

About the Project

This project focuses on the analysis and visualization of the Olympic Games, comparing the events, outcomes, and performances between the 2020 and 2024 editions. The goal is to provide a comprehensive overview of how these two Olympic Games differ, what trends have emerged, and how various factors have influenced the results. By utilizing data-driven insights, this project aims to tell the story of the Olympics from a fresh perspective, highlighting the changes, challenges, and successes of the participating countries and athletes.

Skills Required

- **Data Analysis:** Ability to work with large datasets, clean and preprocess data, and derive meaningful insights from raw data.
- **Data Visualization:** Proficiency in tools like Tableau, Power BI, or Python libraries (e.g., Matplotlib, Seaborn) to create compelling visualizations that effectively communicate the findings.
- **Statistical Analysis:** Understanding of statistical methods to compare performances, trends, and rankings between the 2020 and 2024 Olympics.
- **Storytelling:** Skill in crafting a narrative around the data to present a coherent and engaging story.
- **Research:** Ability to source and validate data, ensuring the accuracy and relevance of the information used in the analysis.

Deliverables

- **Data Preparation and Cleaning:** A well-structured dataset that includes all relevant metrics for the 2020 and 2024 Olympics.
- **Analysis Report:** A detailed report that includes the findings from the data analysis, with a focus on key differences and trends between the two Olympic editions.
- **Visualizations:** A set of visualizations (e.g., bar charts, line charts, heatmaps) that effectively illustrate the analysis findings.
- **Final Presentation:** A presentation deck summarizing the project, including the problem statement, methodology, key findings, visualizations, and conclusions.
- **Story Narrative:** A written narrative that ties together the analysis and visualizations, providing context and insights into the Olympic Games' evolution between 2020 and 2024.

Note

- The data for this project will be sourced from official Olympic records and verified databases to ensure accuracy.
- Visualizations should be created with the target audience in mind, ensuring clarity and engagement.
- The narrative should emphasize the story behind the data, not just the numbers, making it accessible and interesting to a broad audience.

Problem Statement

The Olympic Games are a global event that showcases the best athletic talent from around the world. However, each edition of the Olympics can differ significantly due to various factors such as global events, changes in sports, and the emergence of new athletes. This project seeks to analyze and visualize the differences between the 2020 and 2024 Olympic Games, with the following key questions in mind:

1. **How have the medal tallies and country rankings changed between the 2020 and 2024 Olympics?**
2. **What trends can be observed in athlete performances across these two Olympic editions?**
3. **How have global events, such as the COVID-19 pandemic, impacted the outcomes of the 2020 Olympics, and what differences are seen in the 2024 Olympics?**
4. **What new trends have emerged in terms of event participation, particularly with regard to gender diversity and the popularity of different sports?**

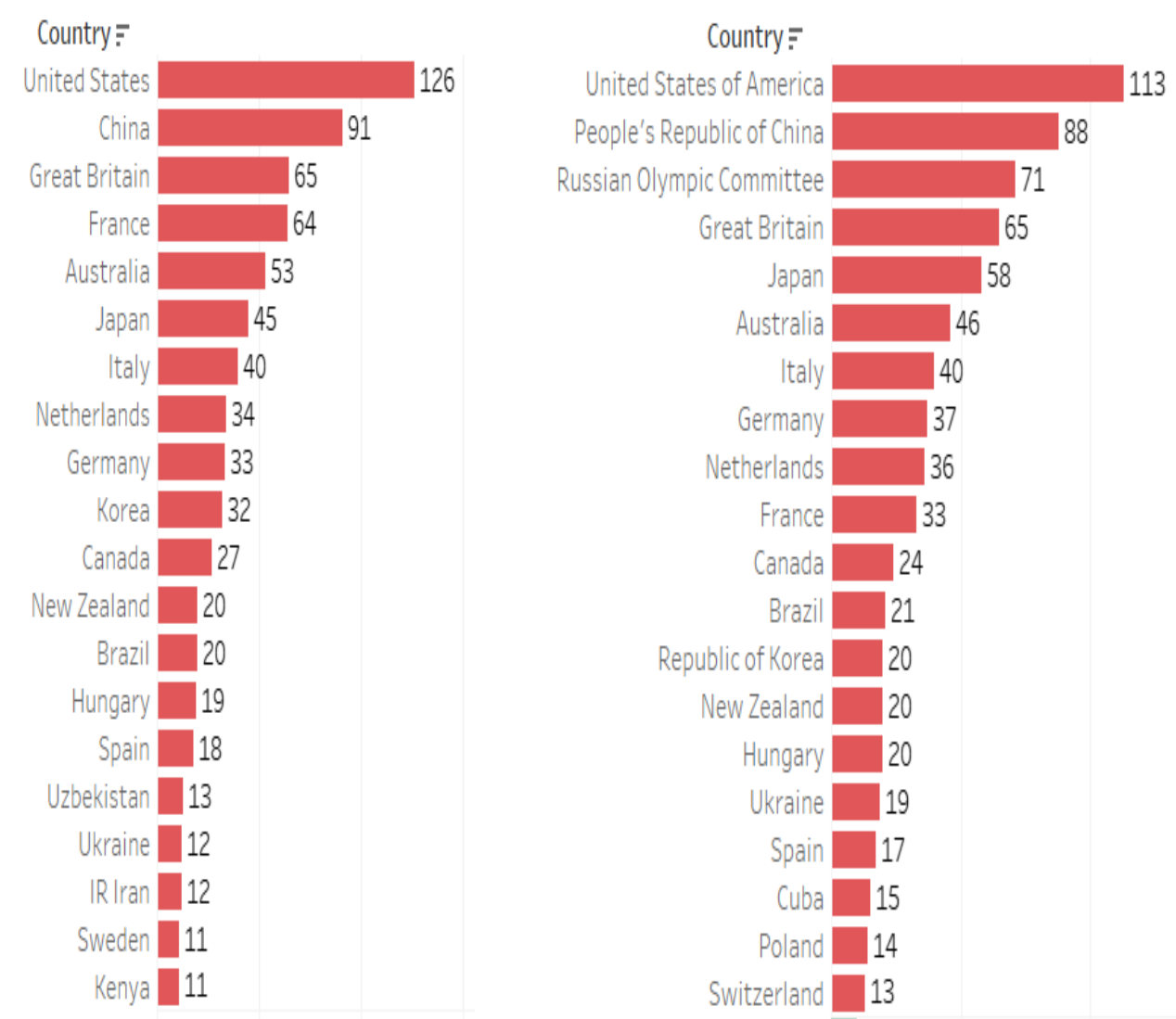
By answering these questions through data analysis and visualization, this project will provide valuable insights into the evolution of the Olympics and the factors that have shaped the outcomes of these two editions.

Analysis of the Top 20 Countries' Medal Distribution

Medal Distribution by Country:

- The bar chart reveals the dominance of certain countries in the medal standings. Countries like the USA, China, and Russia consistently rank at the top, amassing a significant number of Gold medals, which often secures their position in the overall rankings.
- A closer look at the Silver and Bronze medal distributions shows that while some countries may not lead in Gold medals, their consistent performance across all medal types ensures their presence in the top 20.

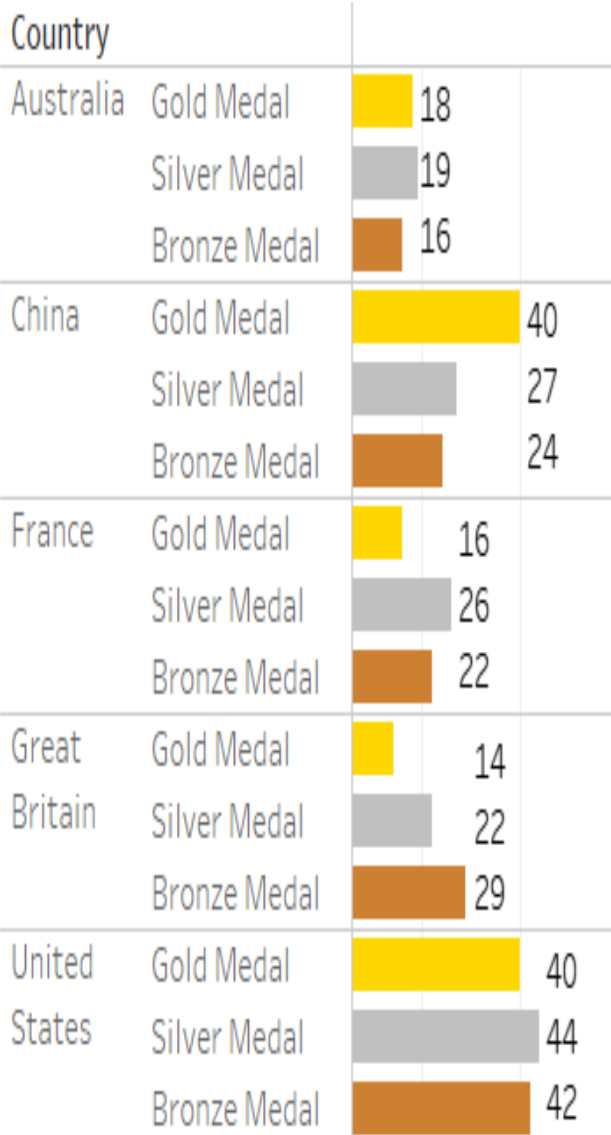
Paris Olympics 2024 Top Countries Tokyo Olympics 2020 Top Countries



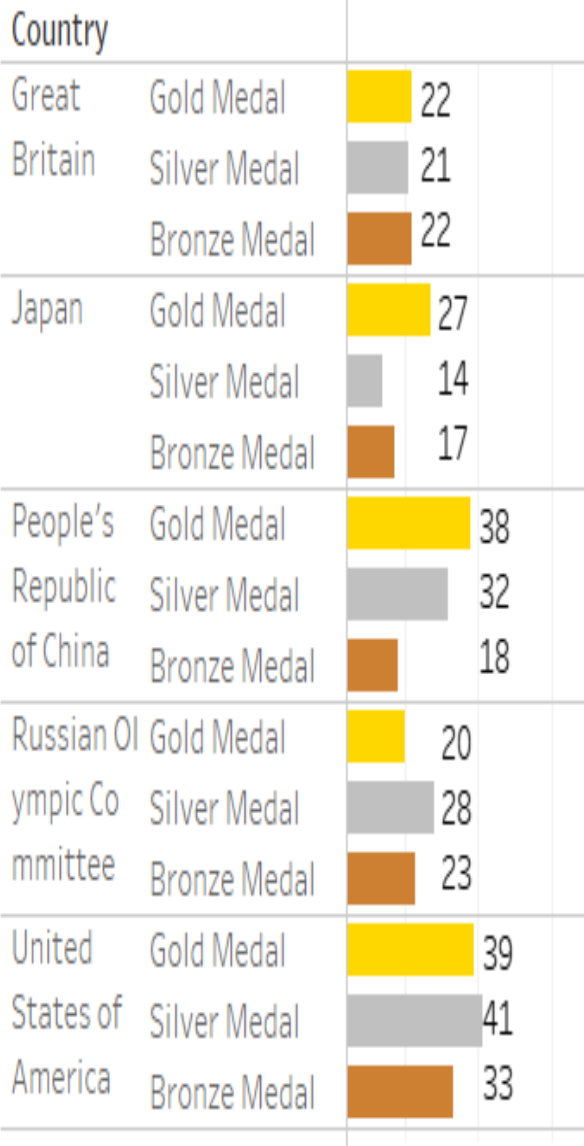
Medal Distribution by Country:

A bar chart showing the distribution of Gold, Silver, and Bronze medals for Top 5 countrys.

Paris Olympics 2024

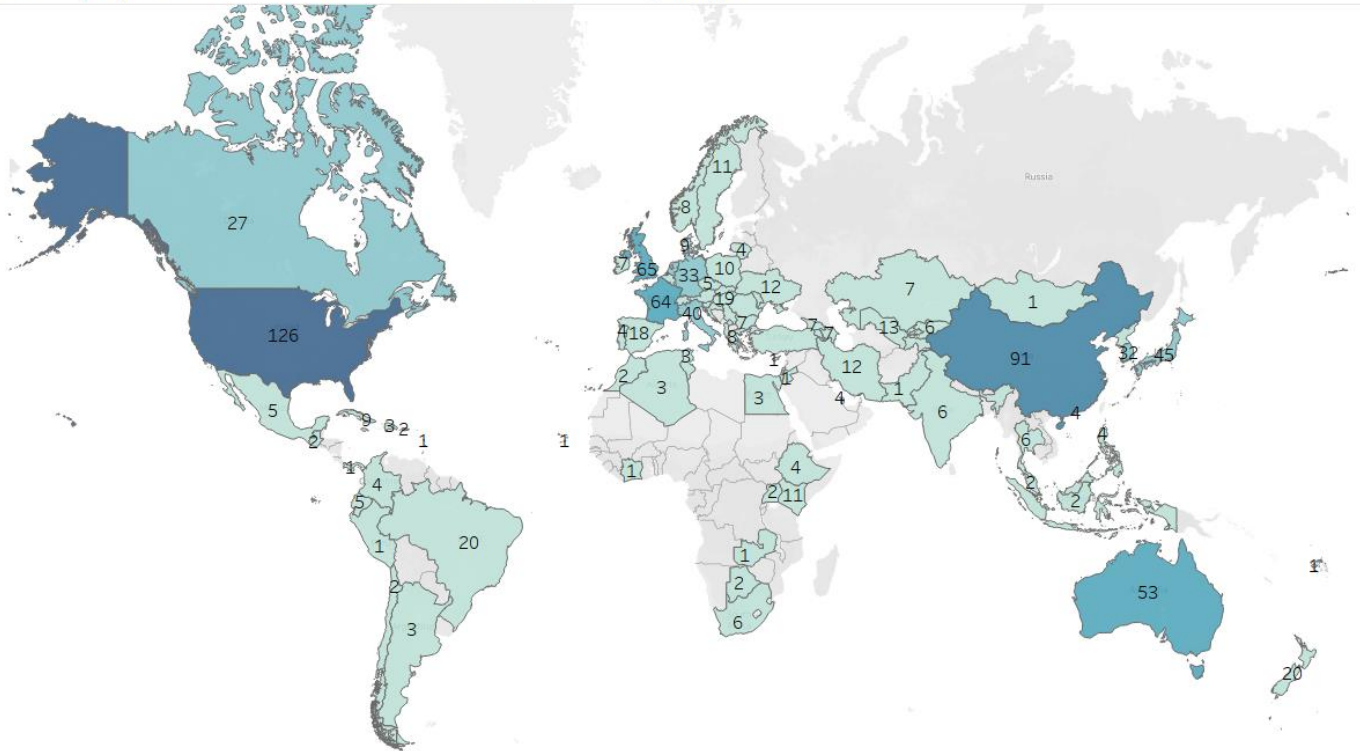


Tokyo Olympics 2020

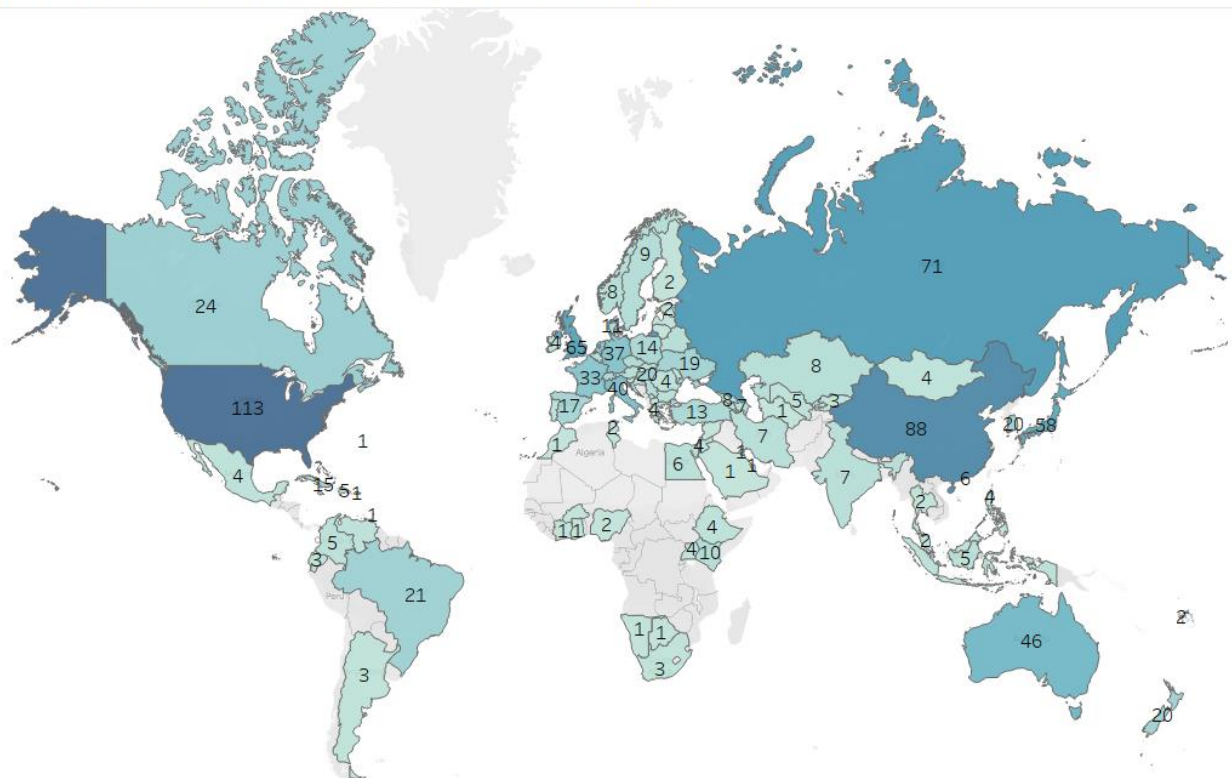


Medal Distribution by Country on map :

Paris Olympics 2024 Medal Distribution by Country map



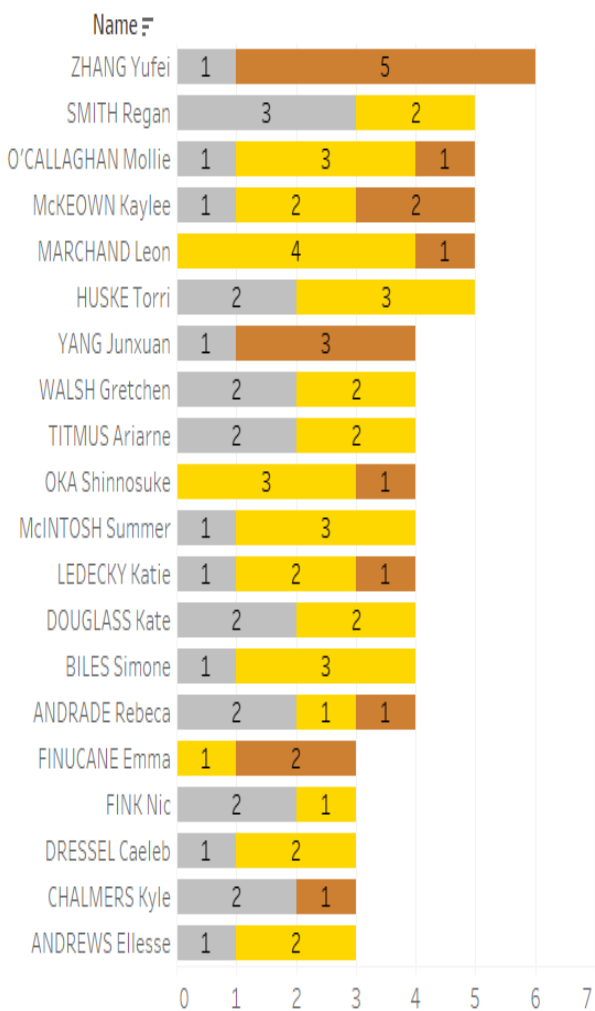
Tokyo Olympics 2020 Medal Distribution by Country map



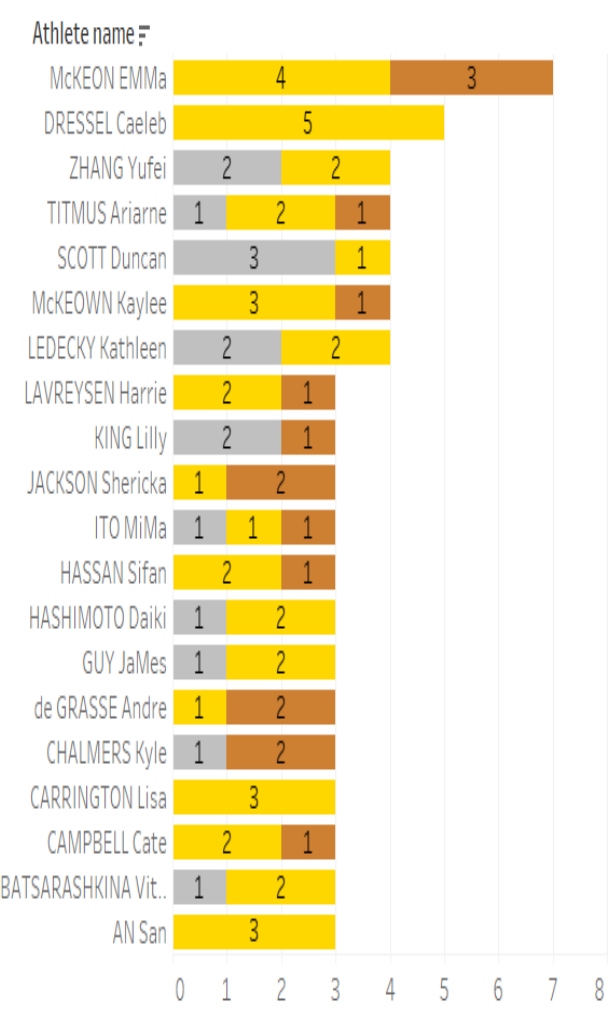
Top 20 Medalists:

This figure highlights individual athletes who have made a significant impact by winning multiple medals. These athletes often contribute heavily to their country's overall medal tally and are seen as pivotal figures in their respective disciplines.

Paris Olympics 2024 Top Medalists



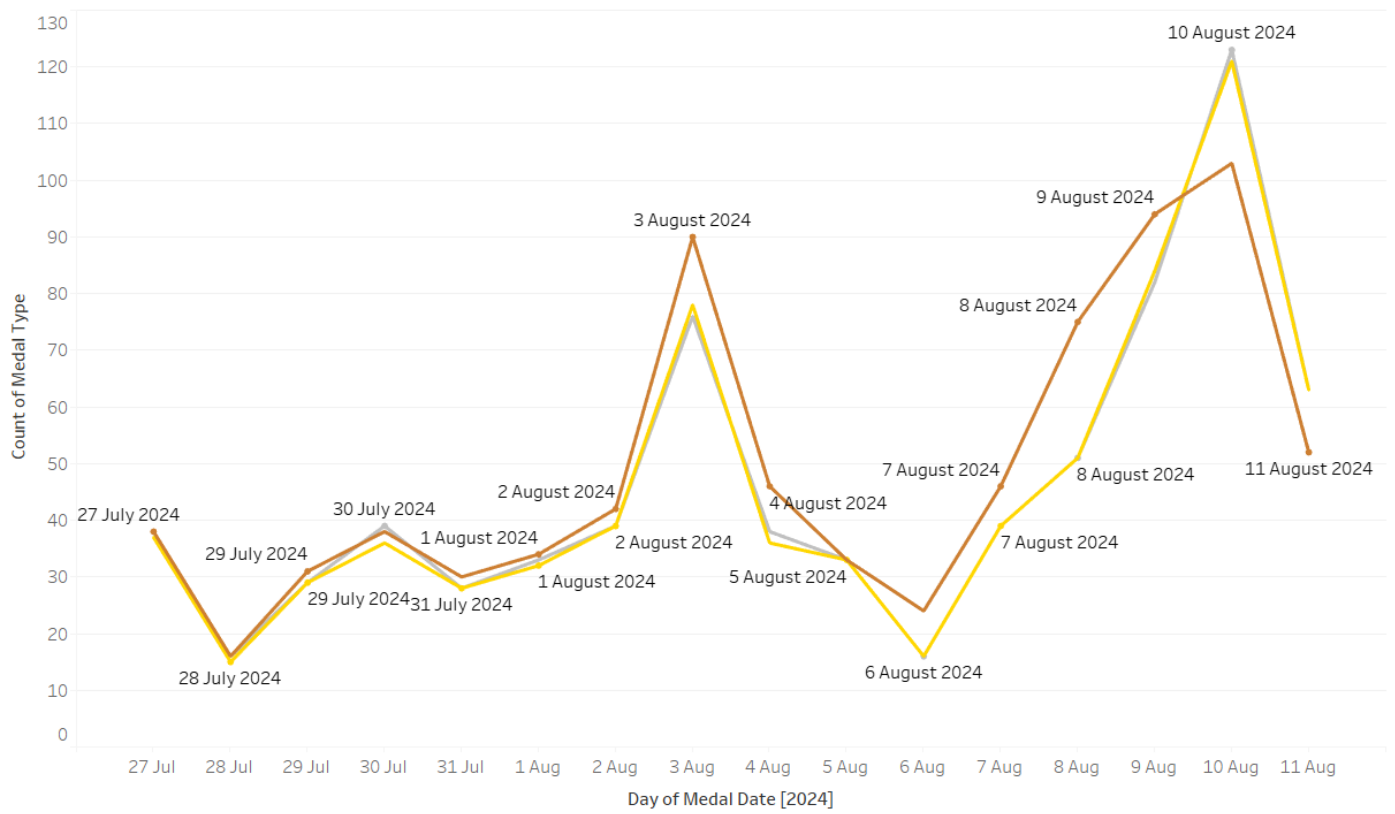
Tokyo Olympics 2020 Top Medalists



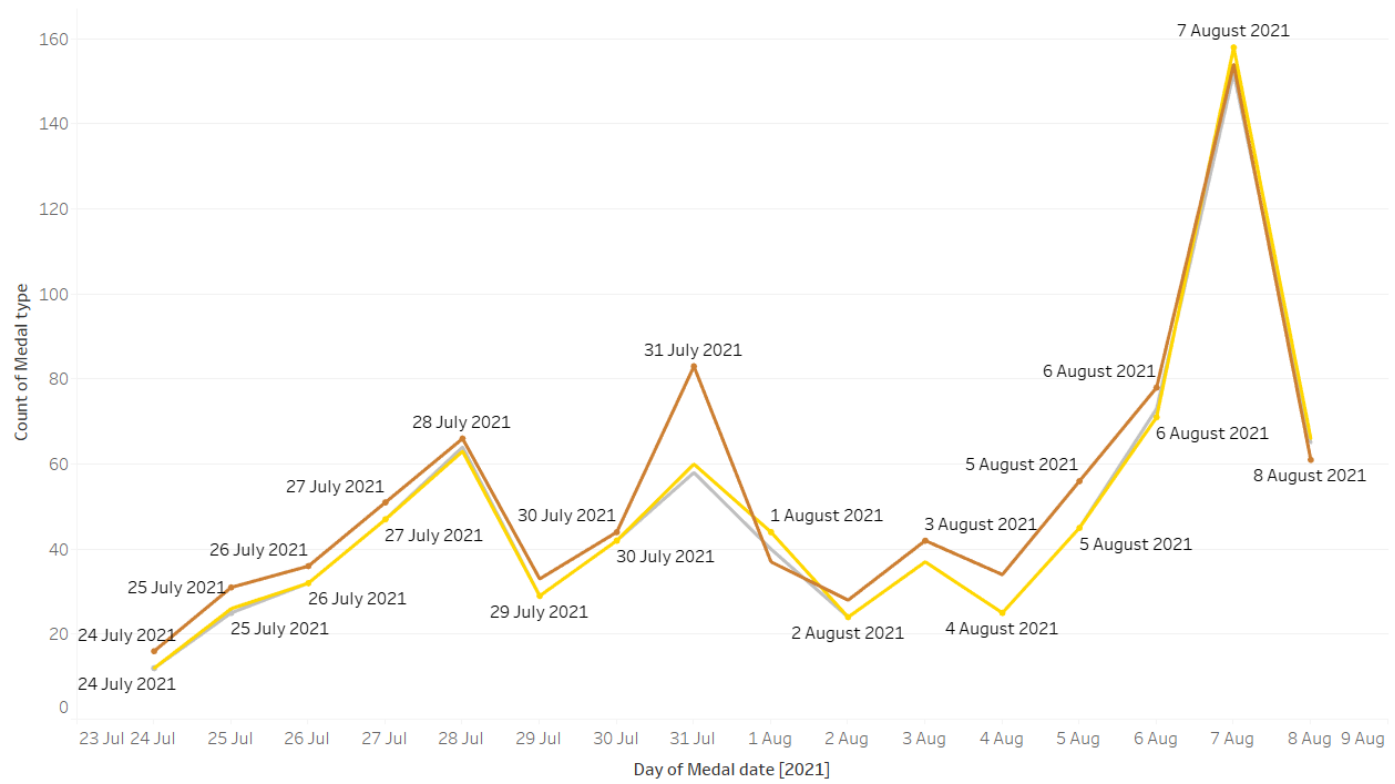
Medal Count Over Time

Medal Count Over Time: A line chart to visualize trends in medal wins over different dates.

Paris Olympics 2024 Medal Count Over Time



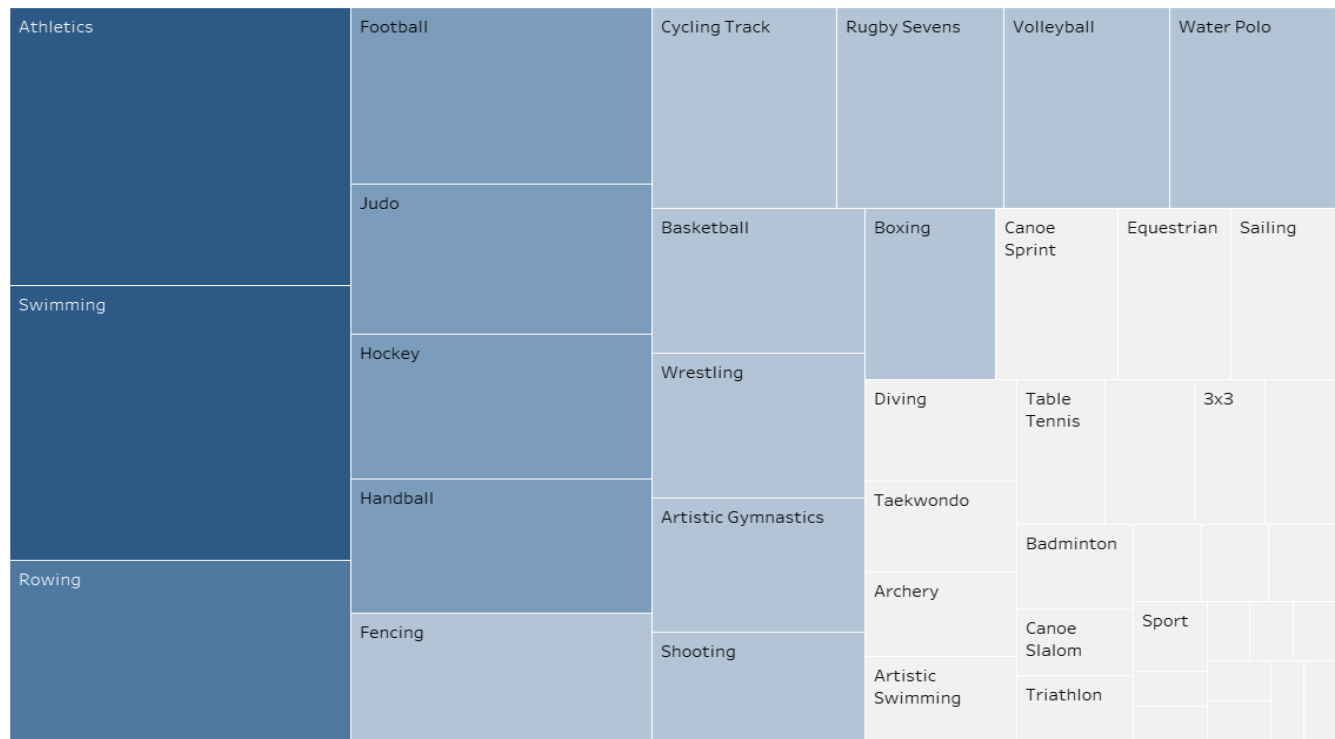
Tokyo Olympics 2020 Medal Count Over Time



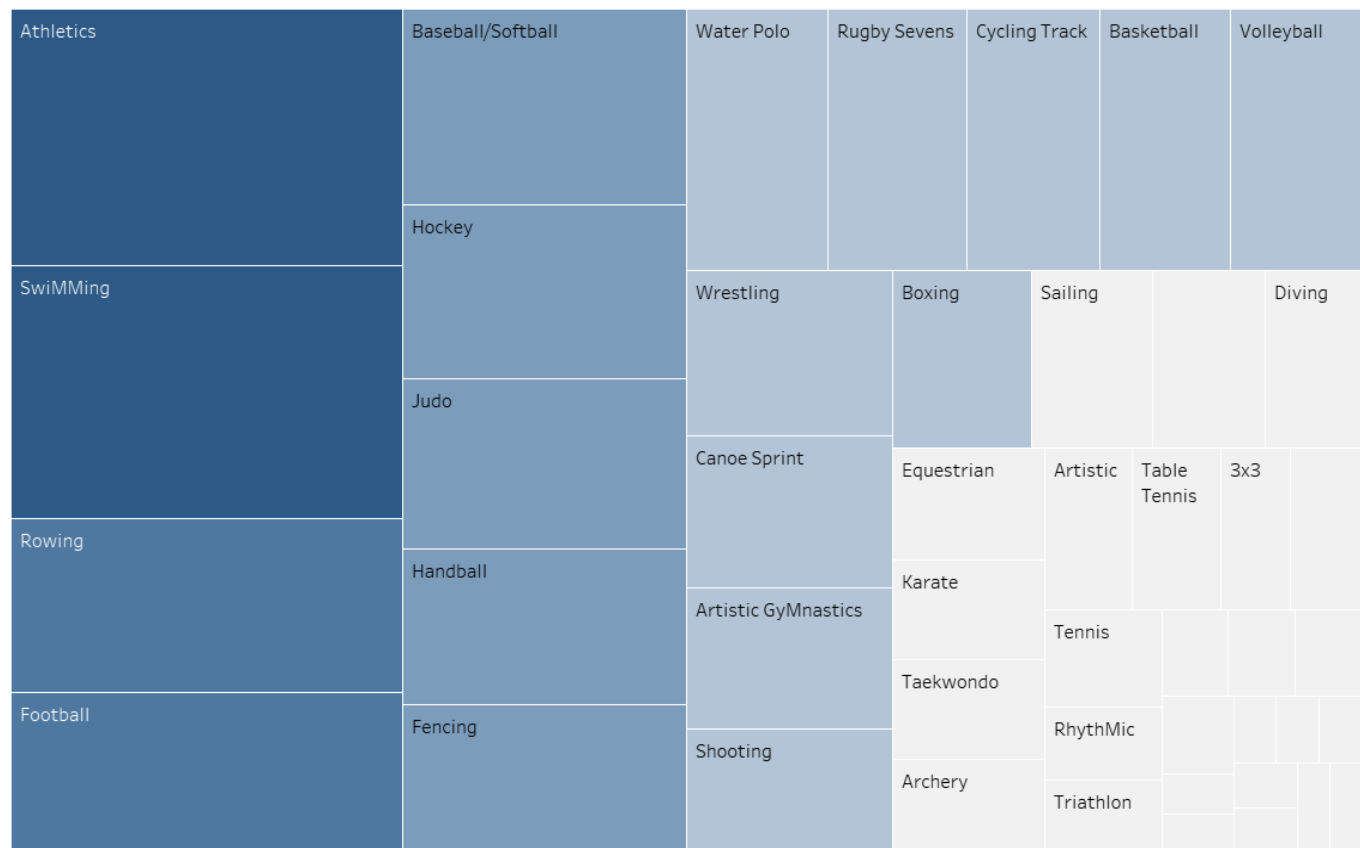
Medal Distribution by Event and Discipline:

The heatmap analysis of medals by event and discipline helps in identifying which sports are the most successful for certain countries. For instance, the USA might dominate in athletics.

Paris Olympics 2024 Medal Distribution by Event and Discipline



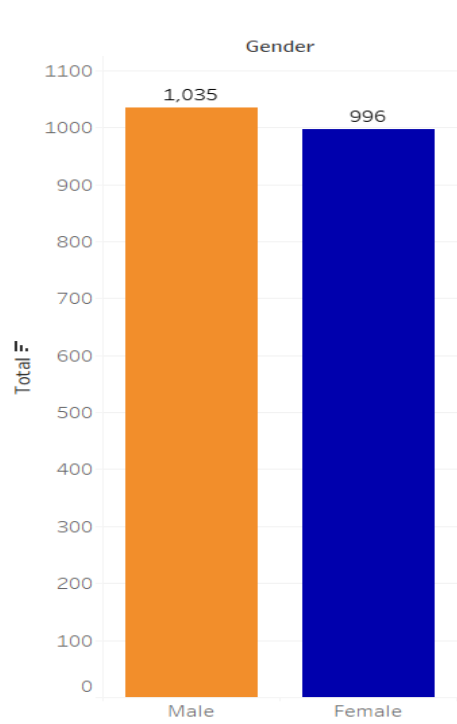
Tokyo Olympics 2020 Medal Distribution by Event and Discipline



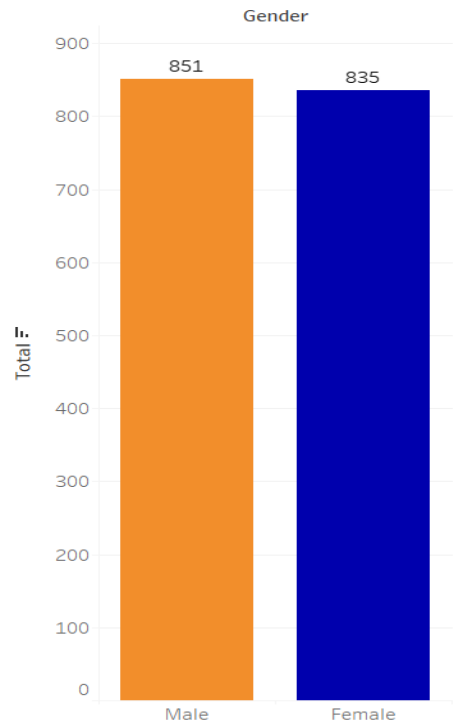
Gender Analysis:

A comparison of medals won by male and female athletes.

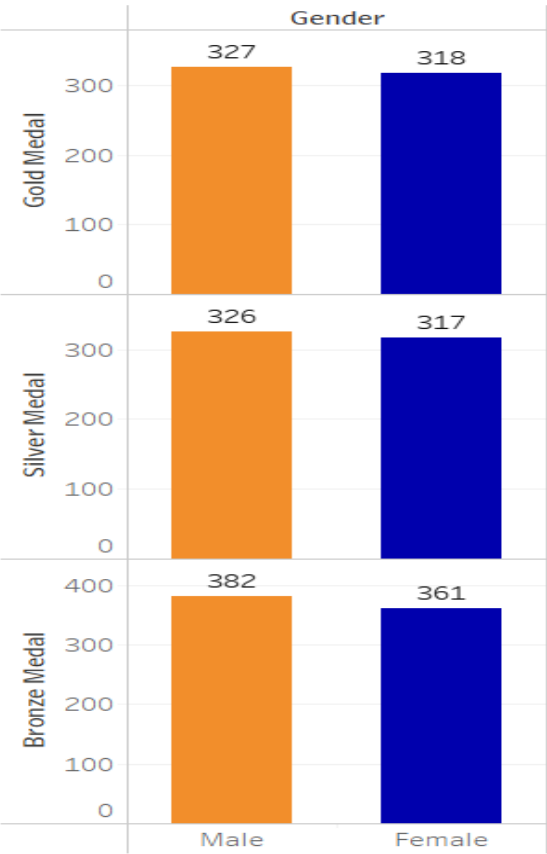
Paris Olympics 2024 Gender Analysis



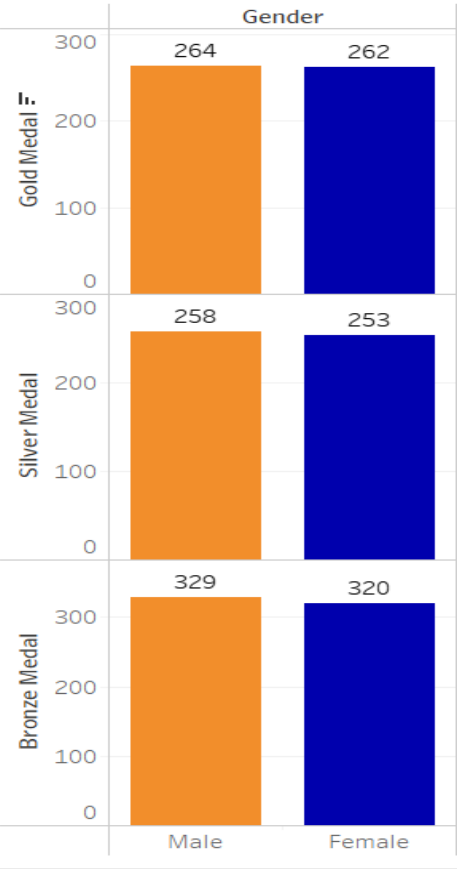
Tokyo Olympics 2020 Gender Analysis



Paris Olympics 2024



Tokyo Olympics 2020



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Dataset Link 2024: https://www.kaggle.com/datasets/piterfm/paris-2024-olympic-summer-games?select=medals_total.csv

Dataset Link 2020: <https://www.kaggle.com/datasets/piterfm/tokyo-2020-olympics>