

# google-trend-analysis

July 11, 2025

```
[142]: import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
import plotly.express as px
from pytrends.request import TrendReq # use for access google trend data

[143]: import warnings
warnings.filterwarnings("ignore", category=FutureWarning) # for ignore all
↳ the warnings
```

## 0.0.1 Setup Pytrend library and Keyword define

```
[156]: pytrends = TrendReq(hl="en-US", tz=360) # hl=language, tz=timezone
keyword = "data science"
```

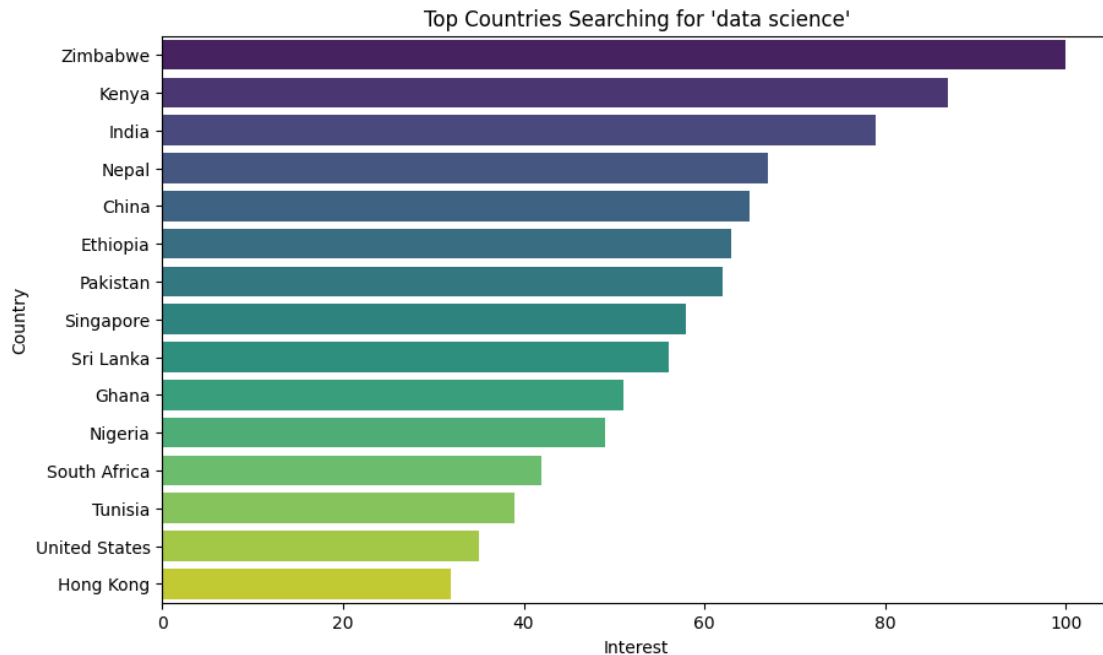
## 0.1 Question:1 Data Request

```
[157]: pytrends.build_payload([keyword], cat=0, timeframe="today 12-m",
                             geo="", gprop="") # cat=category, geo=geography,
↳ gprops=only google search result
```

## 0.2 Question:2 Country wise Interest

```
[158]: region_data = pytrends.interest_by_region()
region_data = region_data.sort_values(by=keyword, ascending = False).head(15)
```

```
[159]: plt.figure(figsize=(10,6))
sns.barplot(x = region_data[keyword], y = region_data.index, palette =
↳ "viridis")
plt.title(f"Top Countries Searching for '{keyword}'")
plt.xlabel("Interest")
plt.ylabel("Country")
plt.show()
```



### 0.3 Question:3 Creating World Map

```
[160]: region_data = region_data.reset_index()
```

```
[161]: fig = px.choropleth(region_data, locations="geoName", locationmode="country_
↳names",
                        color=keyword, title=f"Search Interest for '{keyword}' by_
↳Country", color_continuous_scale="viridis")
fig.show()
```

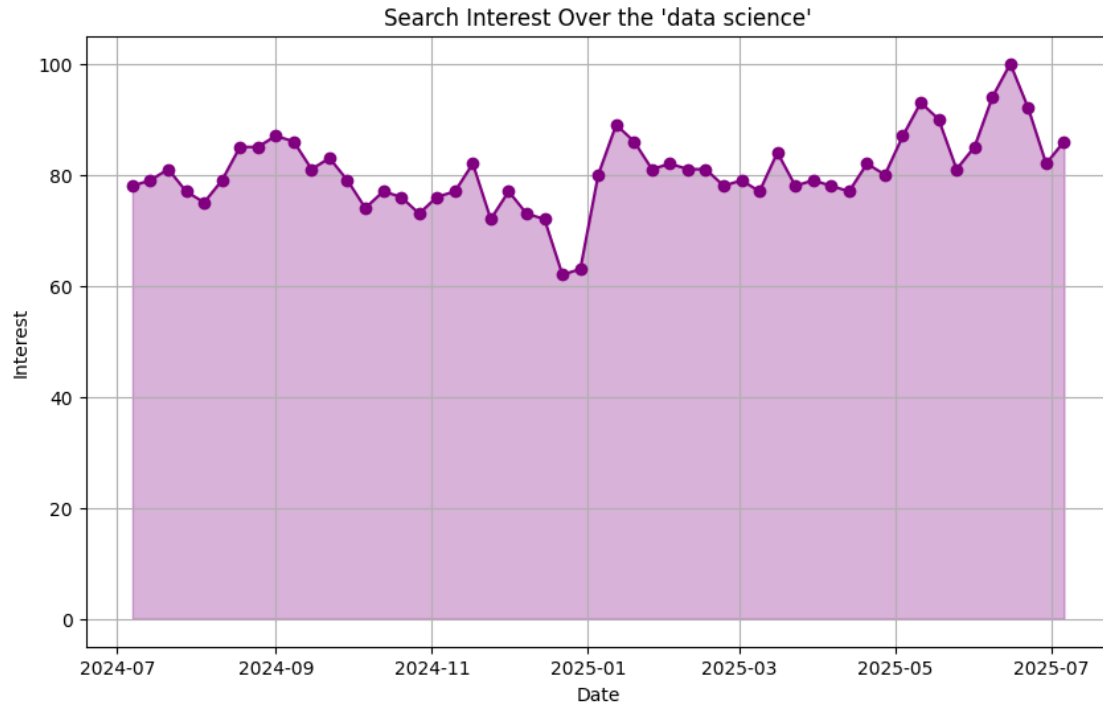
### 0.4 Question:4 Time wise Interest

```
[162]: time_df = pytrends.interest_over_time()
```

```
[163]: plt.figure(figsize=(10,6))

plt.plot(time_df.index, time_df[keyword], marker="o", color="purple")
plt.fill_between(time_df.index, time_df[keyword], color="purple", alpha=0.3)

plt.title(f"Search Interest Over the '{keyword}'")
plt.xlabel("Date")
plt.ylabel("Interest")
plt.grid()
plt.show()
```



## 0.5 Question:5 Multiple Keyword Compare

```
[164]: kw_list = ["cloud computing", "data science", "machine learning", "artificial_
↳intelligence"]
pytrends.build_payload(kw_list, timeframe="today 12-m", cat=0, geo="", gprop="")
```

```
[165]: compare_df = pytrends.interest_over_time()

plt.figure(figsize=(10,6))

for kw in kw_list:
    plt.plot(compare_df.index, compare_df[kw], label=kw)

plt.title("Keyword Comparison Over Time")
plt.xlabel("Date")
plt.ylabel("Interest")
plt.grid()
plt.legend()

plt.tight_layout()
plt.show()
```

