youtube-channel-analysis

November 30, 2023

Importing requied libraies

[1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')
```

[2]:
```
df = pd.read_csv('AI_ML_YT_Videos.csv')
df.head()
```

[2]:
```
   Unnamed: 0      Channel                                              Title  \
0           0  Jeff Heaton         LSTM-Based Time Series with PyTorch (10.2)
1           1  Jeff Heaton  Time Series Data Encoding for Deep Learning, P…
2           2  Jeff Heaton  Bayesian Hyperparameter Optimization for PyTor…
3           3  Jeff Heaton  Creating Certificates to Deploy PyInstaller Py…
4           4  Jeff Heaton  How Should you Architect Your PyTorch Neural N…

  PublishedDate  Views  Likes  Comments
0    2023-10-27    764     45         1
1    2023-10-26    530     31         1
2    2023-10-25    453     29         1
3    2023-10-17    439     12         0
4    2023-10-12    825     39         1
```

[3]:
```
df.shape
```

[3]:
```
(6151, 7)
```

[4]:
```
df = df.drop(['Unnamed: 0'],axis=1)
```

[5]:
```
df.head(1)
```

[5]:
```
       Channel                                        Title PublishedDate  \
0  Jeff Heaton  LSTM-Based Time Series with PyTorch (10.2)    2023-10-27

   Views  Likes  Comments
```

```
0    764     45         1
```

[6]:
```
# checking data information
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 6151 entries, 0 to 6150
Data columns (total 6 columns):
 #   Column         Non-Null Count  Dtype 
---  ------         --------------  ----- 
 0   Channel        6151 non-null   object
 1   Title          6151 non-null   object
 2   PublishedDate  6151 non-null   object
 3   Views          6151 non-null   int64 
 4   Likes          6151 non-null   int64 
 5   Comments       6151 non-null   int64 
dtypes: int64(3), object(3)
memory usage: 288.5+ KB
```

[7]:
```
df.describe()
```

[7]:

	Views	Likes	Comments
count	6.151000e+03	6151.000000	6151.000000
mean	5.220895e+04	935.637132	72.171029
std	1.180318e+05	2243.596155	144.250349
min	0.000000e+00	0.000000	0.000000
25%	5.017500e+03	83.000000	7.000000
50%	1.660600e+04	313.000000	27.000000
75%	5.211650e+04	926.000000	80.000000
max	2.689040e+06	64750.000000	3478.000000

[8]:
```
# Exploring Data Analysis
# # Let's find the most demanding youtube channel
most_demand_channel = []
print(most_demand_channel)
```

```
[]
```

[9]:
```
most_demand_channel = pd.DataFrame()
print(most_demand_channel)
```

```
Empty DataFrame
Columns: []
Index: []
```

[10]:
```
most_demand_channel = df['Channel'].str.split(',',expand=True)
most_demand_channel
```

[10]:
```
                0
0     Jeff Heaton
1     Jeff Heaton
2     Jeff Heaton
3     Jeff Heaton
4     Jeff Heaton
…           …
6146   Krish Naik
6147   Krish Naik
6148   Krish Naik
6149   Krish Naik
6150   Krish Naik

[6151 rows x 1 columns]
```

[11]:
```
most_demand_channel.columns = ['Channel_name']
```

[12]:
```
demand_channel = most_demand_channel.groupby(['Channel_name']).size().
 ↪reset_index(name = 'Total count')
demand_channel
```

[12]:

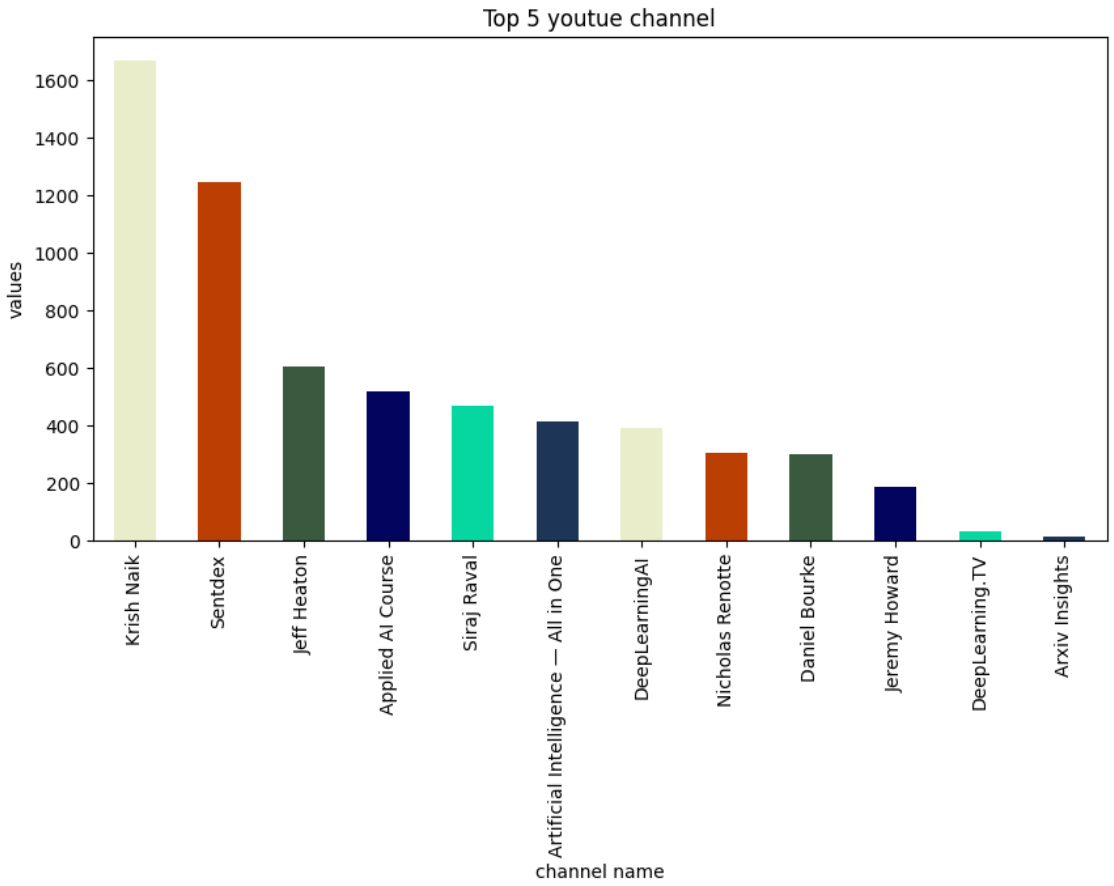
	Channel_name	Total count
0	Applied AI Course	519
1	Artificial Intelligence - All in One	413
2	Arxiv Insights	13
3	Daniel Bourke	300
4	DeepLearning.TV	32
5	DeepLearningAI	392
6	Jeff Heaton	607
7	Jeremy Howard	185
8	Krish Naik	1669
9	Nicholas Renotte	304
10	Sentdex	1248
11	Siraj Raval	469

[13]:
```
df['Channel'].value_counts()
```

[13]:
```
Krish Naik                            1669
Sentdex                               1248
Jeff Heaton                            607
Applied AI Course                      519
Siraj Raval                            469
Artificial Intelligence - All in One   413
DeepLearningAI                         392
Nicholas Renotte                       304
Daniel Bourke                          300
Jeremy Howard                          185
```

```
DeepLearning.TV                          32
Arxiv Insights                           13
Name: Channel, dtype: int64
```

[14]:
```
df['Channel'].value_counts().
 ↪plot(kind='bar',figsize=(10,5),color=['#e9edc9','#bb3e03','#3a5a40','#03045e','#06d6a0','#1
plt.title('Top 5 youtue channel')
plt.xlabel('channel name')
plt.ylabel('values')
plt.show()
```

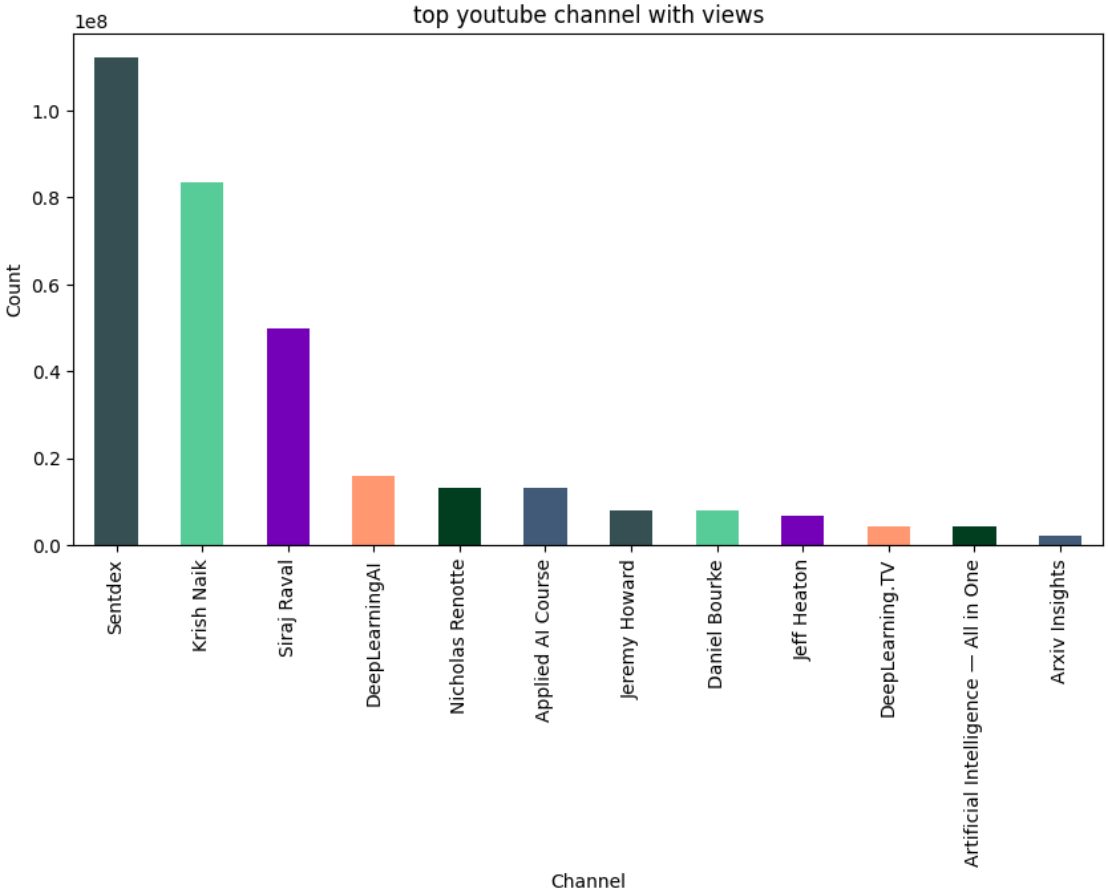


[15]:
```
# calculate the total views
top_views = df.groupby('Channel')['Views'].sum().sort_values(ascending=False)
top_views
```

[15]:
```
Channel
Sentdex                                112159185
Krish Naik                              83635593
Siraj Raval                             49804096
```

```
DeepLearningAI                          15875334
Nicholas Renotte                        13255443
Applied AI Course                       13194574
Jeremy Howard                            7894444
Daniel Bourke                            7857301
Jeff Heaton                              6600032
DeepLearning.TV                          4375619
Artificial Intelligence - All in One     4301690
Arxiv Insights                           2183959
Name: Views, dtype: int64
```

[16]:
```
top_views.plot(kind='bar',figsize=(10,5)\
               ,color =␣
 ↪['#354f52','#57cc99','#7400b8','#ff9770','#003e1f','#415a77'])
plt.title('top youtube channel with views')
plt.xlabel('Channel')
plt.ylabel('Count')
plt.show()
```



[17]:
```
top_views
```

[17]:
```
Channel
Sentdex                                  112159185
Krish Naik                                83635593
Siraj Raval                               49804096
DeepLearningAI                            15875334
Nicholas Renotte                          13255443
Applied AI Course                         13194574
Jeremy Howard                              7894444
Daniel Bourke                              7857301
Jeff Heaton                                6600032
DeepLearning.TV                            4375619
Artificial Intelligence - All in One       4301690
Arxiv Insights                             2183959
Name: Views, dtype: int64
```

[18]:
```
# top 10 highest views in the title
top_10_most_views = df.groupby('Title')['Views'].sum().
 ↪sort_values(ascending=False)
top_10_most_views
top_10_most_views.info()
```

```
<class 'pandas.core.series.Series'>
Index: 6113 entries, AI VS ML VS DL VS Data Science to Jeremy Howard Live Stream
Series name: Views
Non-Null Count  Dtype
--------------  -----
6113 non-null   int64
dtypes: int64(1)
memory usage: 95.5+ KB
```

[19]:
```
top_10_most_views = pd.DataFrame(df.groupby('Title')['Views'].sum().
 ↪sort_values(ascending=False)).head(10)
top_10_most_views
```

[19]:

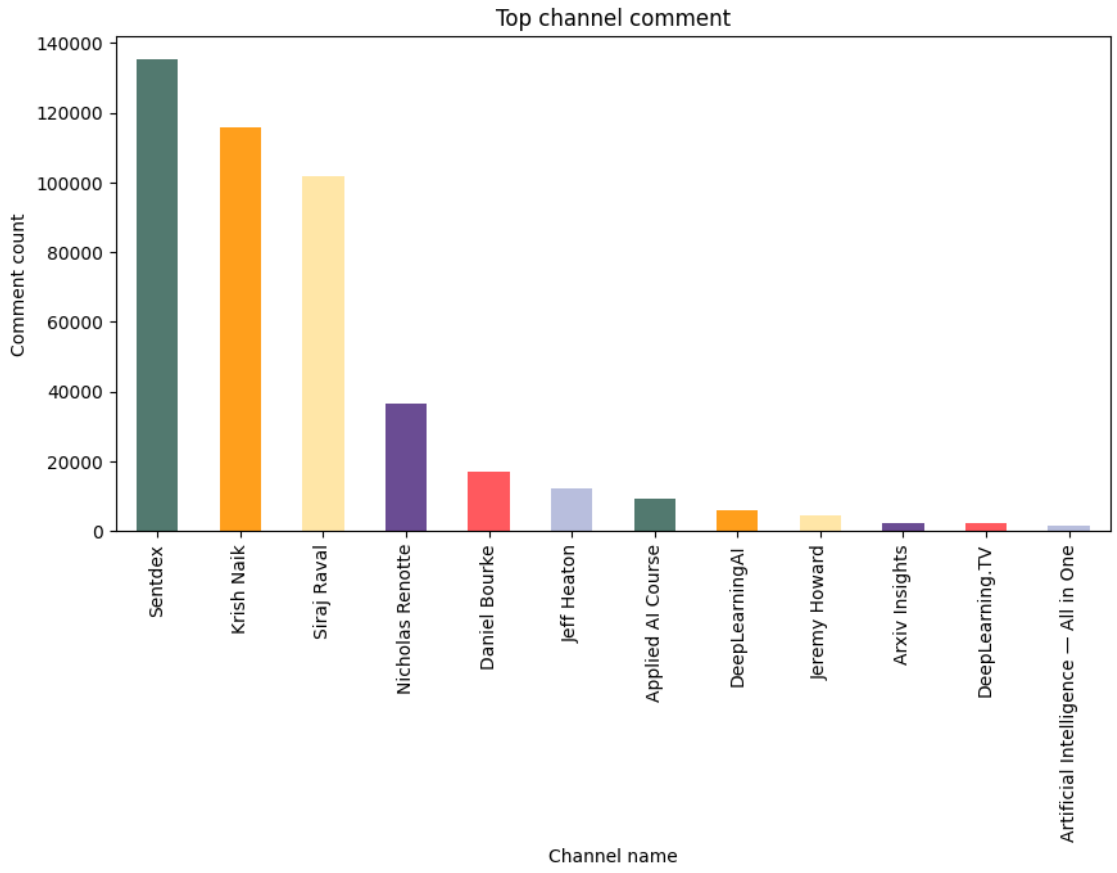
Title	Views
AI VS ML VS DL VS Data Science	2689040
Practical Machine Learning Tutorial with Python…	2665790
Complete Road Map To Be Expert In Python- Follo…	1640772
How To Learn Data Science Smartly?	1617866
Prakhar Raj Become Data Scientist at Simpl | Da…	1605793
Self driving car neural network in the city - P…	1573086
I Built a Trading Bot with ChatGPT	1538575
Regression Intro - Practical Machine Learning T…	1391530
YOLO Object Detection (TensorFlow tutorial)	1340082

```
TensorFlow in 5 Minutes (tutorial)                    1270660
```

[20]:
```
# Which channel recived highest comments
top_channel_comment = df.groupby('Channel')['Comments'].sum().
  ↪sort_values(ascending=False)
top_channel_comment
```

[20]:
```
Channel
Sentdex                                135244
Krish Naik                             115668
Siraj Raval                            101965
Nicholas Renotte                        36492
Daniel Bourke                           16909
Jeff Heaton                             12221
Applied AI Course                        9036
DeepLearningAI                           5993
Jeremy Howard                            4562
Arxiv Insights                           2348
DeepLearning.TV                          2134
Artificial Intelligence - All in One     1352
Name: Comments, dtype: int64
```

[21]:
```
top_channel_comment.
  ↪plot(kind='bar',figsize=(10,5),color=['#52796f','#ff9f1c','#ffe6a7','#6a4c93','#ff595e','#b
plt.title('Top channel comment')
plt.xlabel('Channel name')
plt.ylabel('Comment count')
plt.show()
```



[22]:
```
# Which video have highest comments
top_10_video_comment = pd.DataFrame(df.groupby('Title')['Comments'].sum().
 ↪sort_values(ascending=False)).head(10)
top_10_video_comment
```

[22]:

Title	Comments
Tensorflow Object Detection in 5 Hours with Pyt…	3478
Real Time Sign Language Detection with Tensorfl…	2603
My Apology	2031
Real Time Face Mask Detection with Tensorflow a…	1808
AI VS ML VS DL VS Data Science	1697
Neural Networks from Scratch - P.1 Intro and Ne…	1610
Self driving car neural network in the city - P…	1518
Deep Learning with Python, TensorFlow, and Kera…	1480
Regression Intro - Practical Machine Learning T…	1461
Learn Machine Learning in 3 Months (with curric…	1417

[23]:
```
# Let's find top 10 most viewed videos for Sentdex
sentdex = df['Channel']=='Sentdex'
top_10_sentdex = pd.DataFrame(df.loc[sentdex].groupby('Title')['Views'].sum().
 ↪sort_values(ascending=False).head(10))
top_10_sentdex
```

[23]:

Title	Views
Practical Machine Learning Tutorial with Python…	2665790
Self driving car neural network in the city - P…	1573086
Regression Intro - Practical Machine Learning T…	1391530
Deep Learning with Python, TensorFlow, and Kera…	1239057
Neural Networks from Scratch - P.1 Intro and Ne…	1221616
How to download and install Python Packages and…	1096700
Introduction - Django Web Development with Pyth…	1084268
Game Development in Python 3 With PyGame - 1 - …	947122
Loading in your own data - Deep Learning basics…	847508
What I do for a living - Q&A #1	838703

[24]:
```
Krish_Naik = df['Channel']=='Krish Naik'
top_10_Krish_Naik = pd.DataFrame(df.loc[Krish_Naik].groupby('Title')['Views'].
 ↪sum().sort_values(ascending=False).head(10))
top_10_Krish_Naik
```

[24]:

Title	Views
AI VS ML VS DL VS Data Science	2689040
Complete Road Map To Be Expert In Python- Follo…	1640772
How To Learn Data Science Smartly?	1617866
OTT Platform For Education OneNeuron- Education…	736171
Negotiating Salaries With HR for Any Job Is An …	701980
Complete Road Map To Prepare NLP-Follow This Vi…	626078
Live- Implementation of End To End Kaggle Machi…	586459
How To Learn Data Science by Self Study and For…	538796
Live Day 1- Introduction To statistics In Data …	491223
Tutorial 32- All About P Value,T test,Chi Squar…	486099

[25]:
```
df.head()
```

[25]:

	Channel	Title	\
0	Jeff Heaton	LSTM-Based Time Series with PyTorch (10.2)	
1	Jeff Heaton	Time Series Data Encoding for Deep Learning, P…	
2	Jeff Heaton	Bayesian Hyperparameter Optimization for PyTor…	
3	Jeff Heaton	Creating Certificates to Deploy PyInstaller Py…	
4	Jeff Heaton	How Should you Architect Your PyTorch Neural N…	

	PublishedDate	Views	Likes	Comments

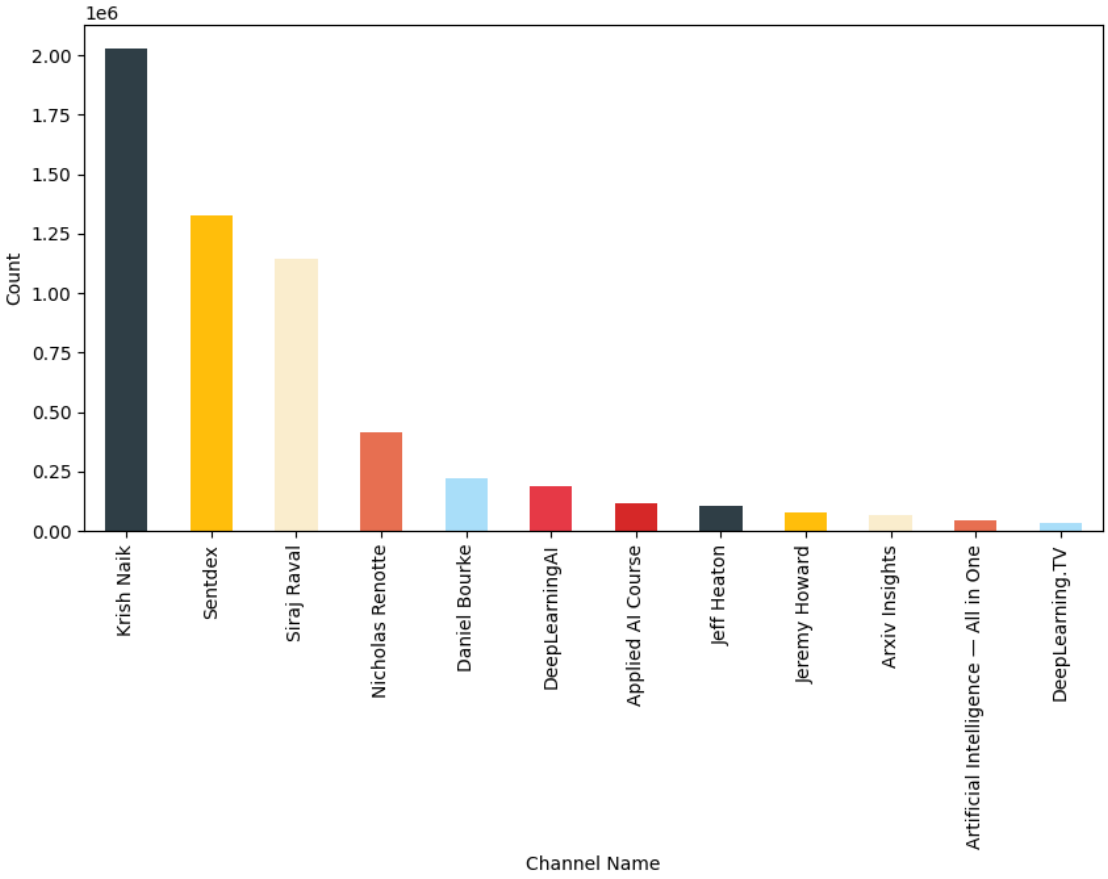
0	2023-10-27	764	45	1
1	2023-10-26	530	31	1
2	2023-10-25	453	29	1
3	2023-10-17	439	12	0
4	2023-10-12	825	39	1

[28]:
```
top10_video_comments = pd.DataFrame(df.groupby('Title')['Comments'].sum().
 ↪sort_values(ascending=False).head(10))
top10_video_comments
```

[28]:

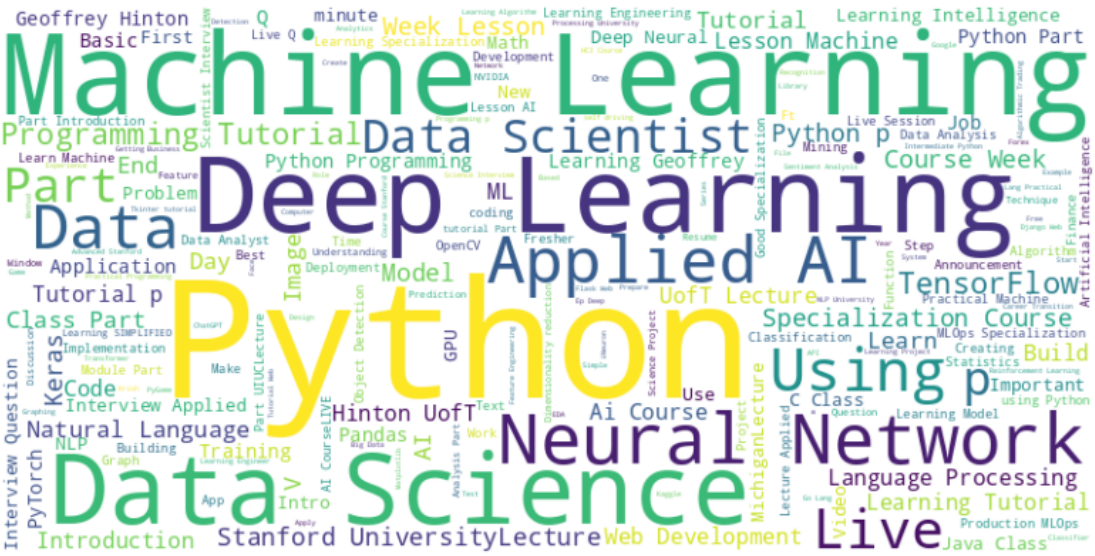
Title	Comments
Tensorflow Object Detection in 5 Hours with Pyt…	3478
Real Time Sign Language Detection with Tensorfl…	2603
My Apology	2031
Real Time Face Mask Detection with Tensorflow a…	1808
AI VS ML VS DL VS Data Science	1697
Neural Networks from Scratch - P.1 Intro and Ne…	1610
Self driving car neural network in the city - P…	1518
Deep Learning with Python, TensorFlow, and Kera…	1480
Regression Intro - Practical Machine Learning T…	1461
Learn Machine Learning in 3 Months (with curric…	1417

[31]:
```
# find the top youtube channel with high likes
df.groupby('Channel')['Likes'].sum().sort_values(ascending=False)\
.
 ↪plot(kind='bar',figsize=(10,5),color=['#2f3e46','#ffbe0b','#faedcd','#e76f51','#a9def9','#e
plt.xlabel('Channel Name')
plt.ylabel('Count')
plt.show()
```



[32]:
```
# Some most used title  visualization with using the wordcloud generator
from wordcloud import WordCloud
text = ''.join(i for i in df['Title'])
# Generate a word cloud
wordcloud = WordCloud(width=800, height=400, background_color='white').
 ↪generate(text)

# Display the generated word cloud using matplotlib
plt.figure(figsize=(10, 5))
plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')  # Turn off the axis
plt.show()
```


Machine Learning
Deep Learning
Data Science
Python
Using p
Neural Network
Applied AI
Data Scientist
Programming
Tutorial
Data
Part
Live
Geoffrey Hinton
Basic
First
minute
Week
Lesson
Tutorial
Learning Intelligence
Deep Neural
Lesson Machine
Python Part
Math
Development
New
Lesson AI
Python p
Job
Course Week
Learning Geoffrey
Python Programming
End
Problem
ML
coding
Image
Model
Deployment
Day
Application
Tutorial p
Class Part
Keras
Code
Interview Applied
Natural Language
Training
Pandas
Hinton UofT
Ai Course
Use
Specialization Course
Learn
Build
Important
c class
Language Processing
Learning Tutorial
Introduction
Stanford UniversityLecture
Web Development
Java Class
TensorFlow
UofT Lecture
Classification
Statistics
Creating
Practical Machine
Interview Question
PyTorch
Intro
Object Detection
GPU
Video
Lecture Applied
MichiganLecture
Artificial Intelligence

[ ]: