ANALYSING INTERNATIONAL MATCHES OUTCOMES

Problem Statement:

The problem statement for the provided dataset is to apply various machine learning algorithms such as Naive Bayes, Decision Tree, XGBoost, Random Forest, and Support Vector Machine (SVM) to anlayze the outcomes of international football matches.

This dataset contains information on team details, player statistics, match schedules, and outcomes, which can be used to train and evaluate different models.

The objective is to build models that can accurately predict the winning team of each match and provide insights into the factors that contribute to team success.

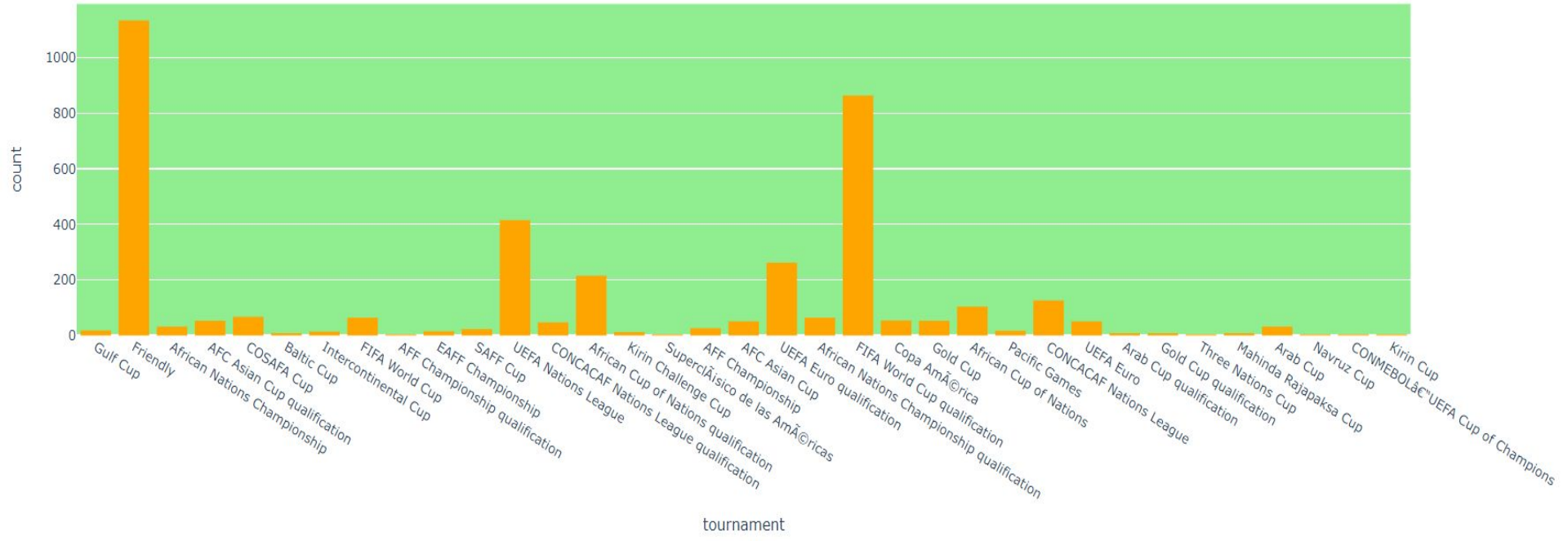
The study aims to help football enthusiasts, sports analysts, and betting agencies make informed decisions about international football tournaments.

The evaluation metric used for comparing the models will be accuracy, and the best-performing model will be selected for final predictions.

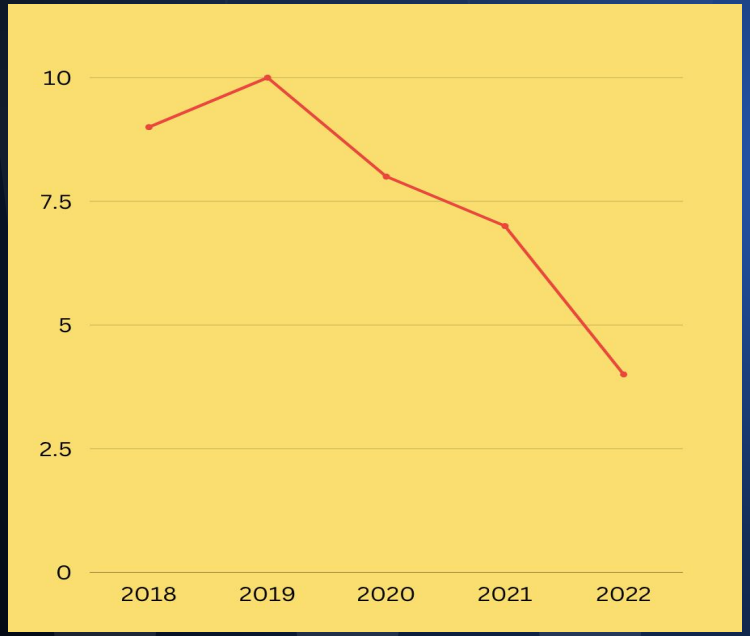
INTERNATIONAL MATCHES DATASET:

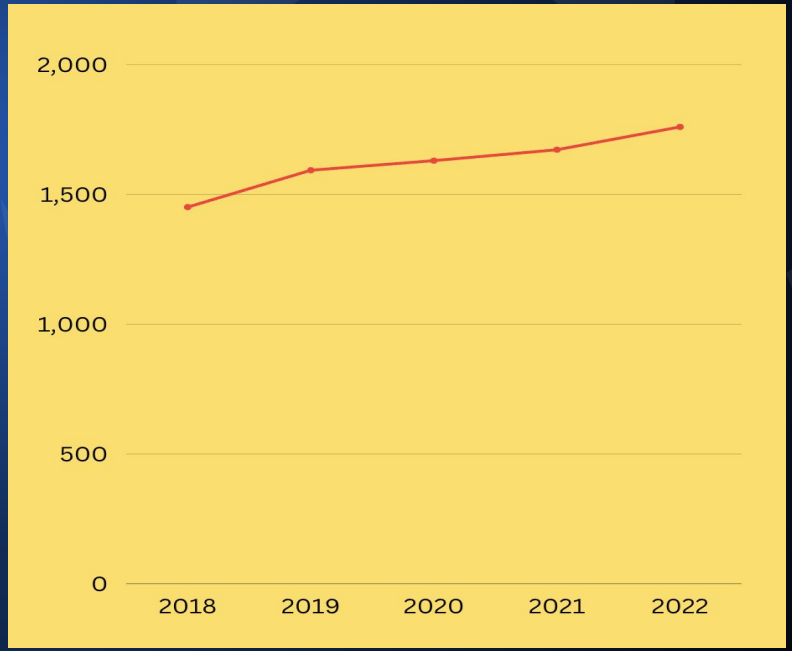
- Contains Information about International Soccer matches, home and away team names
- 3851 rows and 25 columns
- City, country & Continent of both teams
- International rank before the match,
- Fifa points of each team before the match played,
- Defence, offence, midfield and goalkeeping score of each teams

Data Insights
International tournaments:



Data Insights
Argentina international points & ranking change since 2018:





Data Processing and Feature Engineering

- Convert to date column to datetime format
- Feature Engineering
- Calculate rank difference between both team before the match,
- Fifa points difference between teams,
- Average rank of both teams,
- Score difference between teams,
- is_stake column which excludes rows with friendly matches
- is_won column which is will be label for our models

Classification models used:

Model Name	Accuracy (in %)
Naive Bayes	68.3
Decision Tree	70.03
Random Forest	70.16
SVM	69.3
XGBoost	70.29

Actionable Insights:

- Fantasy sport, Bettors & Bookmakers can use a soccer match ML model to set odds of bets and make informed decision.
- Mainstream media can also use soccer match ML models to provide analysis and commentary on matches.
- Soccer Federations: Marketing teams of Governing bodies for Association Football like FIFA, AFC, CAF, CONCACAF, CONMEBOL, UEFA can use a system to target their marketing efforts towards fans of teams that are likely to win upcoming matches.

Thank You !