

Simulating and Predicting the results of FIFA World Cup 2022

Abstract

The FIFA World Cup, often simply called the World Cup, is an international association football competition contested by the senior men's national teams of the members of the Fédération Internationale de Football Association (FIFA), the sport's global governing body. The tournament has been held every four years since the inaugural tournament in 1930, except in 1942 and 1946.

The idea here is to simulate the FIFA 2022 World Cup games with machine learning, in order to predict the competition's eventual champion by predicting the winner of each game starting from group stages and going through Round of 16, Quarter Finals, Semi Finals and the Grand Final. Building on top of the existing FIFA ranking model, I have developed two classification models of different types such as *Random Forest* and *Gradient Boosting* to make predictions on World Cup data.

Software: Jupyter Notebook (Python 3.9)

Datasets:

- International football results from 1872 to 2022
- FIFA World Ranking from 1992 to 2022
- List of Participating Nations in FIFA World Cup 2022

Source: Kaggle, Wikipedia

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