.E.D** and skill-based challenges such as **Rubik's Cubes** also rank highly.

LOOK AT SOME VIRAL VIDEOS !!

$456,000 Squid Game In Real Life!

864M views • 3 years ago

MrBeast

MAKE SURE YOU WATCH UNTIL GLASS BRIDGE IT'S INSANE! Watch Beast **Games** now on Prime Video!!!

CC

7 chapters Red Light | Honeycomb | Tug Of War | Marbles | Elimination | Glass Bridge | Final Game

Powfu - death bed (coffee for your head) (Official Video) ft. beabadoobee

792M views • 5 years ago

Powfu

Official Video for "**death bed** (**coffee** for **your head**) " by **Powfu** ft. **beabadoobee** Listen to **Powfu**: https://**Powfu**.lnk.to/ListenID Watch ...

CC

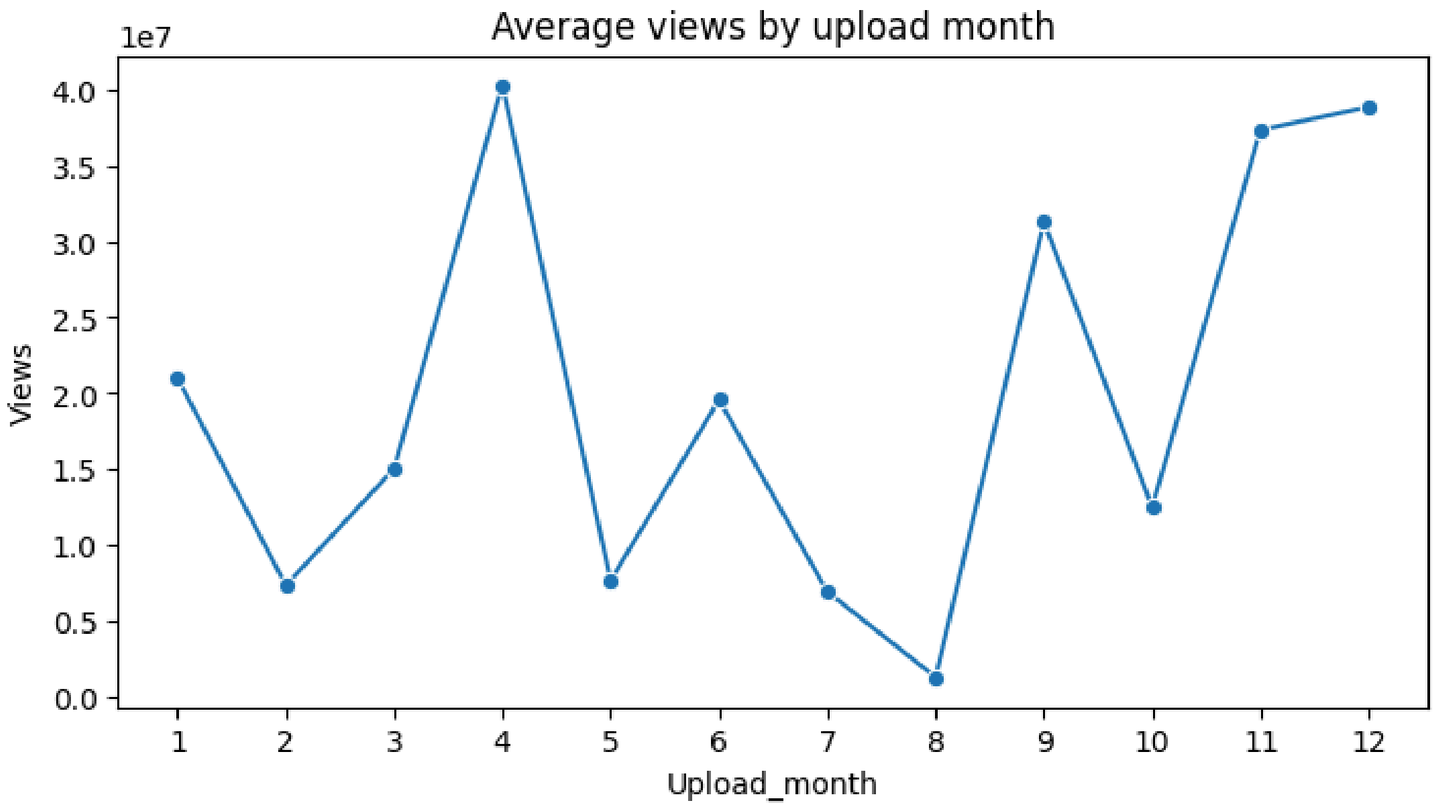
BEST Rubik's Cube Magic America's Got Talent

98M views • 8 years ago

Top 10 Talent

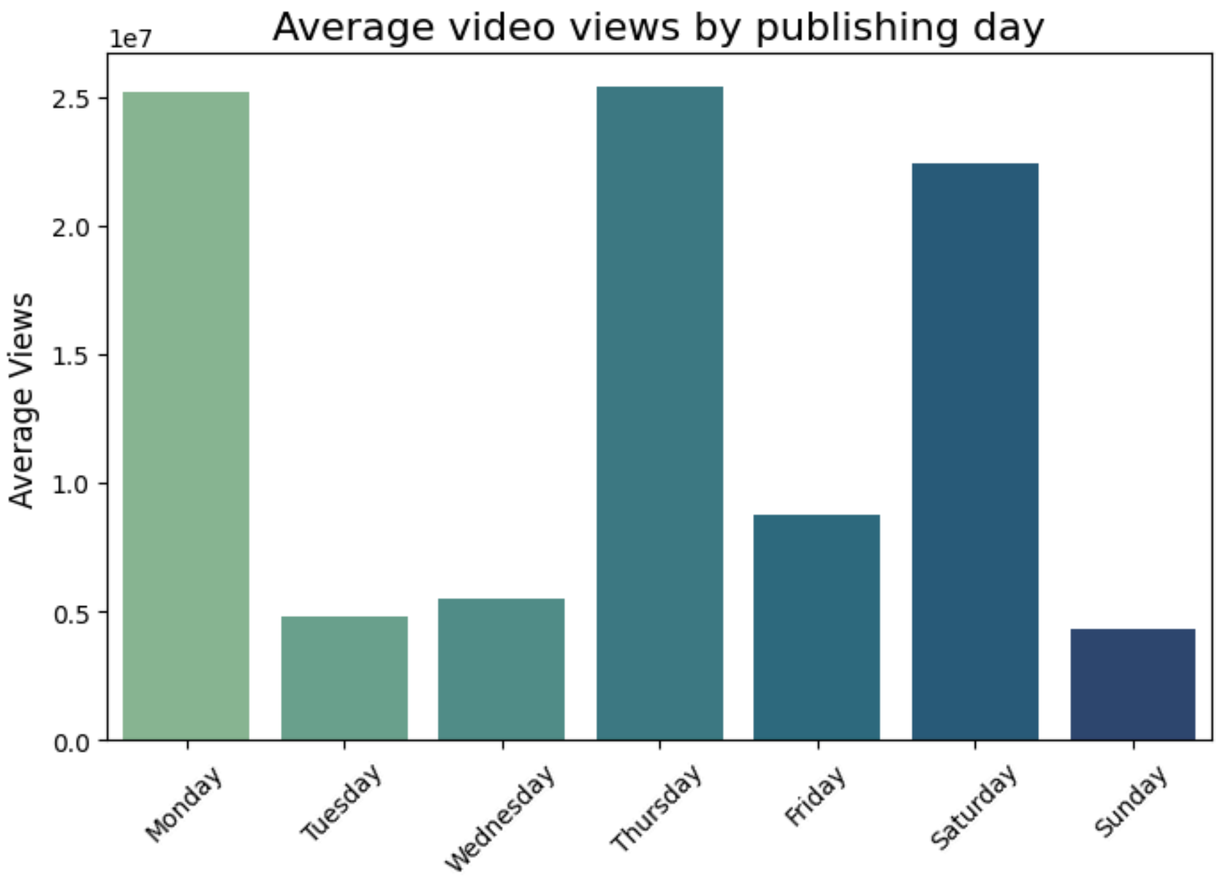
♡Thanks you so much!♡ **#gottalent** #agt #bgt #thevoice #thefour.

THE FACTORS OF VIRALITY – UPLOAD MONTH



- Viewer engagement increases strongly in **April and November**, both surpassing 35M average views, suggesting it was an ideal time to release high-impact content.
- **July and August** decreased significantly.

THE FACTOR OF VIRALITY – UPLOAD DAY



- **Monday and Thursday** consistently bring the highest average views *(around 25M)*, with **Saturday** also performing strongly - making them strategic choices for key uploads.

- **Sunday and Tuesday** underperform, indicating they may be less effective for driving maximum reach.

RECOMMENDATION – CONTENT

If you want safe engagement:

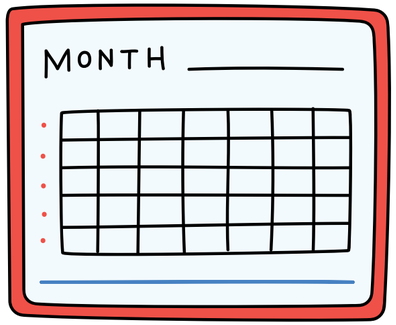
Focus on Tech and ASMR topics

If you want high interaction:

Try Politics and News topic

For going viral: Combine big, exciting ideas with skill-based activities (Rubik's Cube)

RECOMMENDATION – GOLDEN TIME



- Best months to publish videos: April & November
- Months to avoid for major releases: July & August → Viewership tends to drop, possibly due to holidays or seasonal distractions.

- Best days to upload: Monday, Thursday, & Saturday → These consistently bring higher average views.
- Days with lower performance: Sunday and Tuesday

THANK YOU

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