



Olympic Medal Analysis

INDENG 210 Group 8

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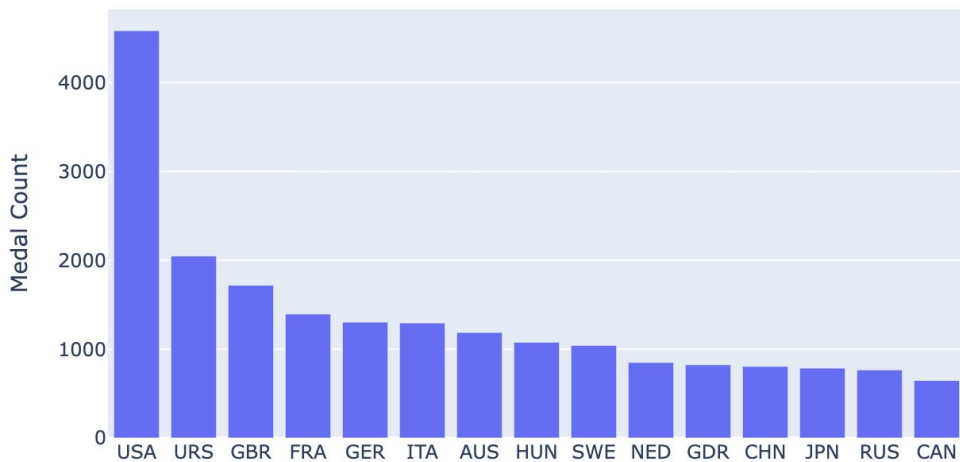
Dataset

- 27 Summer Games: 1896 - 2012
- 22 Hosting Cities
- 43 Sport Categories
- 147 Participating Countries
- 31165 Medal Winners

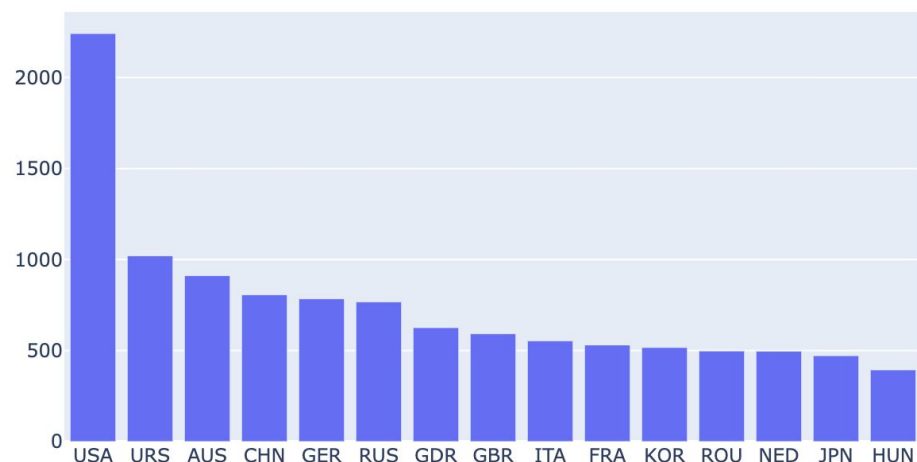
Year	City	Sport	Discipline	Athlete	Country	Gender	Event	Medal
1896	Athens	Aquatics	Swimming	HAJOS, Alfred	HUN	Men	100M Freestyle	Gold
1896	Athens	Aquatics	Swimming	HERSCHMANN, Otto	AUT	Men	100M Freestyle	Silver
1896	Athens	Aquatics	Swimming	DRIVAS, Dimitrios	GRE	Men	100M Freestyle For Sailors	Bronze
1896	Athens	Aquatics	Swimming	MALOKINIS, Ioannis	GRE	Men	100M Freestyle For Sailors	Gold
1896	Athens	Aquatics	Swimming	CHASAPIS, Spiridon	GRE	Men	100M Freestyle For Sailors	Silver
1896	Athens	Aquatics	Swimming	CHOROPHAS, Efstathios	GRE	Men	1200M Freestyle	Bronze
1896	Athens	Aquatics	Swimming	HAJOS, Alfred	HUN	Men	1200M Freestyle	Gold
1896	Athens	Aquatics	Swimming	ANDREOU, Joannis	GRE	Men	1200M Freestyle	Silver
1896	Athens	Aquatics	Swimming	CHOROPHAS, Efstathios	GRE	Men	400M Freestyle	Bronze
1896	Athens	Aquatics	Swimming	NEUMANN, Paul	AUT	Men	400M Freestyle	Gold



Overview

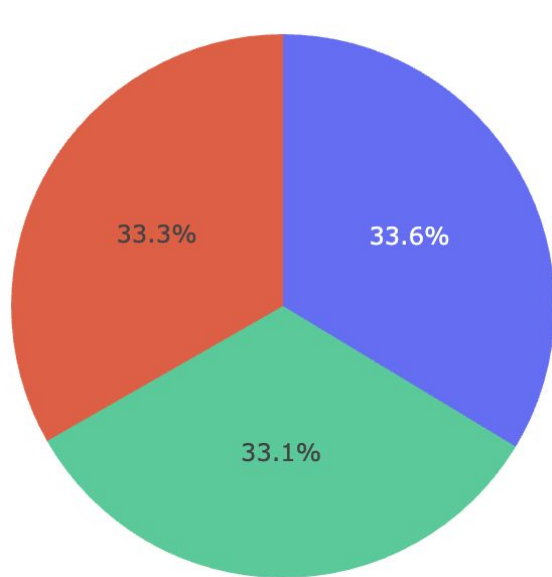


1896 - 2012



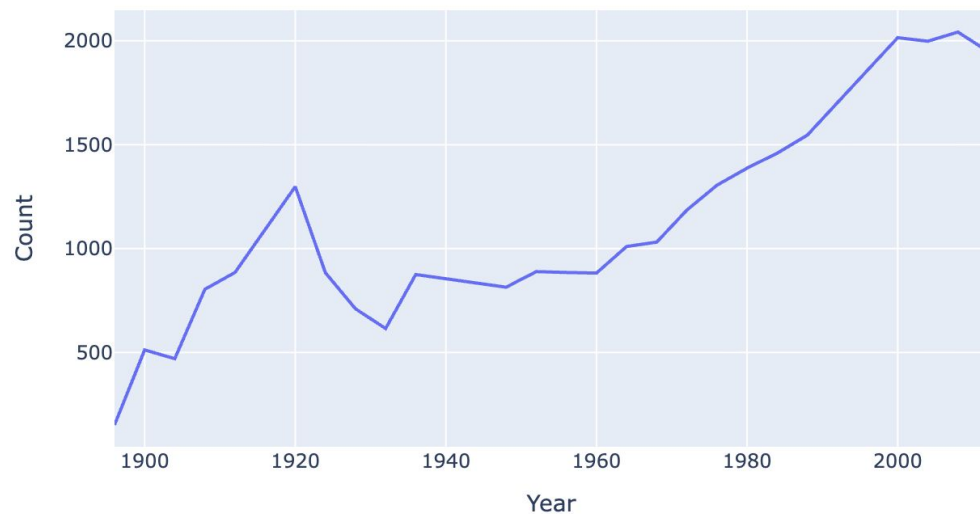
1976 - 2012

Overview



■ Bronze
■ Gold
■ Silver

Yearly Medal Trend



Gender Effect

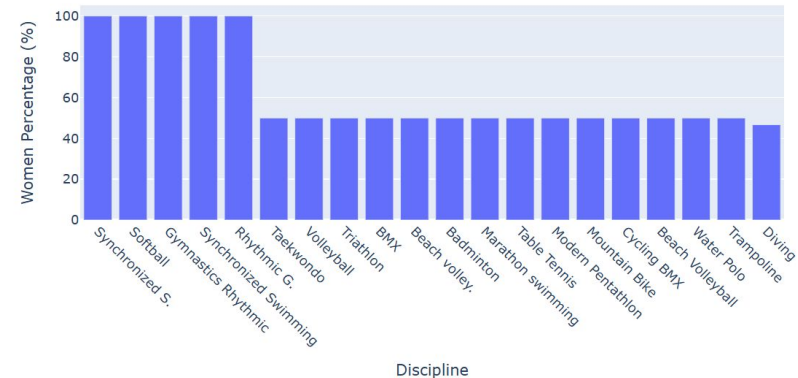
Processing:

- Gender Ratio — Measure of gender equality(women/men)
- Gender equality generally increased,especially after 1972
- Sports like softball,synchronize has the most women participation, 14 sports established the same number of medals for both male and female.

Gender Ratio Trend (Women:Men)



Female Participation Percentage by Discipline

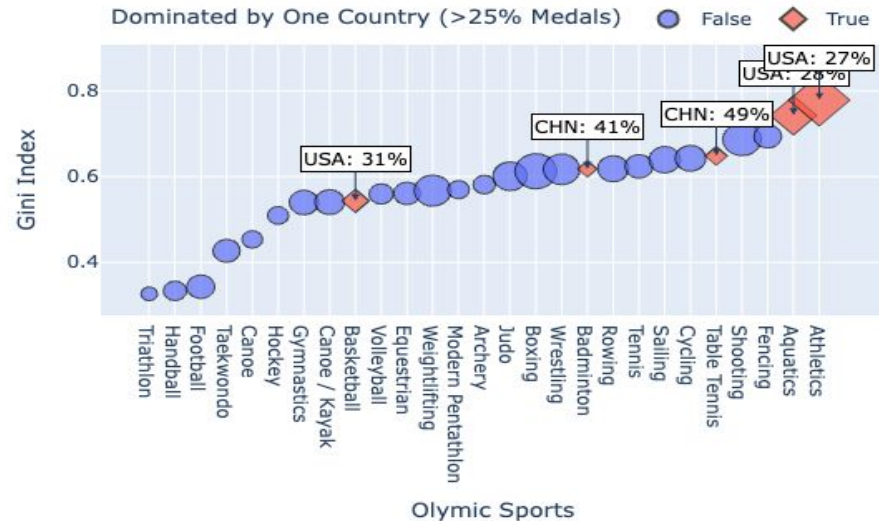


Gini Index to Measure Sport Competitiveness

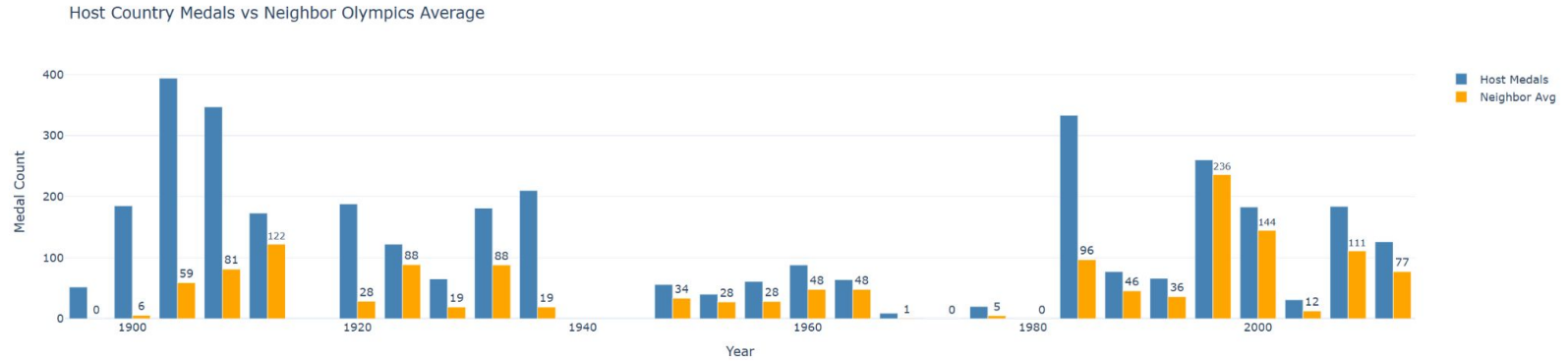
Processing:

- Gini Index — Measure of “wealth” inequality
- Removed Sports with < 10 Medals
- Chose 25% as threshold for dominated sport
- Weighted dot size by number of winning countries

Olympic Sports Dominance by Gini Index



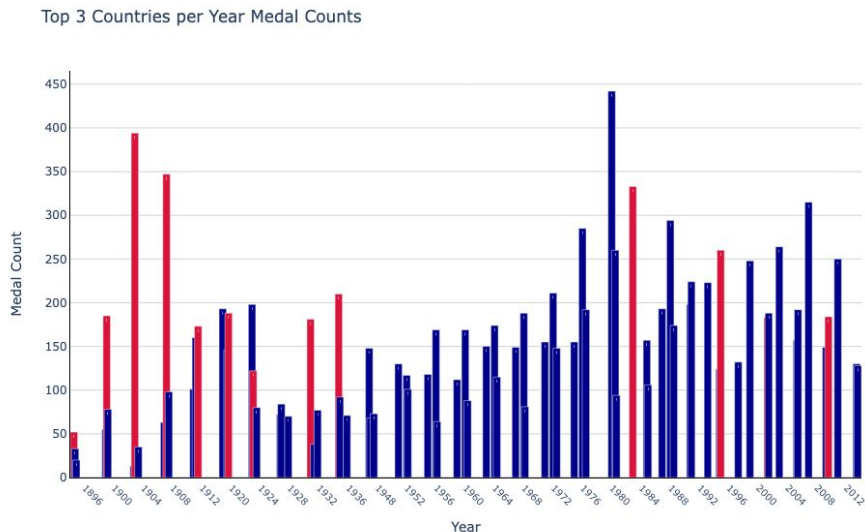
Hosting Effect



Hosting country see more medal counts than as participating country the in the neighboring years

Measuring Hosting Effect

Do countries that host the game tend to do better that year than visiting countries?



Based on a preliminary visual analysis of top 3 winners per year, where red bars indicate the host country, we see that **there is a significant correlation between host and medal count.**

Measuring Hosting Effect

To verify, we can perform a t-test.

Hypothesis: There is a **statistically significant difference** between medals won by host countries and non-host countries per game.

T-statistic: 5.43

T-Test Results: $t = 5.434$, $p = 0.0000$

P-value: 1.360840

Statistically sig

