Ramesh k
Product & Analytics

Company: YouTube

- This Presentation leeds to YouTube API Analytics Using Python
- Powered by Python + YouTube Data API

Tools Used: Python, Pandas, Matplotlib, YouTube Data API

Content *overview*

About ME

Ramesh k

Product & Analytics

Skills:

- Analytics
- Product User Journey
- Power BI
- AI Generalist
- Computer Science Graduate

Contact
karamesh410@gmail.com
Portfolio: https://rameshda.webflow.io/

Objectives

- To extract, analyze, and visualize YouTube video/channel data using YouTube Data API
- Help stakeholders understand channel performance
- Identify content trends that drive growth
- Optimize future video strategy based on data insights

Problem Statement

What Are We Solving?

- **No clear visibility into which videos are performing well**
- **Engagement patterns are unclear**
- **Difficult to track growth KPIs over time**
- **Data is spread across multiple videos without consolidated view**

Metrics Tracked

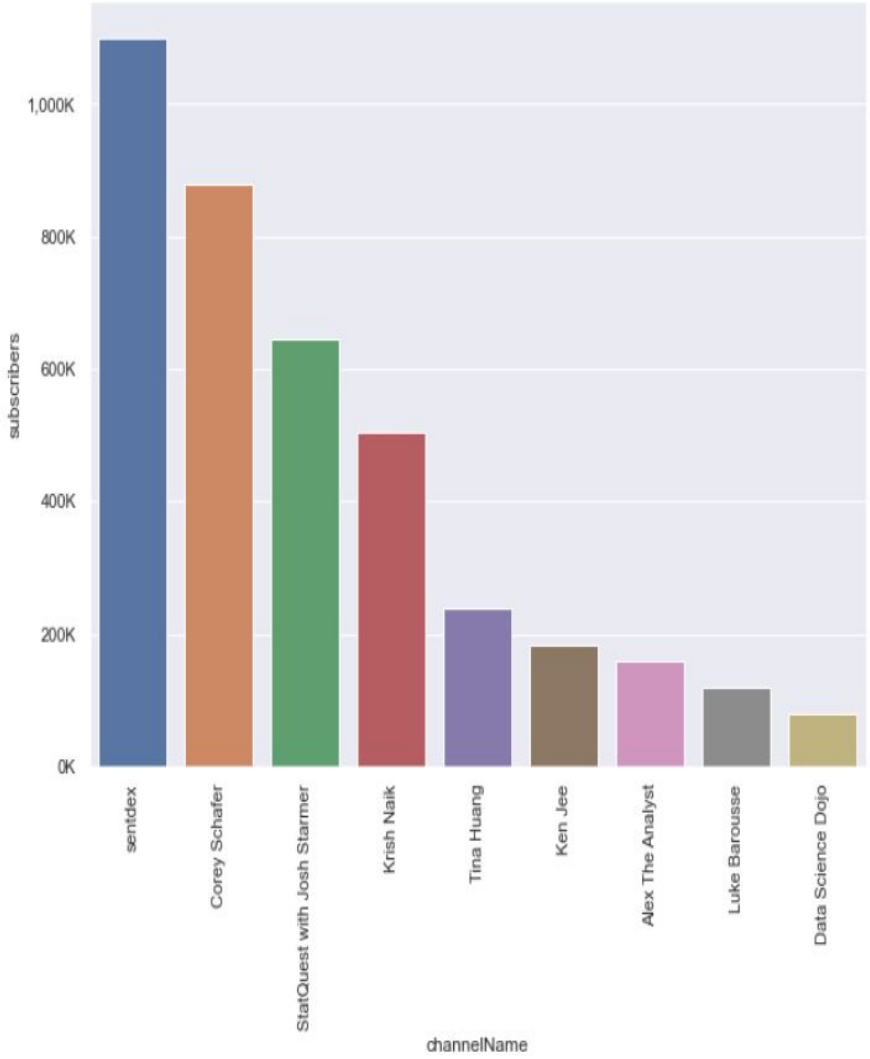
- Video title & publish date
- Views, Likes, Comments
- Duration & Tags
- Video popularity and ranking
- Channel stats: Total views, subscribers, total videos

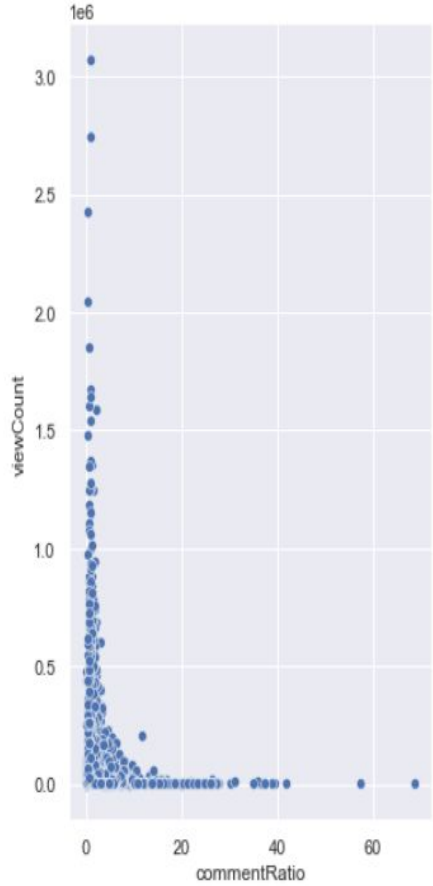
Key KPIs

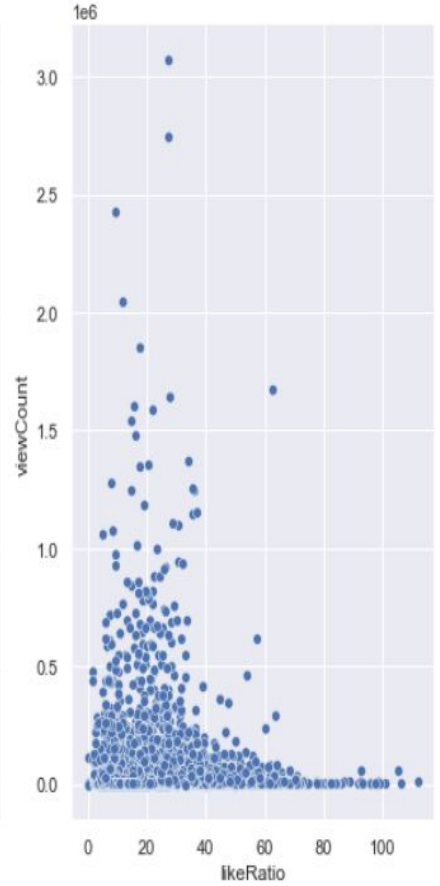
- Total Videos Published
- Average Views per Video
- Most Watched Video
- Engagement Rate = (Likes + Comments) / Views
- Publishing Consistency (videos/month)

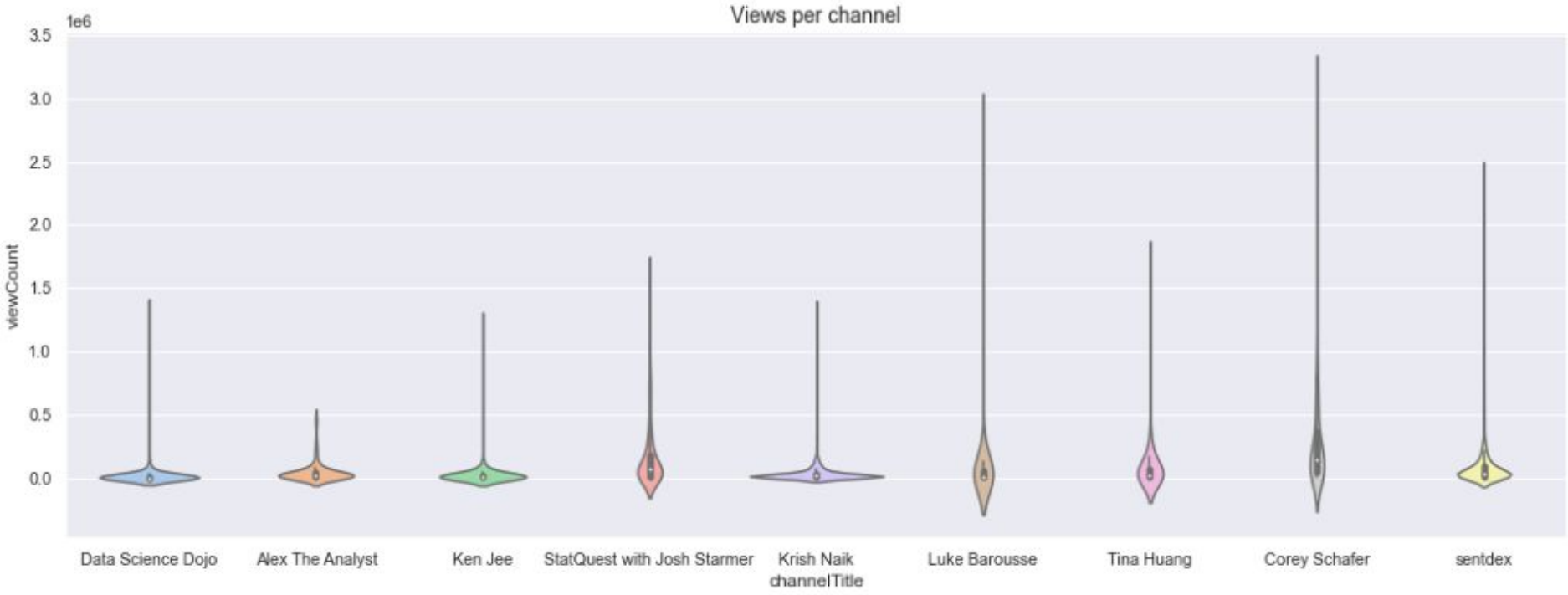
Graphs & Visualizations

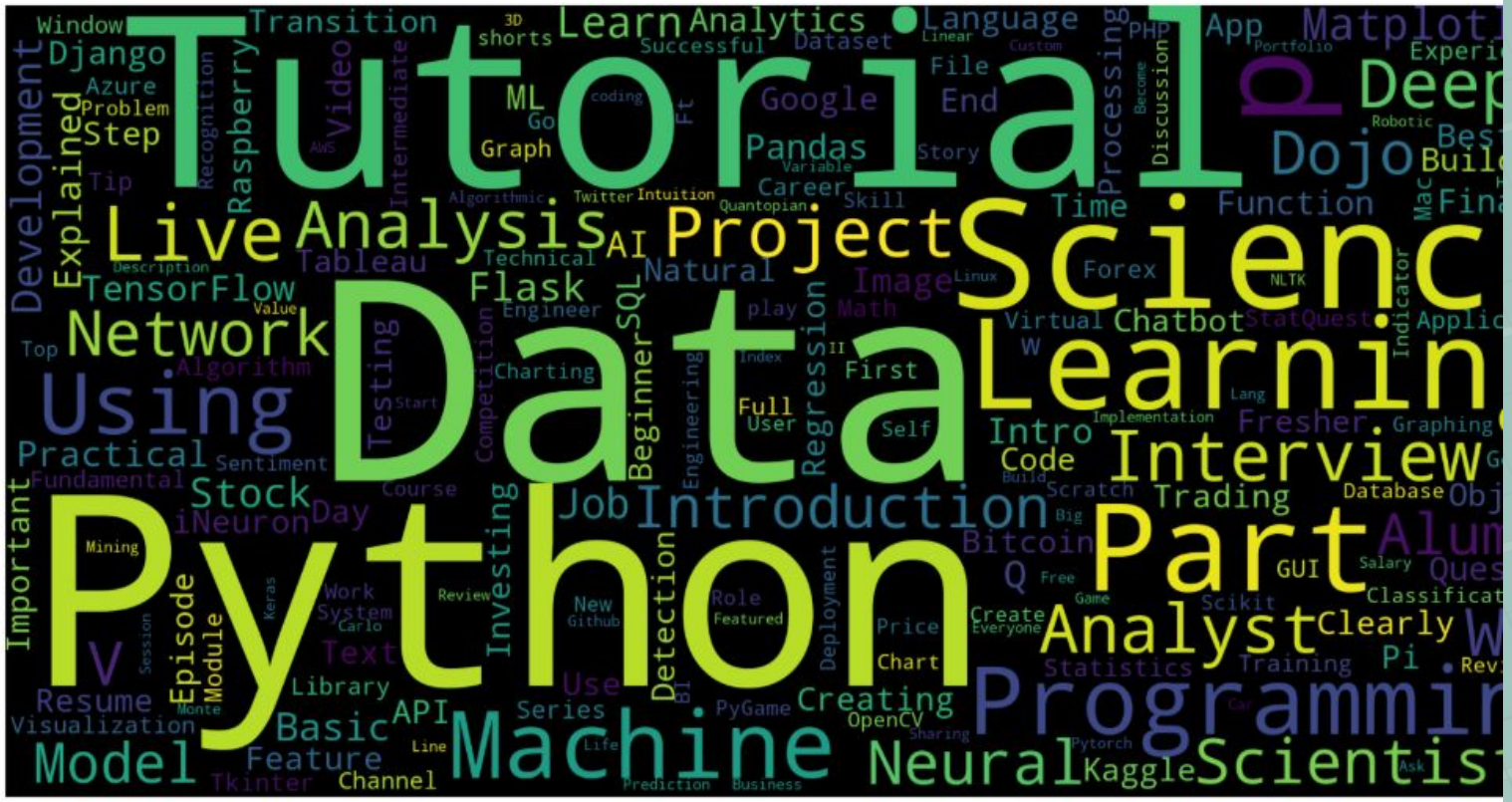
	channelName	subscribers	views	totalVideos	playlistId
0	Alex The Analyst	158000	5900052	126	UU7cs8q-gJRlGwj4A8OmCmXg
1	Luke Barousse	120000	5732718	68	UULLw7jmFsvfIVaUFsLs8mlQ
2	Data Science Dojo	79600	4504751	279	UUzL_0nIe8B4-7ShhVPfJkgw
3	StatQuest with Josh Starmer	645000	32254787	211	UUtYLUTtgS3k1Fg4y5tAhLbw
4	sentdex	1100000	99602241	1237	UUfzlCWGWYyIQ0aLC5w48gBQ
5	Krish Naik	504000	41660941	1289	UUNU_lfiiWBdtULKOw6X0Dig
6	Tina Huang	238000	8229073	81	UU2UXDak6o7rBm23k3Vv5dww
7	Corey Schafer	879000	67492239	230	UUCezIgC97PvUuR4_gbFUs5g
8	Ken Jee	182000	5532488	221	UUiT9RITQ9PW6BhXK0y2jaeg


1,000K
800K
600K
400K
200K
0K
subscribers
sentdex
Corey Schafer
StatQuest with Josh Starmer
Krish Naik
Tina Huang
Ken Jee
Alex The Analyst
Luke Barousse
Data Science Dojo
channelName


1e6
3.0
2.5
2.0
1.5
1.0
0.5
0.0
viewCount
0
20
40
60
commentRatio


1e6
3.0
2.5
2.0
1.5
1.0
0.5
0.0
viewCount
0
20
40
60
80
100
likeRatio


Views per channel
1e6
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
viewCount
Data Science Dojo
Alex The Analyst
Ken Jee
StatQuest with Josh Starmer
Krish Naik
Luke Barousse
Tina Huang
Corey Schafer
sentdex
channelTitle



It can be seen that most common words are Data, Python, Tutorial, Science, Projects, Analysis, Programming, Learning, which is very expected.

References/ Resources used:

[1] Youtube API. Avaiable at https://developers.google.com/youtube/v3

[2] Converting video durations to time function. https://stackoverflow.com/questions/15596753/how-do-i-get-video-durations-with-youtube-api-version-3

[3] P. Covington, J. Adams, E. Sargin. The youtube video recommendation system. In Proceedings of the Fourth ACM Conference on Recommender Systems, RecSys '16, pages 191-198, New York, NY, USA, 2016. ACM.

Key Insights

What the Data Tells Us

- 80% of views come from 20% of videos
- Videos under 10 minutes have higher engagement
- Posting mid-week (Wed–Thu) = more views
- Tags like “Python”, “API”, and “Tutorial” are most used in top videos

Recommendations

1 Focus on short, high-value content

2 Increase publishing on peak days (Tue–Thu)

3 Optimize video titles + descriptions with SEO keywords

4 Promote top-performing videos across other platforms

5 Monitor engagement-to-view ratio for future decisions

Thank you