A

Summer Training

On

Global Billionaire Wealth : Trends and Insights

Submitted in partial fulfillment of the requirements for the award of the degree of

Bachelors in Computer Applications

To

Guru Gobind Singh Indraprastha University, Delhi

Under the Guidance of
Dr. Ruchi Aggarwal
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Submitted by:
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DECLARATION

I hereby declare that this Summer Training Report entitled "**Global Billionaire Wealth : Trends and Insights"** submitted by me to JEMTEC, Greater Noida is a bonafide work undertaken during the period from 22/07/2023 to 21/08/2023 by me and has not been submitted to any other University or Institution for the award of any degree diploma / certificate or published any time before.

(Signature of the Student) Date: 23/09/2023

Name: Calvin Prakash
Enroll. No.:00925502021

BONAFIDE CERTIFICATE

This is to certify that as per best of my belief the project entitled **"Global Billionaire Wealth : Trends and Insights"** is the bonafide research work carried out by **Calvin Prakash** student of BCA, JEMTEC, Greater Noida, in partial fulfillment of the requirements for the Summer Training Report for the Degree of Bachelor of Business Administration.

He / She has worked under my guidance.
I wish him/her a success in all his/her future career endeavors

Faculty Guide

Name: Dr. Ruchi Agarwal

Designation: HOD, BCA Department

ACKNOWLEDGEMENT

I offer my sincere thanks and humble regards to JEMTEC, Greater Noida for imparting us very valuable professional training in BCA.

I pay my gratitude and sincere regards to **Dr. Ruchi Agarwal** my project Guide for giving me the cream of his knowledge. I am thankful to him/her as he/she has been a constant source of advice, motivation and inspiration. I am also thankful to him/her for giving his suggestions and encouragement throughout the project work.

I take the opportunity to express my gratitude and thanks to our computer Lab staff and library staff for providing me opportunity to utilize their resources for the completion of the project.

I am also thankful to my family and friends for constantly motivating me to complete the project and providing me an environment, which enhanced my knowledge.

Date: 23/09/2023

Name: Calvin Prakash

Enroll. No.00925502021

Course: BCA (V-Sem)

(Signature of the Student)

ABSTRACT

This project presents a comprehensive analysis of global billionaires, focusing on their wealth accumulation, demographic patterns, and distribution across various industries and geographies. Utilizing an extensive dataset, the project employs advanced data processing and visualization techniques to extract meaningful insights. Through the use of Python libraries such as Pandas for data manipulation and Plotly for interactive visualizations, the analysis reveals critical trends and disparities in the landscape of billionaire wealth. The findings offer a deeper understanding of wealth dynamics at the apex of the global economy, highlighting significant correlations and distributions that could influence economic policy and social discussions.

PROJECT DESCRIPTION

The project 'An Introduction to Billionaires Statistics Dataset' delves into the intricate landscape of billionaire wealth across the globe. It examines various facets of billionaire demographics, including age, gender, industry, and geographical distribution. The analysis employs a robust set of tools to process and visualize data, revealing trends and patterns that provide insights into the economic and social factors influencing billionaire wealth. The project aims to present these findings in a clear, accessible manner, making use of interactive and dynamic visual representations.

OBJECTIVE

The primary objective of this project is to analyze and understand the distribution and dynamics of billionaire wealth globally. Key goals include:

- Identifying trends in wealth accumulation among different demographics.
- Exploring the impact of factors such as industry, geography, and gender on wealth.
- Presenting the analysis through interactive and informative visualizations to facilitate a better understanding of the data.
- Providing data-driven insights that can inform discussions on wealth distribution and economic policy."

SOFTWARE REQUIREMENTS SPECIFICATION

The project requires the following software and libraries for its execution:

- **Python**: A versatile programming language used for data processing and analysis.
- **Pandas**: A Python library for efficient data manipulation and analysis.
- **Plotly**: For creating interactive and dynamic visualizations.
- **Jupyter Notebook**: An open-source web application that allows for the creation and sharing of documents containing live code, equations, visualizations, and narrative text.
- **Additional Libraries**: Depending on specific needs, other libraries such as NumPy for numerical computations or Scikit-learn for statistical modeling may be utilized.
- **Operating System**: Compatible with Windows, macOS, and Linux operating systems.
- **Hardware Requirements**: Adequate to run the above software, typically including a modern processor, a minimum of 4GB RAM, and sufficient storage for data handling.

SOURCE CODE

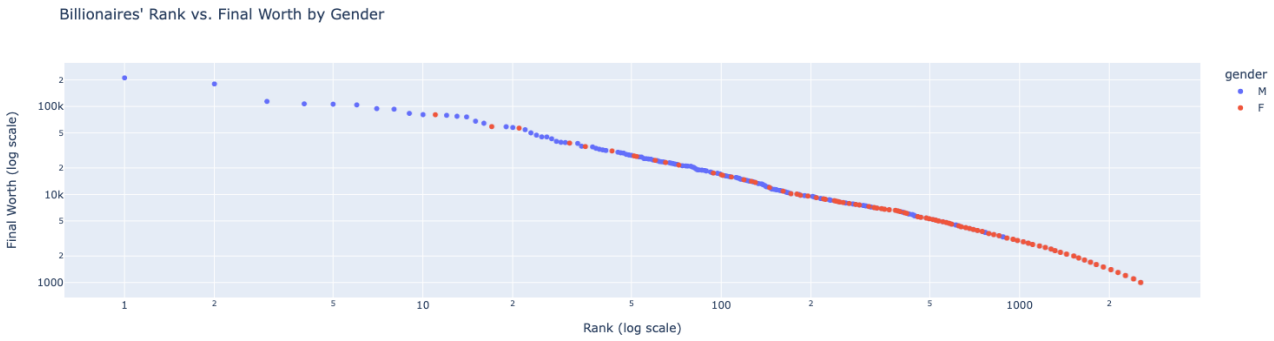
```
import plotly.express as px

import plotly.graph_objects as go

import pandas as pd


df = pd.read_csv("data.csv")


fig1 = px.scatter(df, x="rank", y="finalWorth", color="gender",
title="Billionaires' Rank vs. Final Worth by Gender")

fig1.update_xaxes(type='log', title="Rank (log scale)")

fig1.update_yaxes(type='log', title="Final Worth (log scale)")

fig1.show()


top_countries = df['country'].value_counts().head(10)

fig2 = px.bar(top_countries, x=top_countries.index, y=top_countries.values,

              title="Top 10 Countries with Most Billionaires",

              color_discrete_sequence=px.colors.qualitative.Set3)

fig2.update_xaxes(title="Country")

fig2.update_yaxes(title="Number of Billionaires")

fig2.show()


gender_counts = df['gender'].value_counts()


fig3 = px.pie(gender_counts, labels=gender_counts.index,
values=gender_counts.values,

              title="Gender Distribution of Billionaires",
```

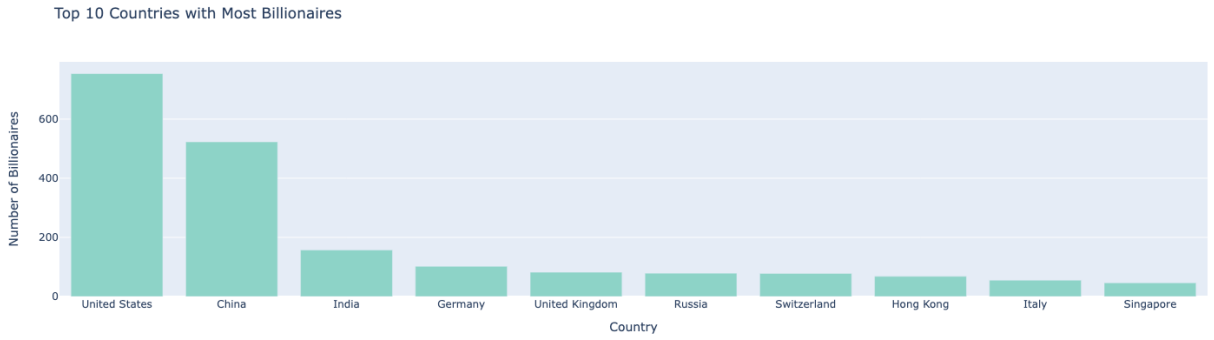
```
             color_discrete_sequence=px.colors.qualitative.Plotly)
fig3.update_traces(marker=dict(line=dict(color='white', width=2)))
fig3.update_layout(showlegend=False)
fig3.update_traces(hole=0.4)

gender_labels = gender_counts.index
fig3.add_annotation(
    text="<b>Gender</b>",
    x=0.5,
    y=0.5,
    showarrow=False,
    font=dict(size=15),
)
fig3.add_annotation(
    text=gender_labels[0],
    x=0.2,
    y=0.75,
    showarrow=False,
    font=dict(size=12),
)
fig3.add_annotation(
    text=gender_labels[1],
    x=0.8,
    y=0.75,
    showarrow=False,
```

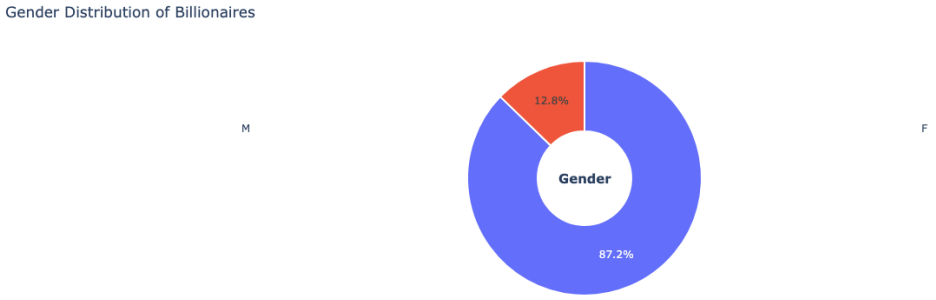
```
    font=dict(size=12),
)


fig3.show()


fig4 = px.box(df, x="gender", y="age", title="Age Distribution of Billionaires by Gender",
              color_discrete_sequence=['#FFA15A', '#00B2E2'])
fig4.update_xaxes(title="Gender")
fig4.update_yaxes(title="Age")
fig4.show()


fig5 = go.Figure(data=go.Scattergeo(
    lon=df["longitude_country"],
    lat=df["latitude_country"],
    text=df["personName"],
    mode="markers",
    marker=dict(
        size=8,
        opacity=0.6,
        color=df["finalWorth"],
        colorscale="Rainbow",
        colorbar=dict(title="Final Worth")
    )
))
fig5.update_geos(projection_type="natural earth")
fig5.update_layout(title="Billionaires' Distribution on World Map")
fig5.show()
```

```
fig6 = px.scatter_matrix(df, dimensions=["age", "finalWorth",
"total_tax_rate_country"],
                         color="gender", title='Correlation Matrix')
fig6.update_traces(marker=dict(size=6, opacity=0.6))
fig6.update_layout(margin=dict(t=50, l=50, r=50, b=50))
fig6.show()


fig7 = px.treemap(df, path=['industries'], values='finalWorth',
                  title='Wealth Distribution by Industry',
                  color_discrete_sequence=px.colors.qualitative.Set1)
fig7.update_traces(textinfo="label+percent entry")
fig7.update_layout(margin=dict(t=50, l=0, r=0, b=0))
fig7.show()
```

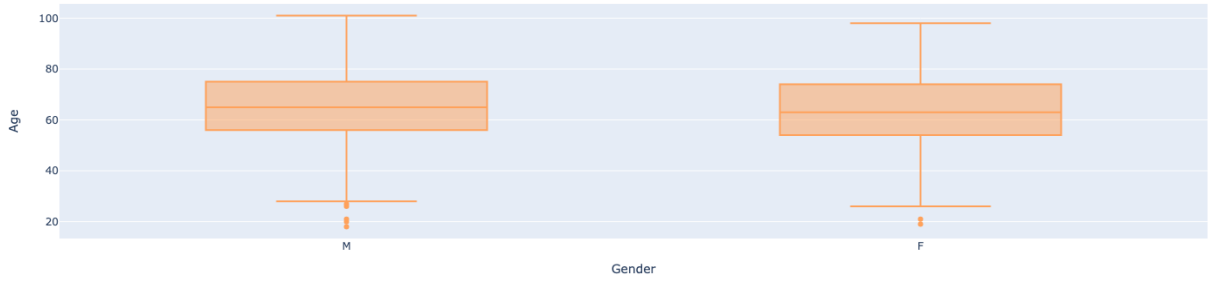
OUTPUT SNAPSHOT





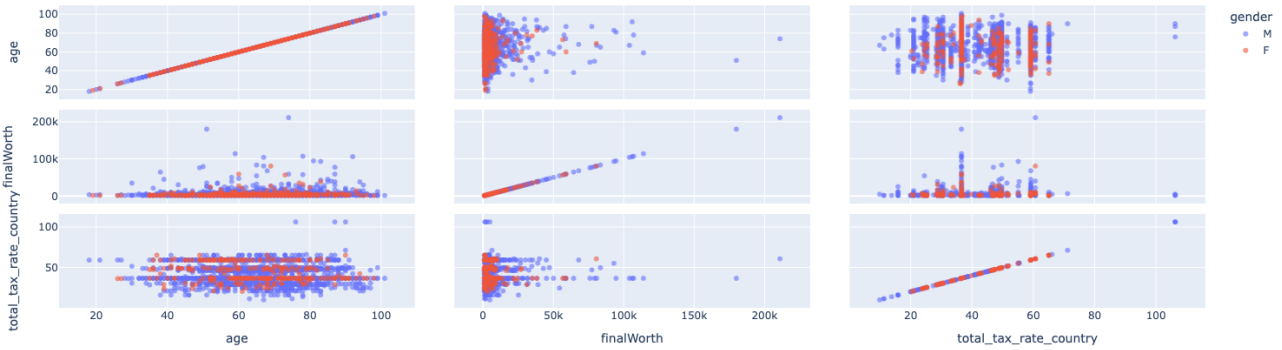


Age Distribution of Billionaires by Gender



Billionaires' Distribution on World Map

Correlation Matrix



Wealth Distribution by Industry

CONCLUSION

This report has successfully navigated through the complex landscape of global billionaire wealth, providing a multifaceted analysis of the underlying patterns and trends. Key findings reveal significant insights into how factors like gender, industry, and geography play pivotal roles in wealth accumulation and distribution among billionaires. The use of advanced data processing techniques and interactive visualization tools like Pandas and Plotly has enabled a deep and nuanced understanding of the dataset.

The analysis highlights a notable concentration of wealth in specific industries and regions, alongside revealing disparities in wealth distribution across genders. These findings underscore the significant economic and social implications of wealth concentration at the highest echelons of society.

The project has not only shed light on the current state of billionaire wealth but also opened avenues for further research, particularly in understanding the long-term impacts of such wealth concentration on global economic dynamics and policy-making.

In conclusion, this report underscores the power of data analysis in unraveling complex socio-economic phenomena. It demonstrates how thoughtful data exploration and visualization can transform raw data into meaningful insights, offering a valuable resource for researchers, policymakers, and the general public in understanding the intricacies of global wealth distribution.

REFERENCES

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