



ANALYZE & PREDICT 2022 FIFA WORLD CUP

AUTHORS - TEAM 128

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SUMMARY

Our goal is to utilize machine learning classification algorithms to create an interface showcasing national team performance and predict the outcome of matchups in the 2022 FIFA World Cup tournament.

KEY FEATURES

Implement an interface -

- Predict upcoming match results (Win/Loss/Draw)
- Present intuitive visualizations of team form

DATA

Combined two datasets into one final cleaned dataset for our model:



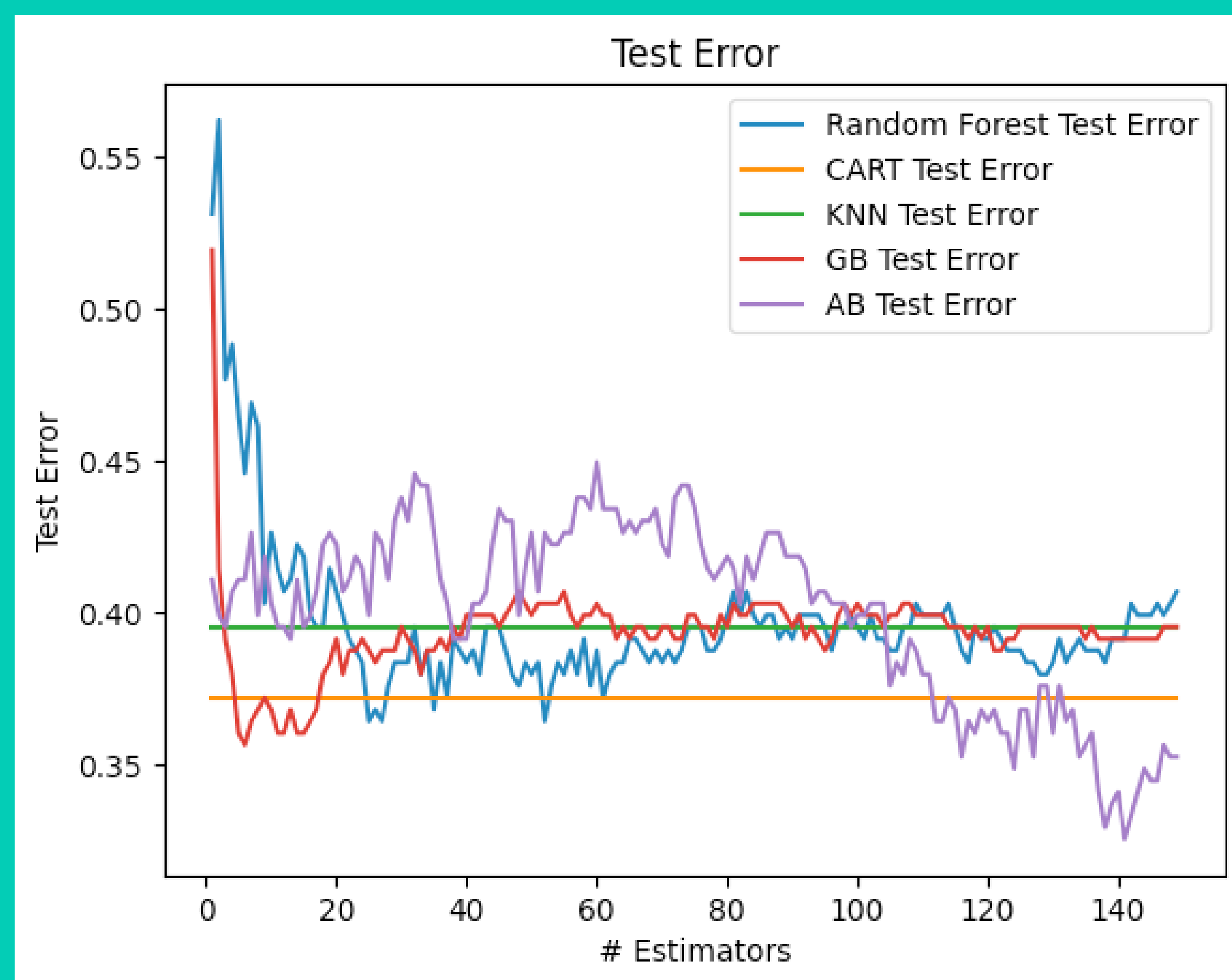
SoccerBase Match Results: national team results and key statistics from 2015-2022



FIFA Player Ratings: ratings across 15000+ players ranging from 0-100 in key football areas (attacking, defending, etc.) for 2015-2022

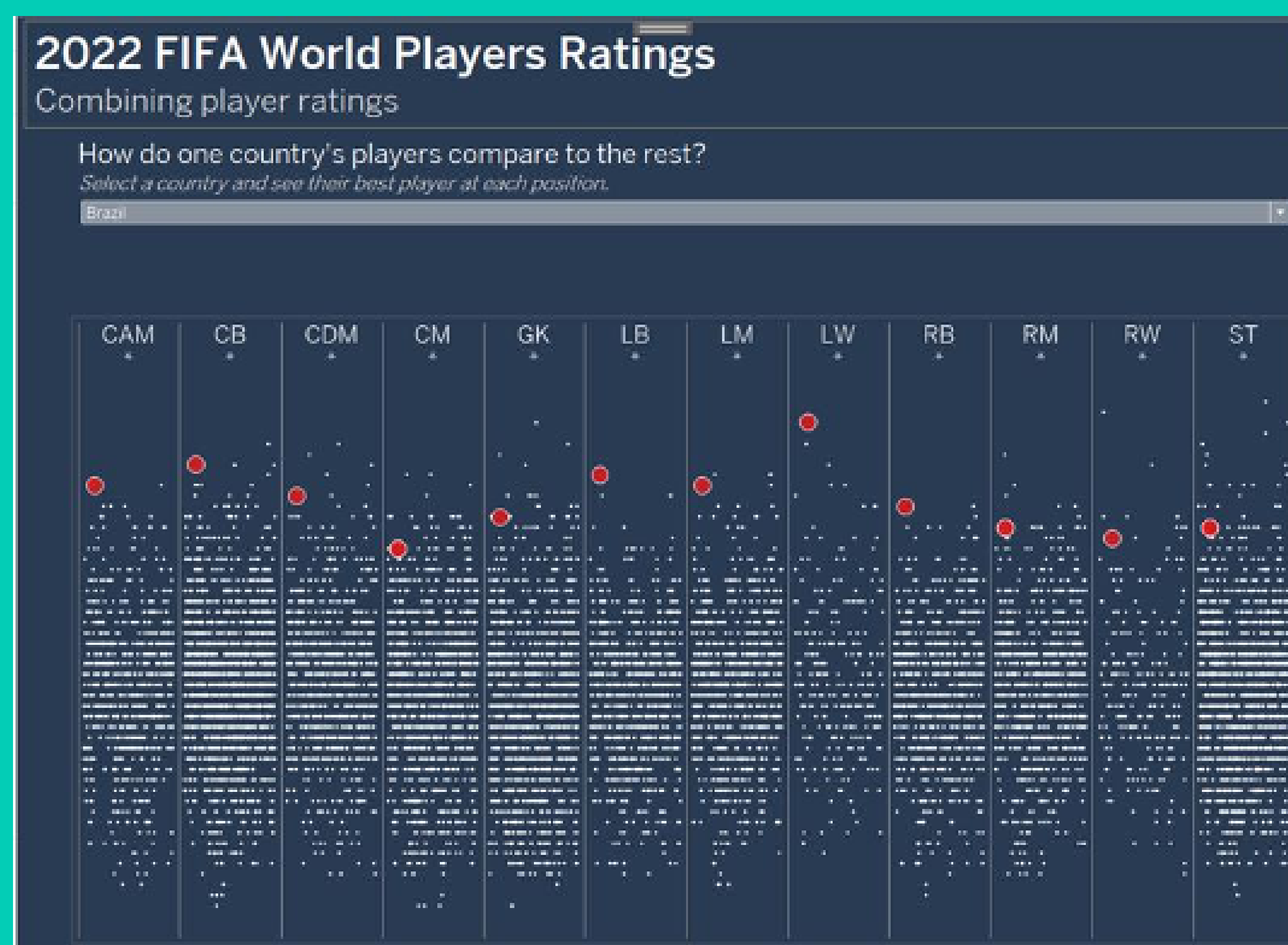
Attribute	Description
Team Name	Name of Team (e.g. "Brazil")
Team Score	Weighted average goals scored by the team in the last 3 matches
Team Possession	Weighted average percent of time with the ball in the last 3 matches
Team Shots On	Weighted average number of shots on target in the last 3 matches
Team Shots Off	Weighted average number of shots off target in the last 3 matches
Team Corners	Weighted average number of corner kicks in the last 3 matches
Avg Overall	Average player "Overall" rating for the team in the match
Avg Crossing	Average player "Crossing" rating for the team in the match
Avg ShotPower	Average player "ShotPower" rating for the team in the match
Avg Dribbling	Average player "Dribbling" rating for the team in the match
Avg SprintSpeed	Average player "SprintSpeed" rating for the team in the match
Avg Tackle	Average player "Tackle" rating for the team in the match
...	...
Result	Win/Loss/Draw column for the team in the match (target for model)

MODEL SELECTION



After training various classification models using 70% of our data, we compared model performance on the remaining 30% of our data as validation/test. We found that the best performing model was the **AdaBoost Classifier**, which had a test accuracy of **67.44%**

VISUALIZATIONS



View with dropdown, detailing the world cup team's strength by position

