Predicting good strategies for picking players in Fantasy premier league

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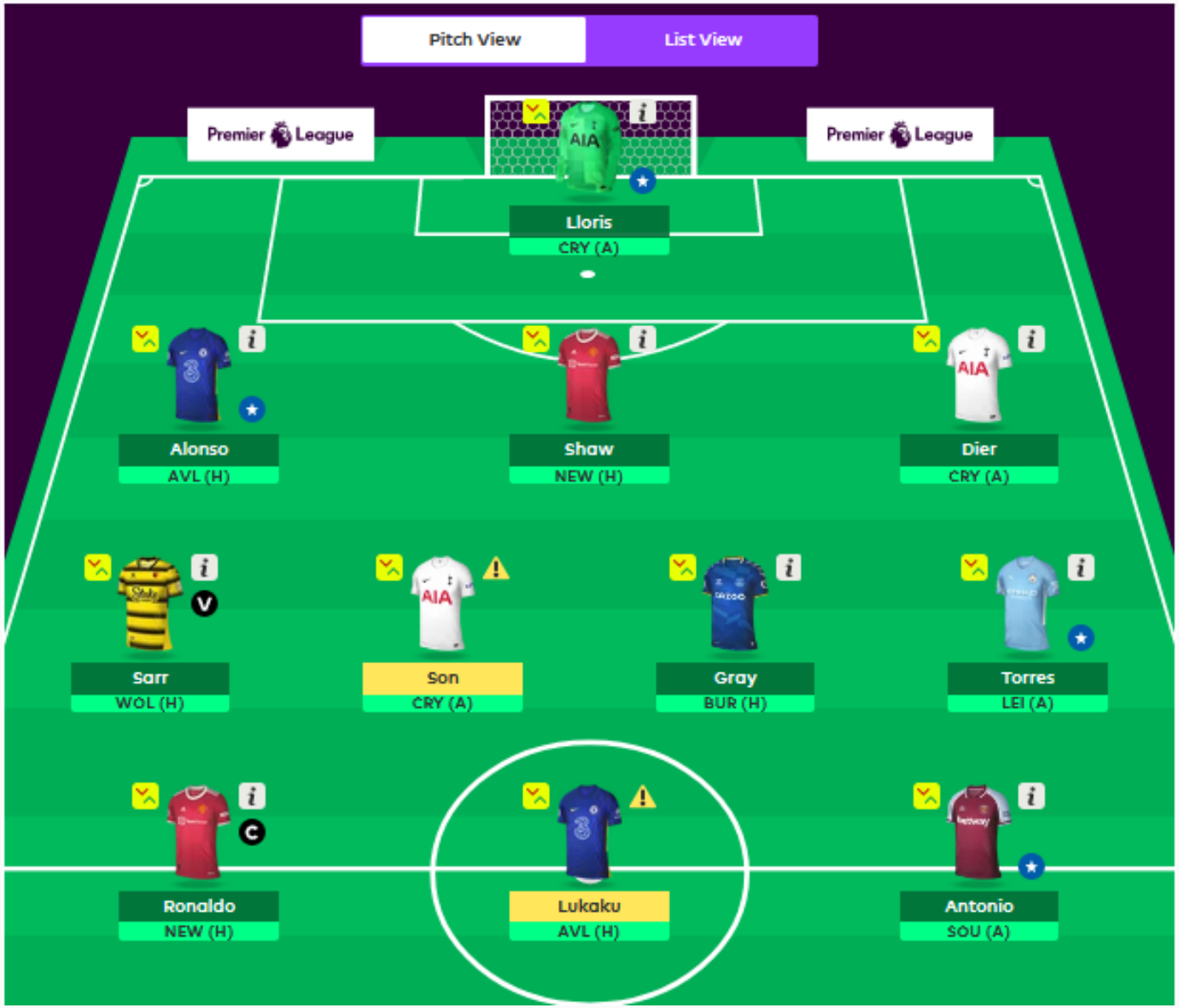
Idea

- The Premier League is the top level of the English football league system. Contested by 20 clubs, it runs from August to May with each team playing 38 matches.
- The Fantasy Premier League is the fantasy counterpart of this league (much like IPL's dream 11, which came later). Anyone can play it, where they make a team comprising of real life players and each week, they are rewarded points based on the performance of the players they have picked.
- Also choose one captain whose point score will be doubled
- Each week they can change their teams, one change for free and a penalty of points for each further change
- The aim is to predict which player will do good, thus deciding who to transfer into your team and who to make captain.

Idea


Pitch View
List View
Premier League
Premier League
Lloris
CRY (A)
Alonso
AVL (H)
Shaw
NEW (H)
Dier
CRY (A)
Sarr
WOL (H)
Son
CRY (A)
Gray
BUR (H)
Torres
LEI (A)
Ronaldo
NEW (H)
Lukaku
AVL (H)
Antonio
SOU (A)

Datasets

Player data from the FPL API

- Previous weeks' performance of the players
- Previous season's overall performance of the players
- Previous season's top performing managers and their team composition right now
- Difficulty level of the team they are facing in the next week+if it is a home or away game
- Injuries
- Total selected by percentage

Player performance odds from betting websites

References

- Bonello N, Beel J, Lawless S, Debattista J. (2019). Multi-stream Data Analytics for Enhanced Performance Prediction in Fantasy Football.
- Gupta A (2019) Time Series Modeling for Dream Team in Fantasy Premier League. International Conference on Sports Engineering (ICSE'17) CoRR abs/1909.12938
- O'Brien JD, Gleeson JP, O'Sullivan DJP (2021) Identification of skill in an online game: The case of Fantasy Premier League. PLoS ONE 16(3): e0246698. https://doi.org/10.1371/journal.pone.0246698

Planned work

Pre-processing data (clustering based on team composition) to get players who are common in teams of current high ranked players and high ranked players of previous years, along with how similar are the teams
Analysing output as binary (1 if player is predicted to score >threshold points otherwise 0)

- Applying SVM
- Using neural networks

We plan to do this analysis separately for goalkeepers, defenders, midfielders and forwards.
We also plan to try out RNN
Additional work if time permits:-

- Try to find difference makers, i.e. players not selected by many people but predicted to perform well
- Modifying the algorithm to make an initial team based on prices and the budget of 100m at the start of the season

Timeline and division of work

- Proposal to Midway:
  Data Scraping, parsing and clustering analysis for pre-processing
  Running SVM on data and checking predictions
  Comparing predictions with inbuilt ICT index of FPL, Running again including the ICT indices
  Starting work on neural network code
- Midway to Final:
  Running NN on data
  Improving on these algorithms (RRNs)
  Implementing a program to scrape and automatically process data every week just before team selection deadline

Work division

- Praneet: Clustering analysis, code for SVM and NN
- Adarsha: Scraping and parsing, Automating the process for every week
- Both: Improving on these algorithms