Capstone Project Submission

Team Member's Name, Email and Contribution:

Nidhi Pandey (pnidhi392@gmail.com):
- ❖ Information about dataset
- ❖ Understanding Your Variables
- ❖ Handling NULL values and Data types
- ❖ Data Wrangling
- ❖ Data Visualizations of Terrorist Organization
- ❖ Data Visualizations of Global & Regional trends of Terror Attacks
- ❖ Data Visualizations of Attack Type
- ❖ Data Visualizations of Target Type
- ❖ Analysis and Inference of Terrorist Organization
- ❖ Analysis and Inference of Global & Regional Trends
- ❖ Correlation and Heatmap
- ❖ Conclusion

Please paste the GitHub Repo link.

Github Link:-
https://github.com/treasure823/Global_Terrorism_Analysis_Nidhi_Pandey

Please write a short summary of your Capstone project and its components. Describe the problem statement, your approaches and your conclusions. (200-400 words)

The GTD is an open-source database, which provides information on domestic and international terrorist attacks around the world since 1970 through 2017 and now includes more than 180,000 events. For each event, a wide range of information is available, including the date and location of the incident, the weapons used, nature of the target, the number of casualties, and – when identifiable – the group or individual responsible. The data is maintained by researchers at the National Consortium for the Study of Terrorism and Responses to Terrorism (START), headquartered at the University of Maryland.

The project aims to gain insights about terror attacks collectively in different regions through time, find out the regions that are hit the most and check to see how terrorism in itself is diverse with its targets and means.

Due to the large quantity of the data and its diversity, the analysis and visualizations are performed only after doing preliminary processes including Handling Null Values, Finding Correlations and summarizing the data's central tendency, dispersion and shape of data distribution in order to get rudimentary insights.

For Exploratory Data Analysis, we are viewing the data through 4 lenses: Terrorist Organization, Global & Regional trends of Attack, Type of Attack and Target Type. The main criteria used to measure the magnitude of the attack is the number of fatalities. The project made use of the Correlation Heatmaps initially as a guide to explore relations between Attack Types and Weapon Types.

The project made use of different plots including line plots, bar plots, pie plots, joint plots, strip plot and scatter plots to visualize the data. As more findings were presented, more questions arose. This never-ending loop helped arrive to the following conclusions:

- ❖ *We got to know about most affected target types are*
    - ▪ Private Citizens and property
    - ▪ Police
    - ▪ Military

- ❖ **Analysis of the types of attacks and number of causalities**
    - ▪ Bombing/Explosion (more than twice as frequent than Armed Assault)
    - ▪ Armed Assault (twice as frequent than Assassinations)
    - ▪ Assassination - *More than 80000 causalities have been happened due to these attacks*

- ❖ *Analysis of Top organization with large attacks*
    - ▪ Taliban
    - ▪ 2)Islamic state of Iraq and the Levant
    - ▪ 3)shining Path (SL)

  The Civil War between Iraq and Islamic State of Iraq and the Levant (ISIL) has claimed 1570 fatalities, the largest taken in any terror attack

- ❖ **Most Notorious Terror Organisations**
    - ▪ Taliban
    - ▪ Boko Haram
    - ▪ Islamic State of Iraq and the Levant (ISIL)
    - ▪ Shining Path (SL)

  These organisations alone have contributed to more than one third of the total fatalities and almost 50% of the total attacks

- ❖ **Common Attacks Perpetrated on different Targets**
    - ▪ Assassination
    - ▪ Bombing/Explosion
    - ▪ Facilities and infrastructure attack

  Assassination is the most common type attack perpetrated on Government officials and Media Journalists. Bombings are frequently used to thwart Businesses and Religious Figures/Institutions.

- ❖ **Visualizing the extent of the commonly perpetrated attacks in different regions of the country**
    - ▪ *Armed Assault is a dominant type of attack in regions like*
    - ▪ Central America & Caribbean
    - ▪ Sub-Saharan Africa and
    - ▪ North America

- ❖ *Bombings/Explosion is a dominant type of attack in regions like*
    - ▪ Middle East & North Africa
    - ▪ South Asia and
    - ▪ Eastern Europe

- ❖ **Analysis of Global terrorist attack trend**

  From the above chart we can see the growth in global terrorism trend since 1970 it grown in between those years as we observe through the chart. And it is at its peaks after 2010 and Global Terrorism started increasing to an all-time high from 2011. This peaked in the year 2014 and started dipping ever since.

❖ **Analysis of the number of fatalities**
   From the chart more than 8000 people were wounded during these attacks. Most of it happens because of "Bombing/Explosion".

❖ **Correlation/Heatmap**
   ▪ We observe positive correlation between weapons and types of attacks
   ▪ Use of Explosives and Bombings/Explosions (0.91)
   ▪ Use of Firearms and Armed Assault (0.68)
   ▪ Use of Incendiary and Facility/Infrastructure Attack (0.71)