English Premier League (EPL) scoreline prediction model

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Introduction

Presentation structure:

- Methodology
- Key Visualisation
- Model selection
- Model Evaluation

Methodology

Datasets:

- Match data: epl_matches_messy
- Team attributes data: team_attributes_messy
- The combined dataset covered the 2019/20 – 2023/24 seasons

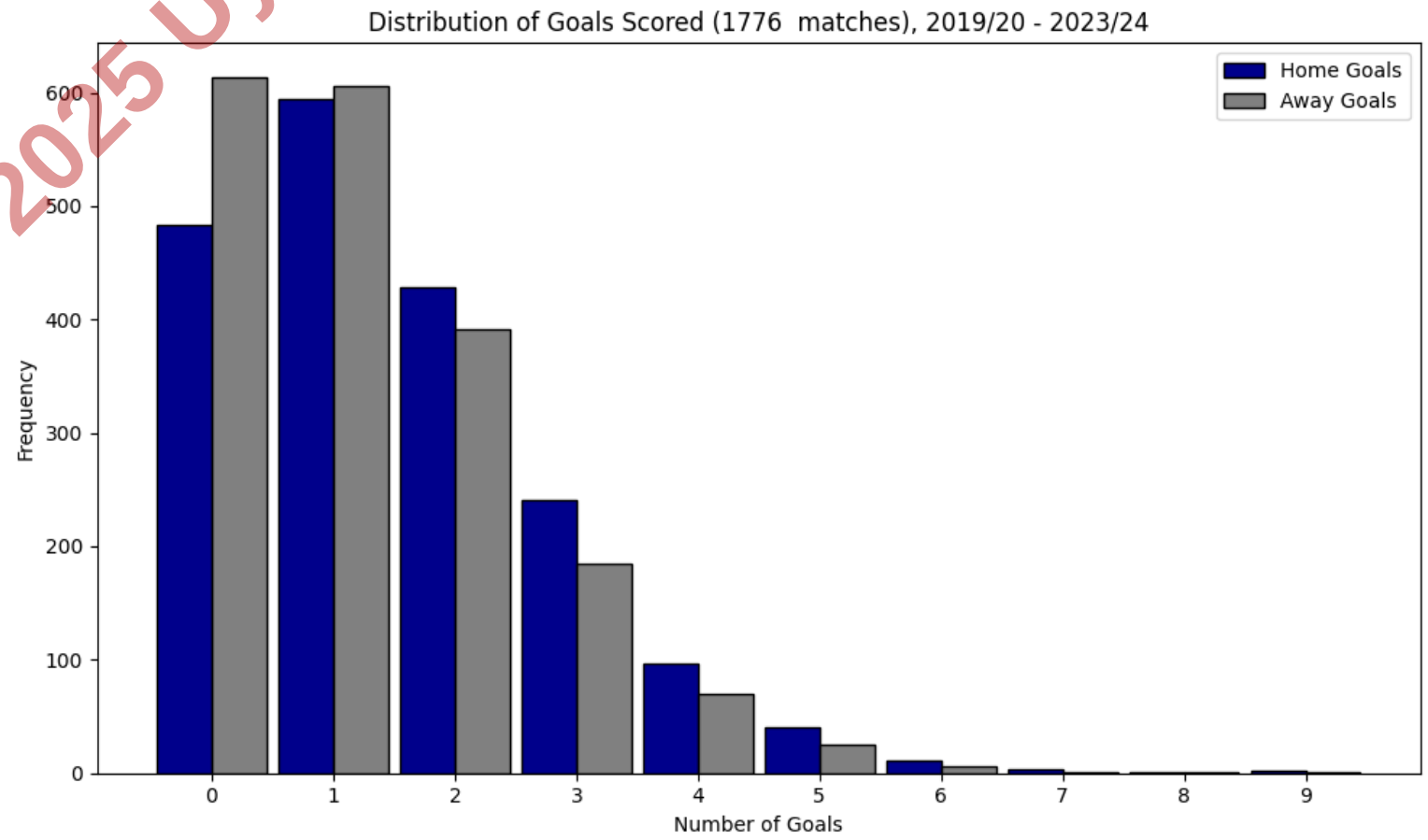
Data Preparation:

- Carried out cleaning on the columns in each dataset
- Explored the dataset by deriving useful information on each column
- Created features from each dataset
- Combined match and team attributes data

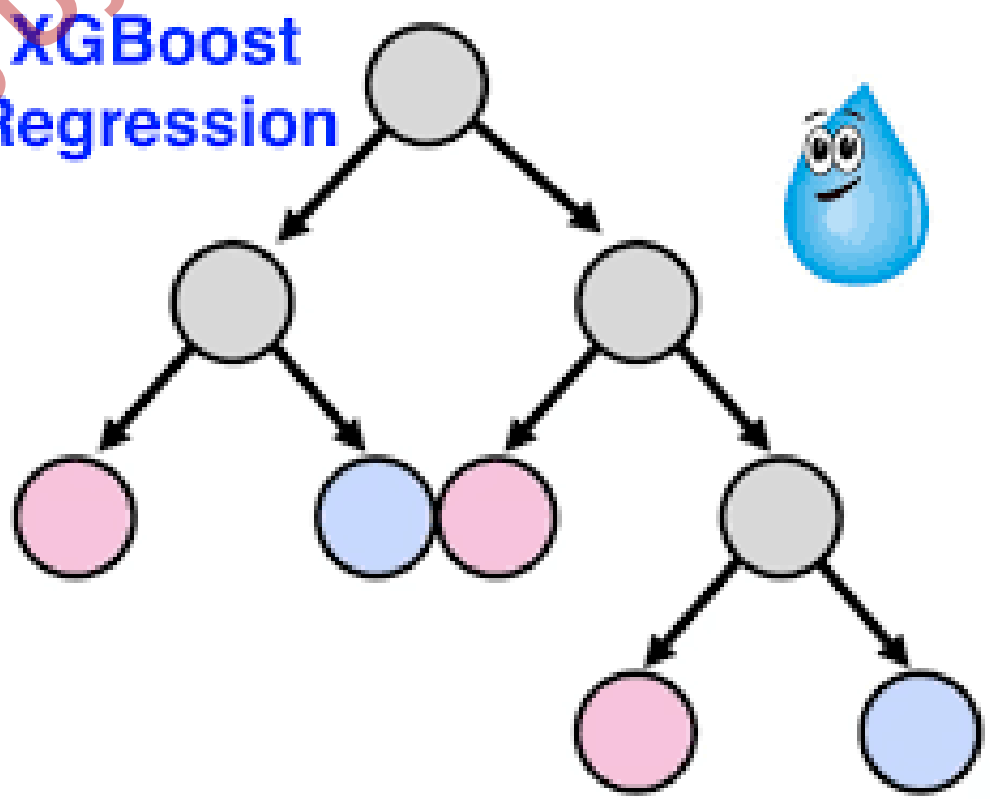
Analysis:

- Built an XG Boost model to predict scorelines
- Evaluated model

Distribution of goals



Model selection



Model Evaluation

R-squared: a measure of the combined importance of independent variables in a model in determining one or more dependent variables

R-squared (Home/Away): The R-squared value implies that the model provides a baseline for future predictions with additional features required to provide more robust scoreline predictions

Mean Absolute Error: a measure of the average absolute difference between predicted and actual values

Mean Absolute Error (MAE) (Home/Away): On average, the model's prediction of the number of goals the home team and away teams score is typically **+/-1 goal** of the actual number of goals scored

Overall Mean Absolute Error (MAE): The total average prediction error for a match's scoreline is approximately **+/- 1 goal**