Google *Trends* Data Analysis

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Outline

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Introduction of Company

- **Cranes Varsity** is a leading EdTech platform that was once a technical training institute that has been providing technology education services for over 25 years.
- With the aspirational goal of bridging the gap between technological academics and industry.

CONTINUED...

- Cranes Varsity, a part of Cranes Software International Ltd., was founded.
- The team is always working to become an organization that combines technology and education, enabling aspiring professionals to look for profitable career paths and guaranteed placements.

JOB AND RESPONSIBILITIES

- I have worked as a **Data Analyst as an intern in Cranes Varsity Private Limited** for six weeks.
- In the world of data analysis, a key responsibility is the meticulous collection and processing of data from diverse sources, encompassing both internal and external repositories.
- This involves the crucial task of cleaning and preprocessing data to ensure its accuracy and completeness. Subsequently, data analysts delve into exploratory data analysis (EDA).

Continued...

- Utilizing statistical methods to discern patterns, trends, and anomalies within datasets.
- The insights derived from this analysis are then effectively communicated through the creation of visualizations, employing tools such as Tableau, Power BI, or Python libraries like Matplotlib and Seaborn.

Technologies Learned:

PYTHON FOUNDATIONAL SKILLS:

- **Syntax and data types: Python code, understanding variables, functions, loops, and conditional statements.**
- **Libraries and modules: installation and external libraries like pytrends, pandas, NumPy, Matplotlib, and Seaborn to access specific functionalities.**
- **Object-oriented programming (OOP) principles: basic OOP concepts like classes and objects to structure your code, especially if the project involved building custom functions or classes.**

Google Trends and Data Analysis:

- Using Pytrends API: practical experience interacting with the unofficial Google Trends API to acquire data on search trends.
- Data manipulation and cleaning: data cleaning techniques like handling missing values, filtering data, and restructuring it into suitable formats.
- Data analysis and exploration: analyze trends, calculate statistics, and extract insights from Google Trends data using libraries like pandas and NumPy.
- Data visualization: hands-on experience in creating compelling charts and graphs to represent findings using libraries like Matplotlib and Seaborn.

Introduction of Project

- ✓ AN ONLINE TOOL THAT SHOWS HOW OFTEN A PARTICULAR SEARCH-TERM IS ENTERED RELATIVE TO THE TOTAL SEARCH-VOLUME.
- ✓ PROVIDES KEYWORD RELATED DATA INCLUDING SEARCH VOLUME INDEX AND GEOGRAPHICAL INFORMATION ABOUT SEARCH ENGINE USERS.

Why Use Google Trends for Data Analysis?

- It provides real-time data on trending search terms. It can help identify patterns and trends in the interest of internet users.

How To Connect To Google Trends ?

- Pytrends uses a simple method to connect to Google Trends.
- It requires a Google account for authentication.

Understanding the Pytrends Interface

- Pytrends provides a user-friendly interface for data extraction.
- It allows for customization of search parameters.

What is *Pytrends*?

An unofficial Google Trends API. Provides different methods to download reports of trending results from Google Trends.

How to Install Pytrends?

- **Pytrends can be installed via pip.**
- **It requires Python 3.6 or higher.**

Hardware Requirements:

- **Processor: i3/i5**
- RAM: 4 /8 GB
- Storage: 50 GB

Software Requirements:

- **Language used : Python**
- **IDE: Google Colab**
- Operating System: Windows 11

Libraries Used

- **Pytrends:** A powerful unofficial API to interact with Google Trends data seamlessly.
- **Pandas:** The essential library for data manipulation and cleaning.
- **NumPy:** Foundation for numerical computations and array operations.
- **Matplotlib and Seaborn**: Visualization libraries for creating compelling charts and graphics.

Project Screenshots

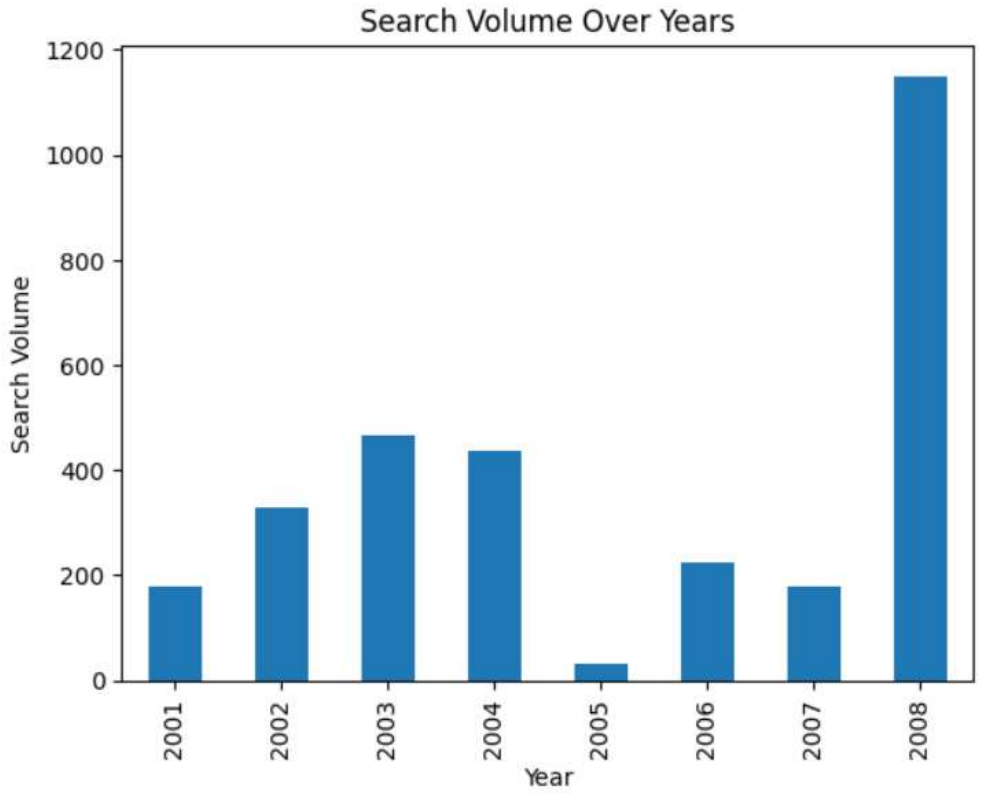

Fig.1. Search Volume over years

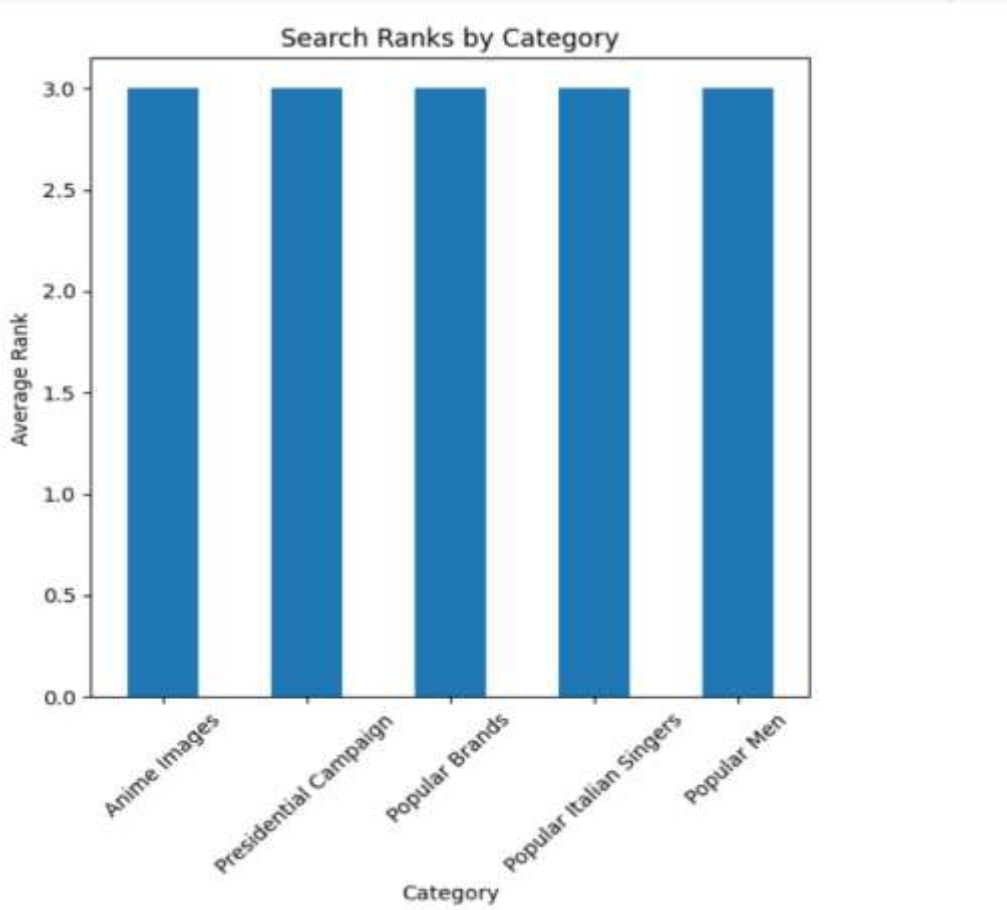

Fig.2 Search Ranks by category

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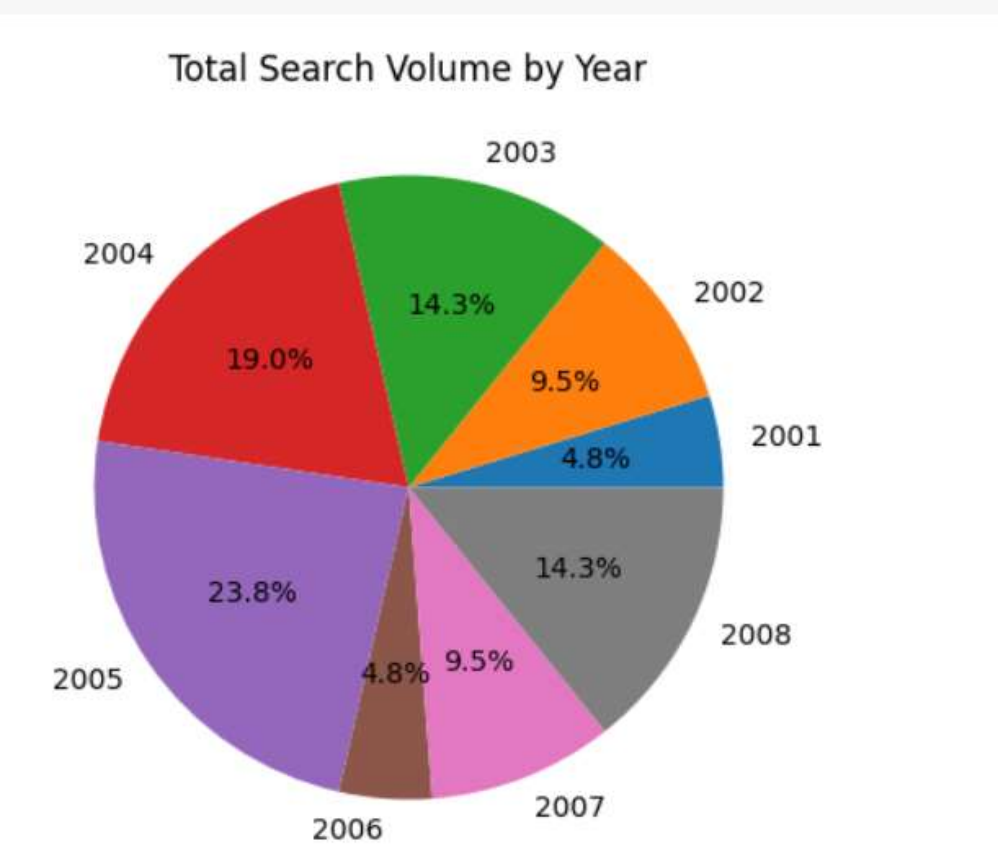

Fig.3 Total Search volume by year

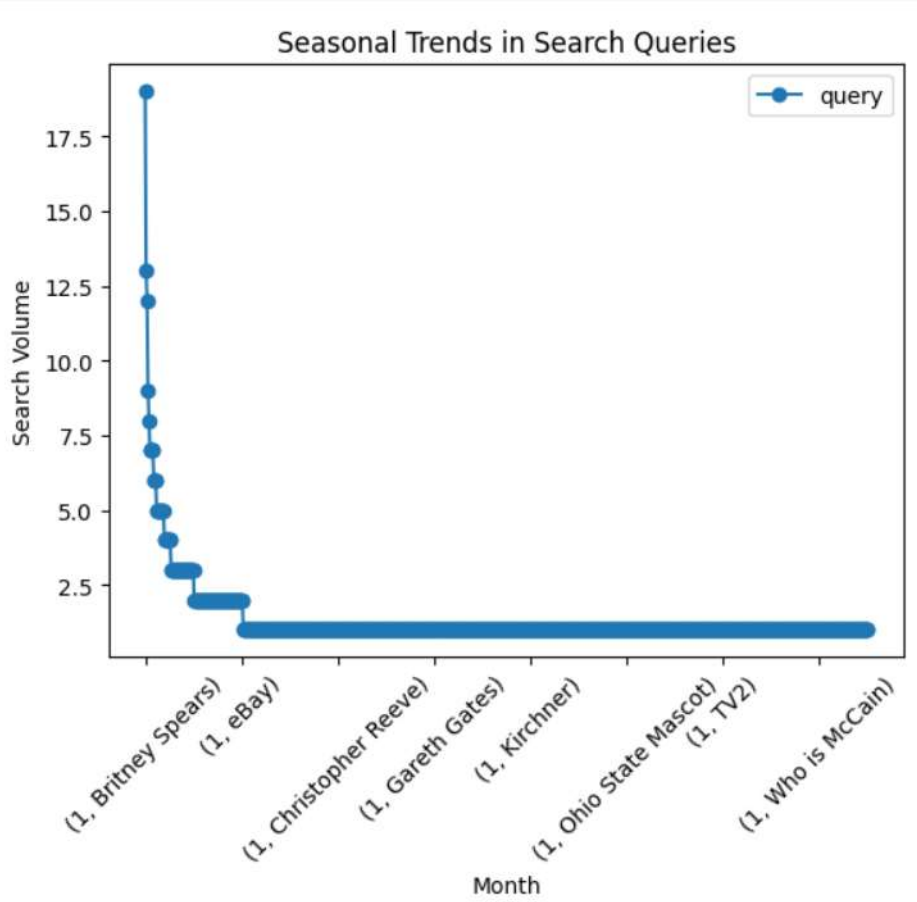

Fig.4 Seasonal trends in search Trends

Applications

Real Word Applications Of This Project

- Market Research
- Public opinion and social studies
- Social Science Research
- Financial Analysis

Future Enhancement

- Integrate with other data sources: Combine Google Trends data with social media trends, news articles, or economic data for a richer understanding of search behavior.
- Analyze specific geographic regions: Use Google Trends data for different countries or cities to compare and contrast search patterns across locations.
- Explore real-time trends: Implement a real-time data pipeline to monitor trending searches and analyze immediate reactions to events.

Conclusion

- ✓ This presentation explored importance of Google trends data analysis using python
- ✓ It can be used to gain insights into user behaviour and interest
- ✓ Google trends is one of the powerful tool that can be used to optimise business strategy and gain a better understand of user behaviour.

Thank you