Cricket Match Analytics and Prediction

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Introduction

- Cricket generates a plethora of data related to different aspects of the game.
- T20 being a popular format, opens opportunities for various statistical analysis.
- We attempted to describe some of the statistics for IPL and predict batsman performance in a fixture.

Goal

Generate and plot Batsman, Bowler, and Match analytics using Pandas and plotting libraries

Can result be predicted based on historical data?

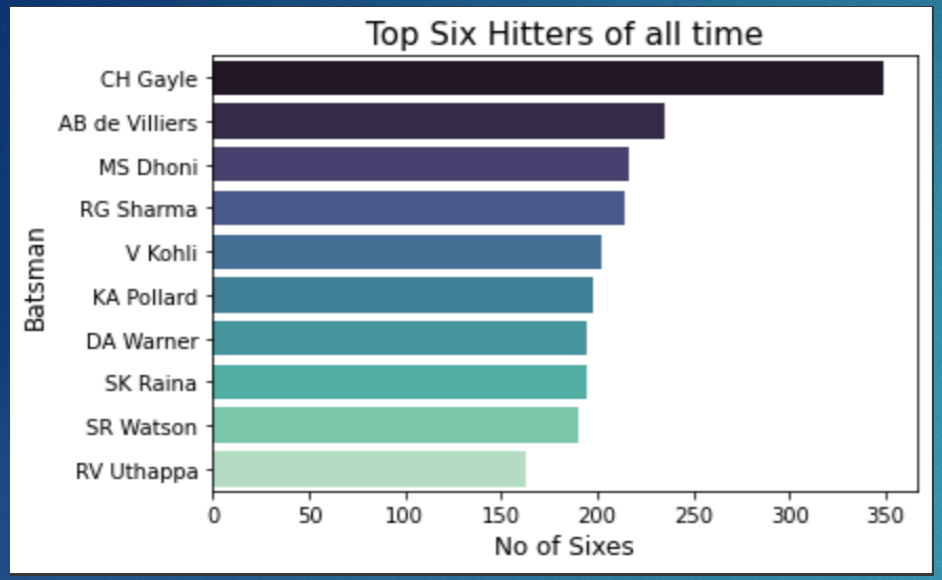
Which model is suitable for prediction?

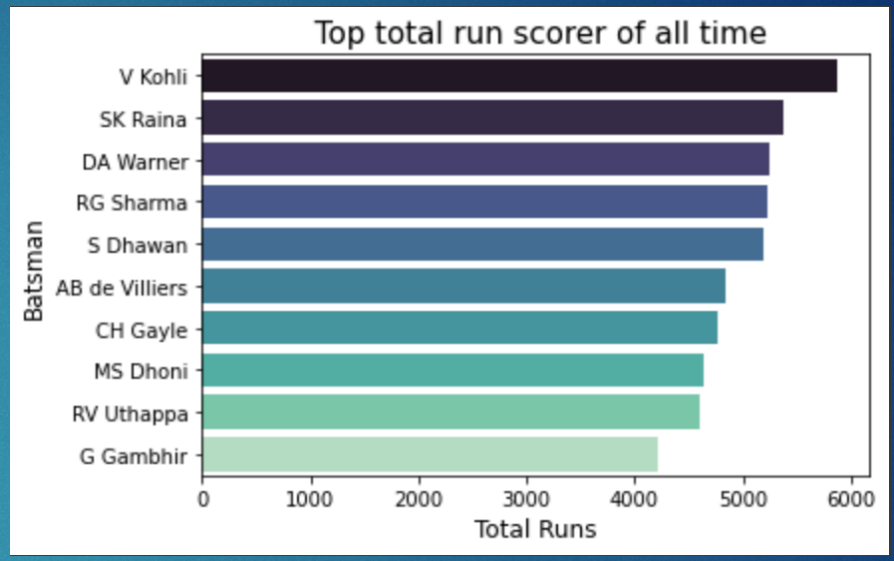
How accurate is the model?

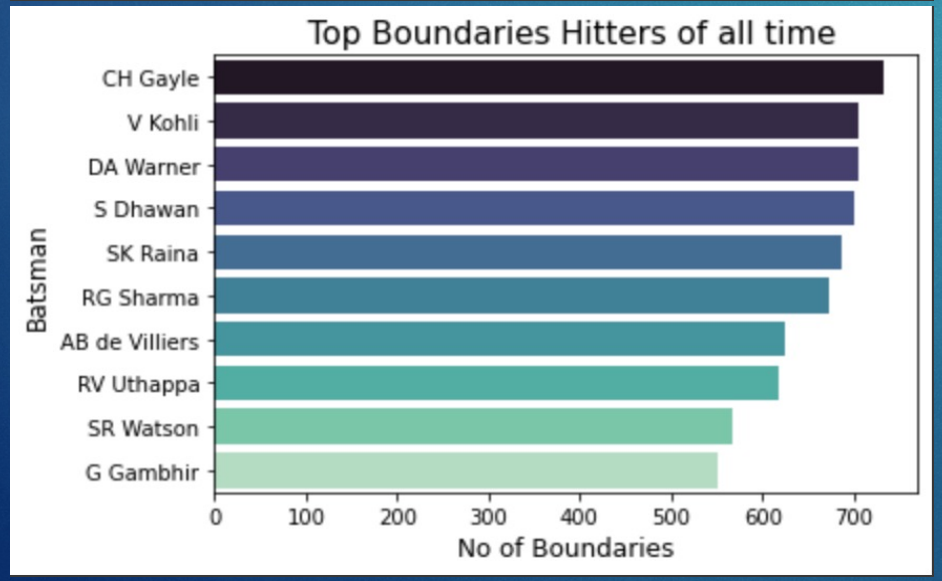
Match Analytics

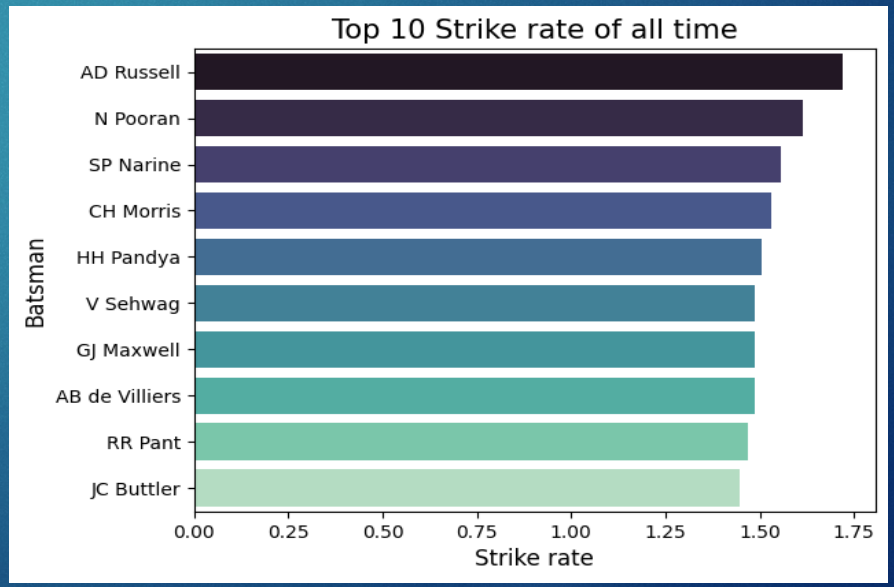
- Generate various statistics for batsman, bowler and match.
- Batsman statistics consists of highest run scorer, best strike rate, etc.
- Bowling statistics consists of best economy, highest wicket takers etc.
- Match statistics consists of toss winner, match winner given toss result etc.

Batsman Analytics

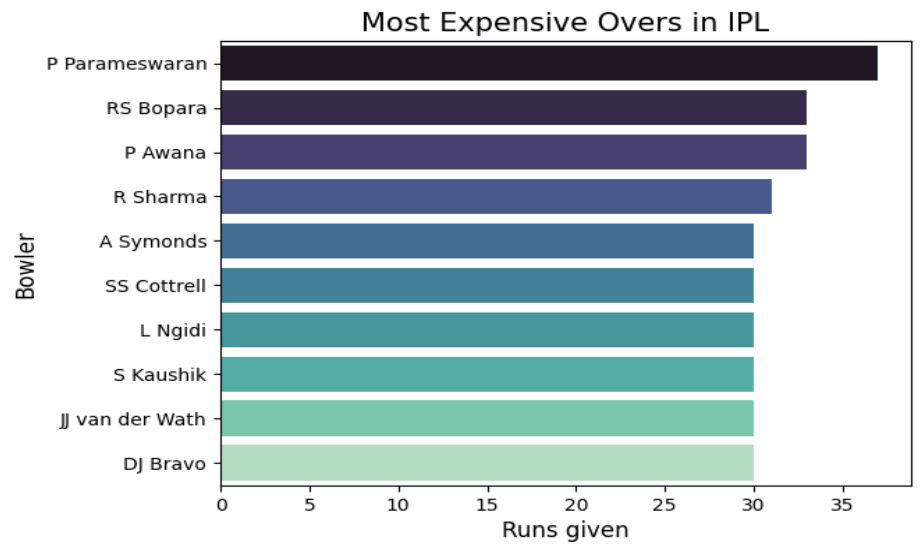


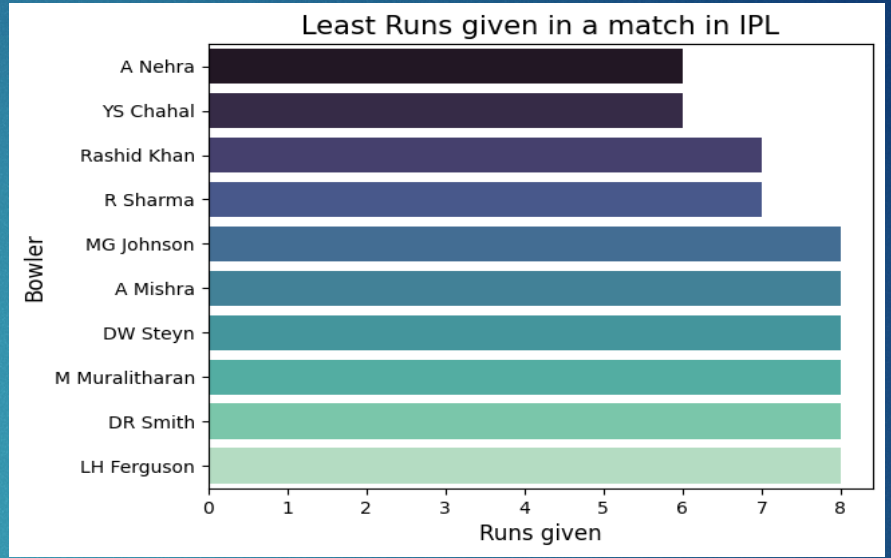


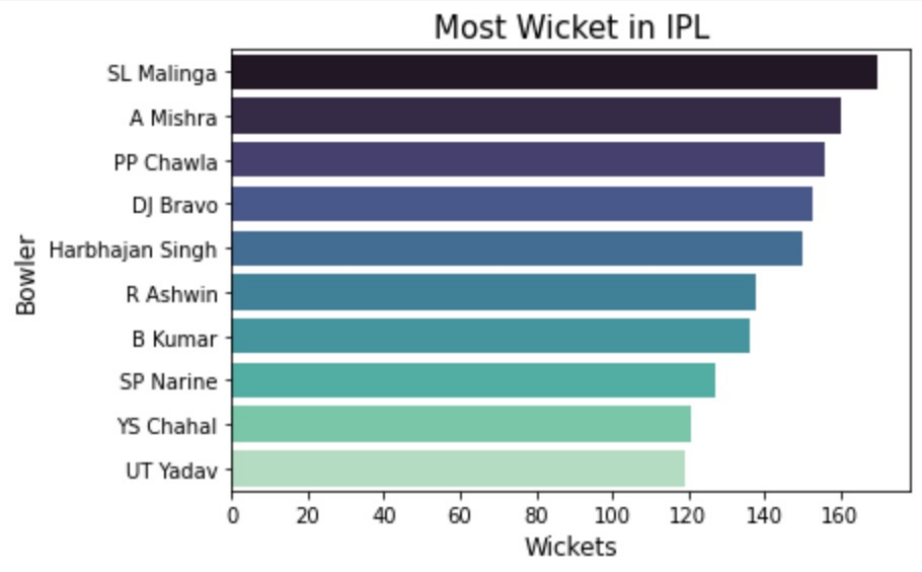


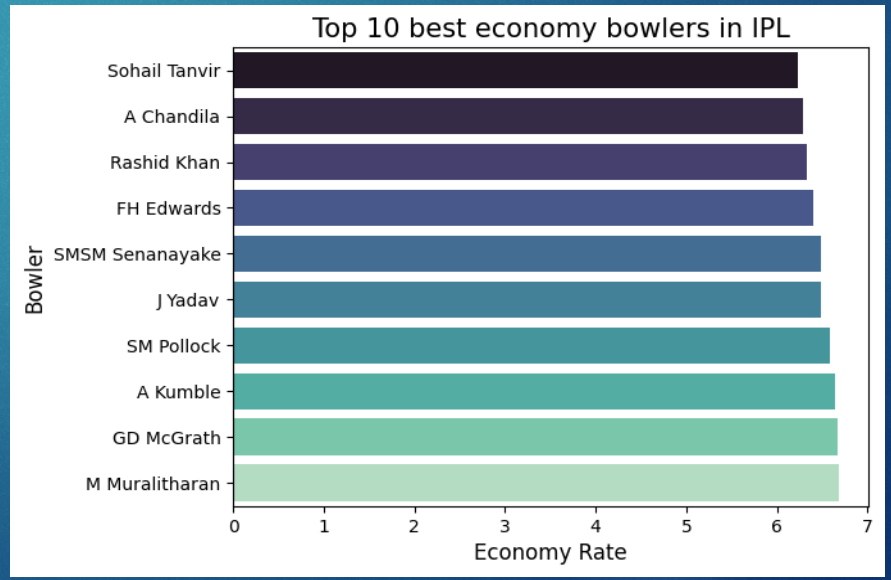


Bowler Analytics

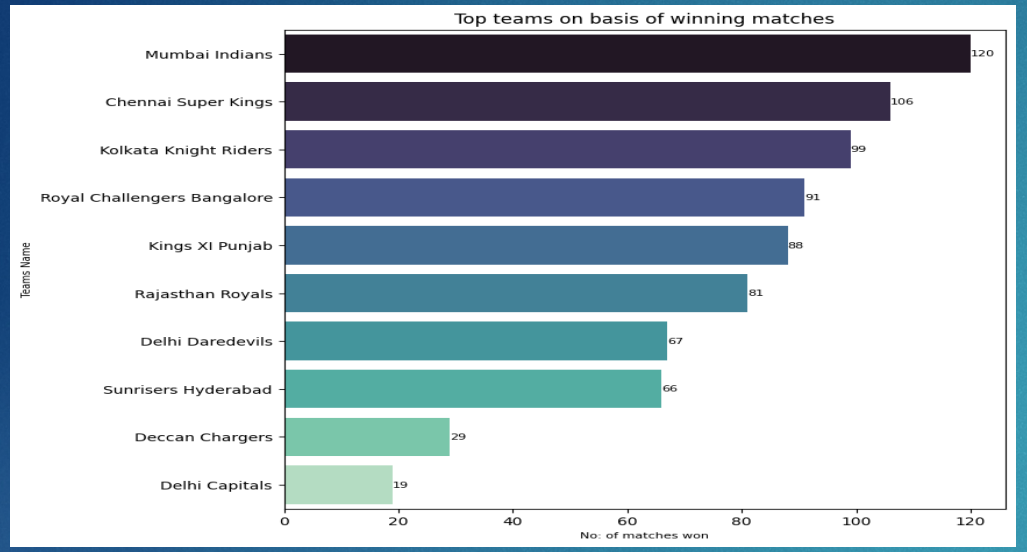


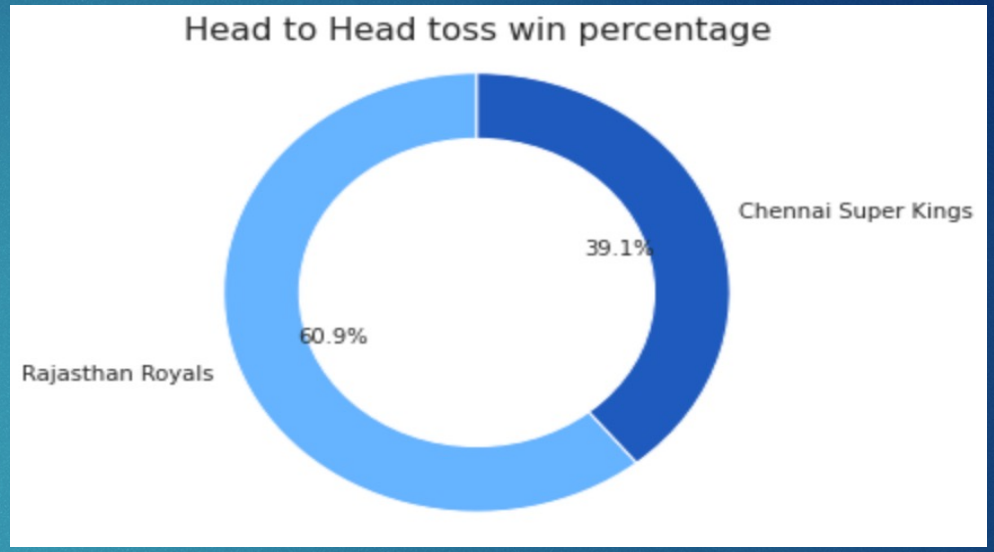


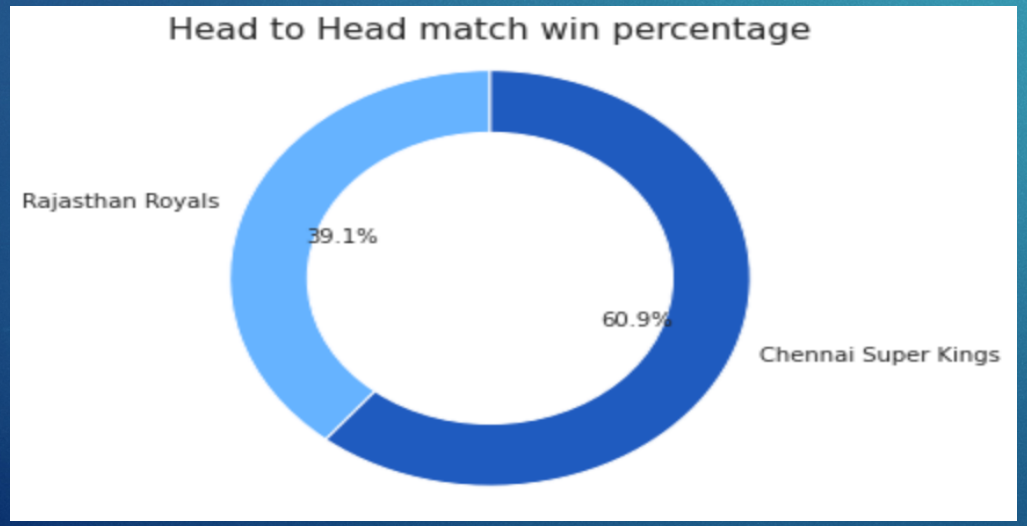


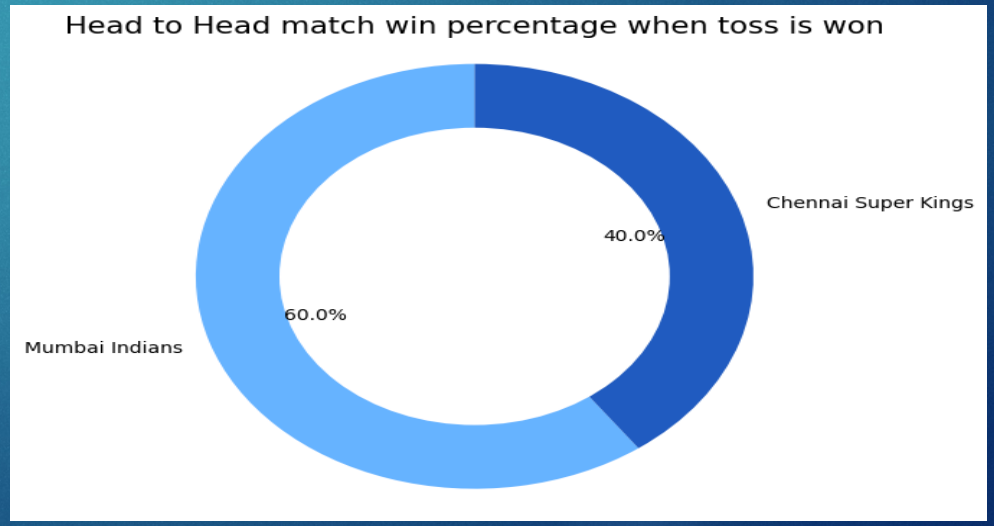


Match Analytics









Prediction Model

- Data Split: Train (First 80%) Test (Rest 20%)
- Source: kaggle.com

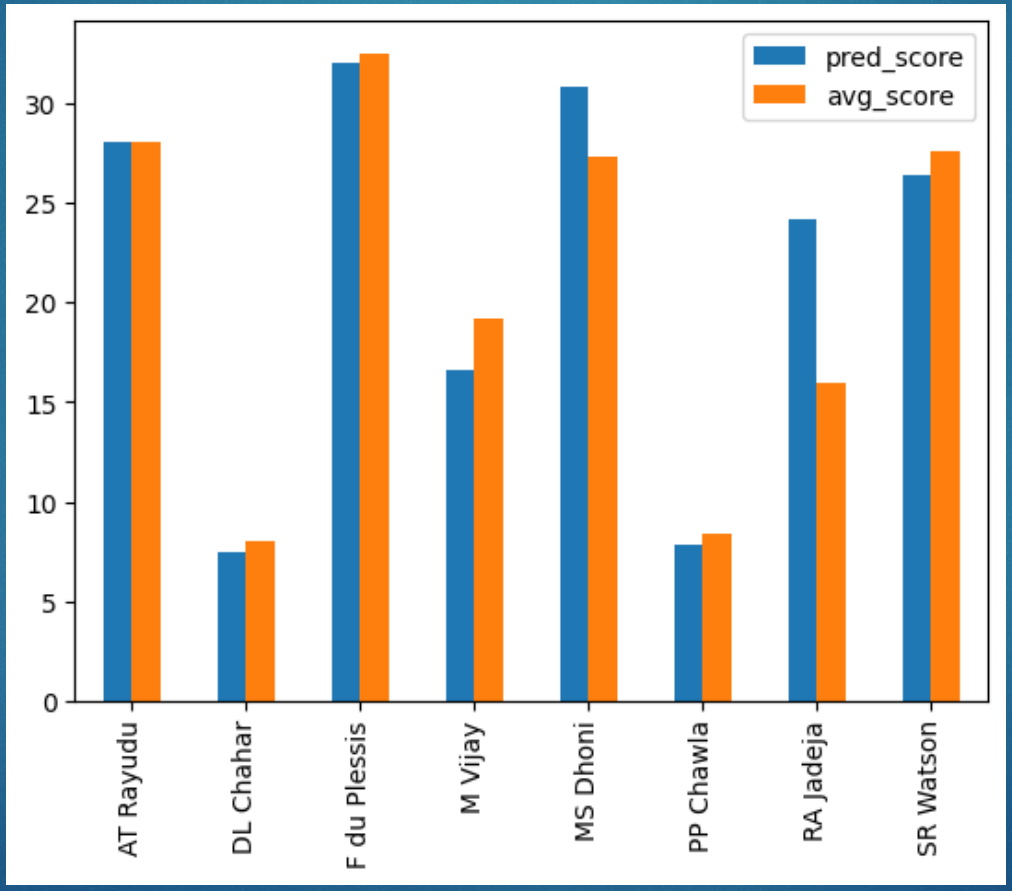
- Apply different regression models on the generated match analytics
- Model is trained on historical dataset
- Can we predict team performance from the above models ?

- Model features:
  - Balls faced
  - Innings
  - Fours hit
  - Sixes hit
  - Batsmen Avg
  - Total runs
  - Strike rate
  - Runs per inning

Performance metrics and Evaluation

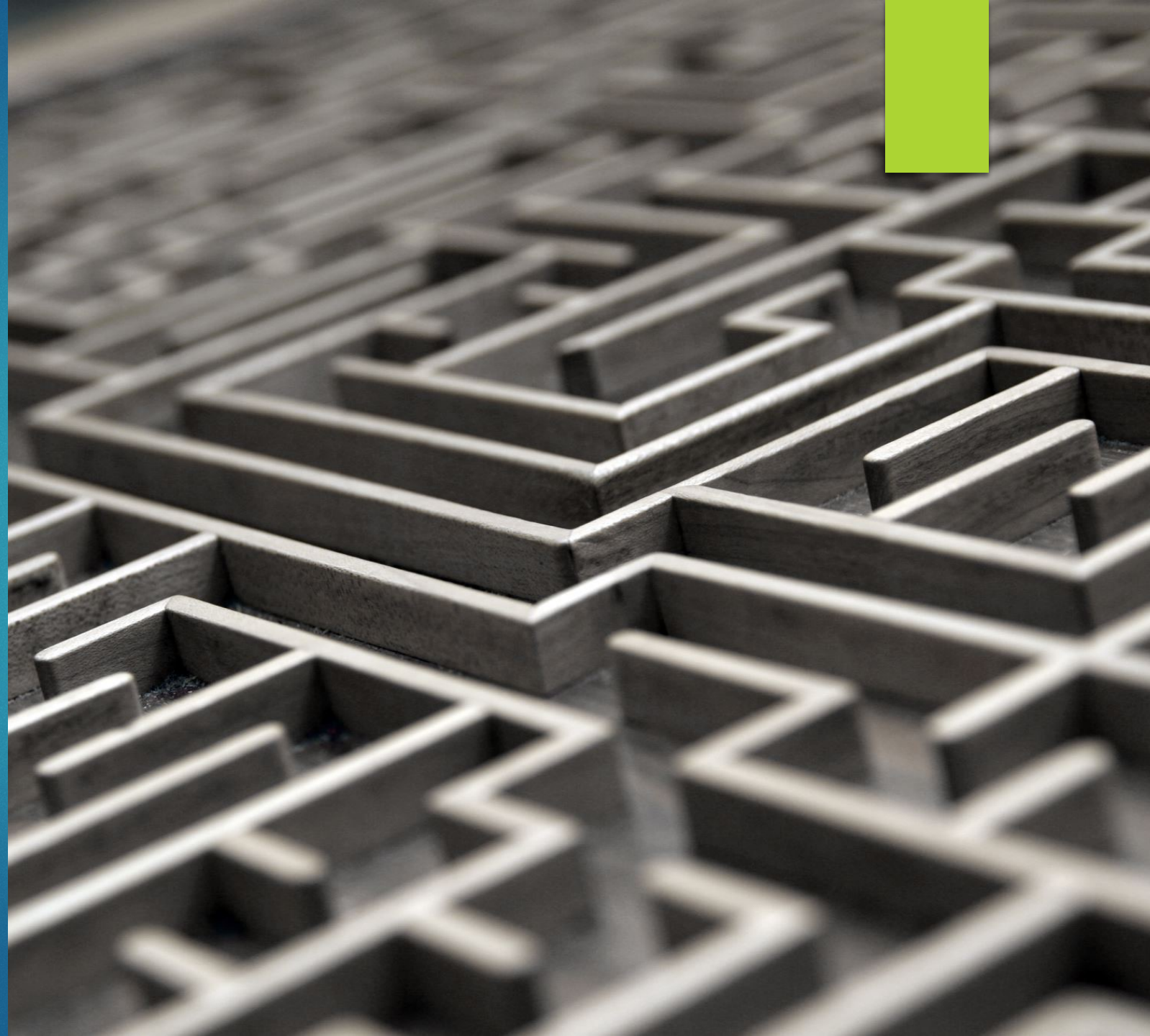
Model	RMSE	R2
Linear Regression	4.14	0.85
Random Forest	3.40	0.90
Gradient Boost	2.82	0.93

Result - Batsman Run Prediction



Challenges

- Skewed data sanitization
- Selecting players who are part of both train and test data set
- Selection of right feature sets for batsman for more accurate prediction was tricky
- Choosing the most accurate model



GitHub Link

- https://github.com/s0098/IPL-Cricket-Match-Analysis

Demo

Thank You