Northeastern University

COMMUNICATION AND VISUALIZATION FOR DATA ANALYTICS
ALY 6070 - CRN 21600

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TITLE: Signature Assignment Group Dashboard

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Business Questions –

- What are the demographics of Olympic Athletes?
- Which country has been the highlight of Olympics till date?
- How has the growth of women participants been throughout?
- What are the top 5 countries in Winter Olympics 2022 with the most wins?
- Which discipline had the most participants and events in the Winter Olympics 2022?
- What was the gender allocation in the Winter Olympics in terms of judges, referees etc?
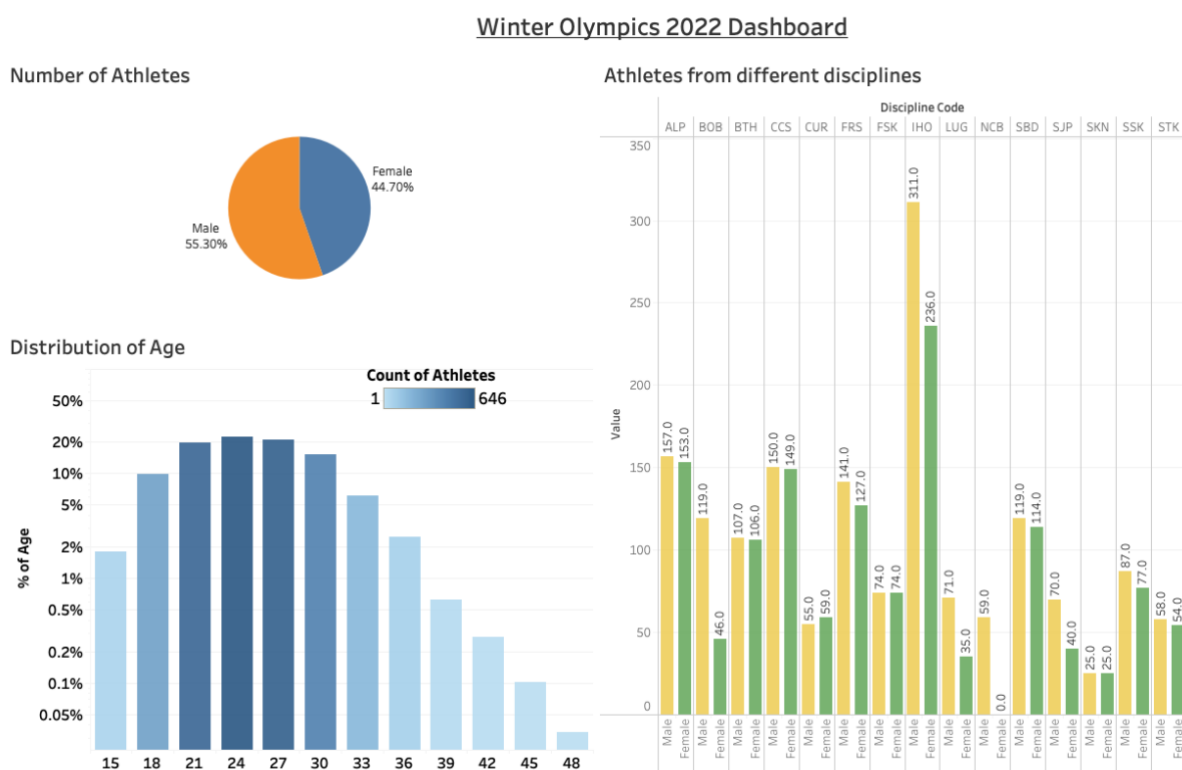
Dashboard 1 –

Figure 1: Demographics of the Athletes from the Winter Olympics 2022

The **Winter Olympics 2022** dataset was picked from Kaggle. There were multiple findings from this data set that were as follows:

- There were 55.3% male athletes which comprised a total of 1602 athletes and there were 44.7% of female athletes which comprised a total of 1295 athletes.
- The range of the athletes ages were between 15 and 50. Most of the athletes were between the ages 24 and 27 at 22.43%, followed by the age 27 to 30 at 20.87%. The least number of athletes were between the ages 48 and 50 at 0.03%.
- Most of the disciplines had more number of male athletes than female athletes. However, the discipline Ice Hockey (IHO) had the most number of athletes compared

to all disciplines where the male and female participants were greater than the other disciplines.

- The discipline Nordic Combined (NCB) had no female participants in the Winter Olympics 2022.
- The discipline Ski Jumping (SJP) had the least number of male participants compared to the other disciplines.
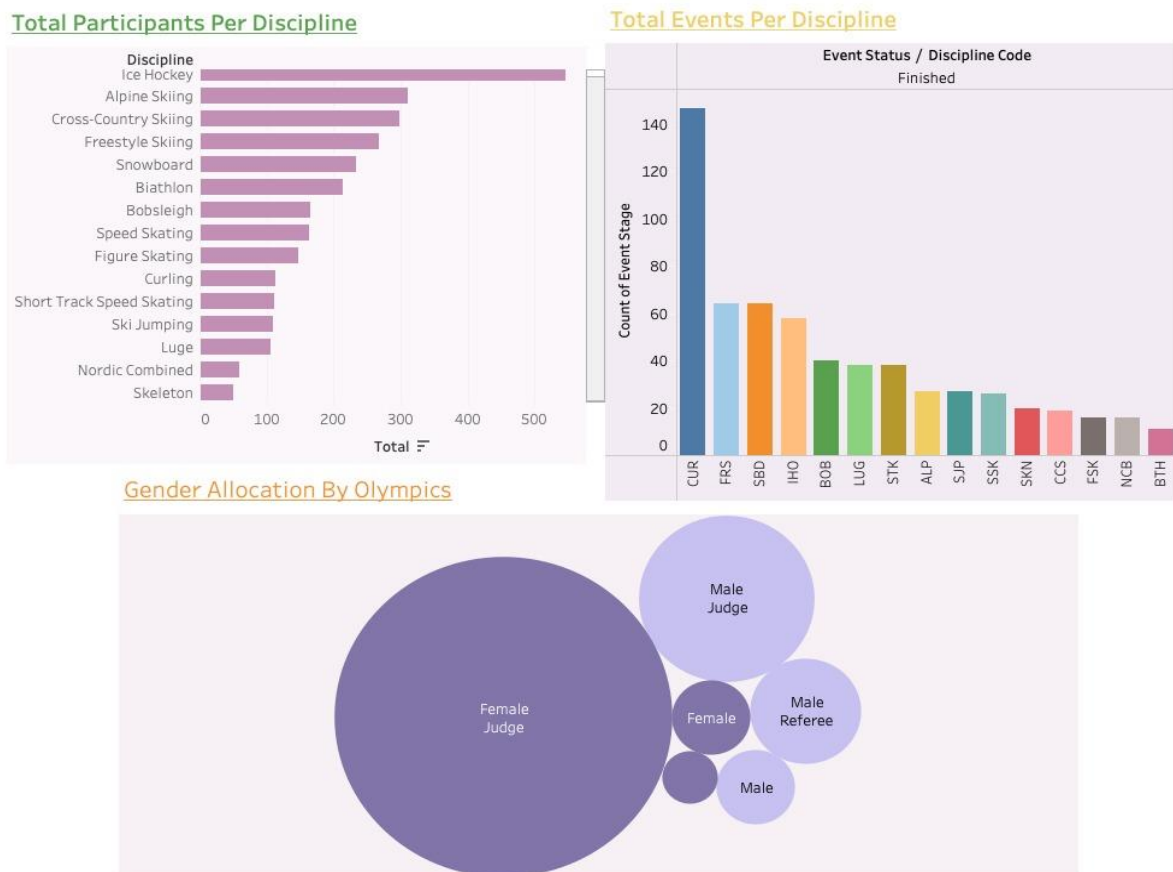
Dashboard 2 –

Figure 2: Dashboard for the Beijing Winter Olympics 2022

There were multiple findings from this dashboard that were as follows:

- The horizontal bar chart shows us that ice hockey has had the most players or participants amongst all the disciplines of games that have performed.
- Looking at the events visualization, Curling has had the most events becoming to be one of the famous sports in 2022 Winter Olympics.
- The gender allocation for Winter Olympics 2022 was interesting, there were more female judges than male judges.
- The number of male referees remains more than female referees and same goes for technical delegates.
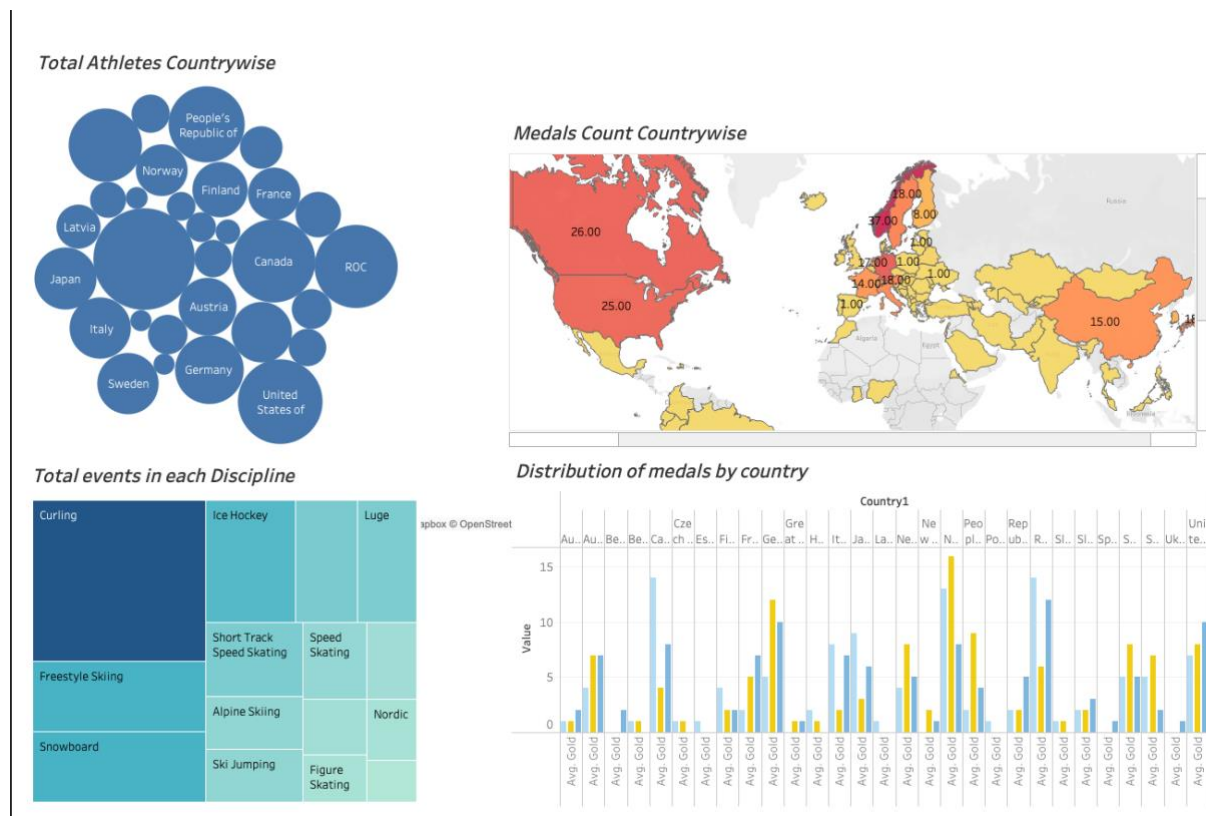
Dashboard 3 –

Figure 3 – Dashboard for the Beijing Winter Olympics 2022

There were multiple findings from this dashboard that were as follows:

- The bubble chart displays the total number of athletes representing each country in which the biggest bubble illustrates the maximum number of athletes represented the country in which we can clearly observe United States is leading the chart followed by ROC.
- The heat map displays the total number of medals won by each country in which we can clearly observe that the biggest bubble shows the highest number of medals won by Norway and the total count is 37 followed by China and Germany. If we analyze the data of Winter Olympics from 1924 , it clearly gives us an idea that Norway won the highest number of medals, most number of times. In this, multiple colours were used to highlight different countries and their medal count.
- The tree map displays the total number of events in each discipline in which it can be observed that Curling has the highest number of events which includes the Men Single Championship, Women Single Championship and Men Double Championship followed by Freestyle Skiing and Snowboard.
- The last bar chart displays the bifurcation of total medals category i.e., Gold, Silver, and Bronze. The different bars explain the number of medals won in each category by different countries.
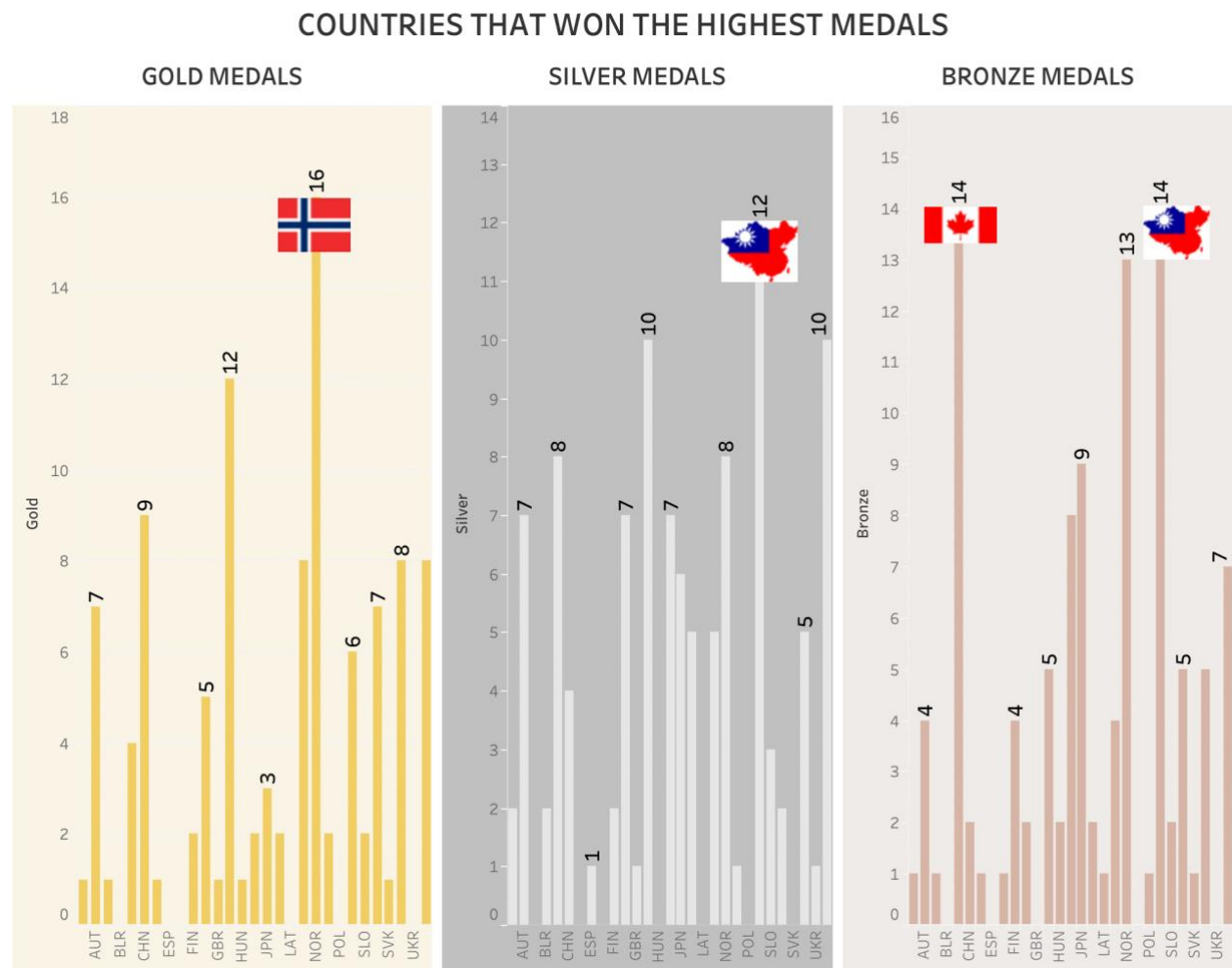
Dashboard 4 –

Figure 4: Countries that won the highest medals in the Winter Olympics 2022

There were multiple findings from this dashboard. It consisted of the distribution of gold, silver, and bronze medals for the Winter Olympics 2022. The findings are stated below:

- The most number of Gold medals were won by Norway.
- The most number of Silver medals were won by ROC (Russia).
- The most number of Bronze medals were won by ROC (Russia) and Canada.

REFERENCES

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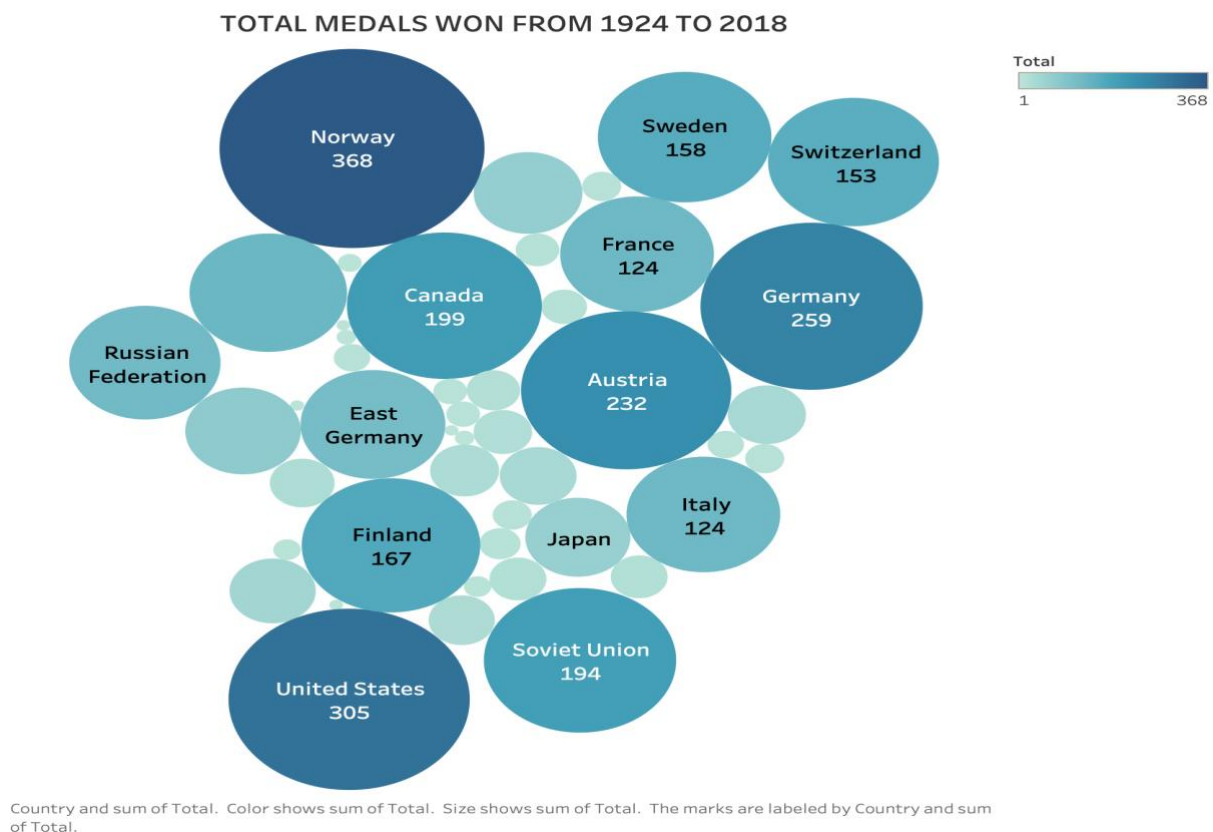## **APPENDIX**

Visualization 1 –

Figure 1 – Total medals won by different countries in the Winter Olympics (1924 to 2018)

From the above visualization, you can observe that Norway won the most number of medals in total with 268 medals followed by United States at 305 and Germany at 259.