Overview and Objectives

Purpose

The primary aim is to provide objective insights into player performance, going beyond traditional statistics.

Objectives

We intend to build predictive models and create interactive visualization dashboards for enhanced analysis.

Problem Statement

Traditional performance evaluation methods often lack the depth and objectivity needed for comprehensive assessments.

Dataset Overview

Data extracted from ESPNcricinfo covers multiple matches with various performance metrics.

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Motivation Behind Data-Driven Analysis

Traditional vs. Data-Driven Analysis

Traditional analysis relies on subjective assessments and past reputations, which can be unreliable.

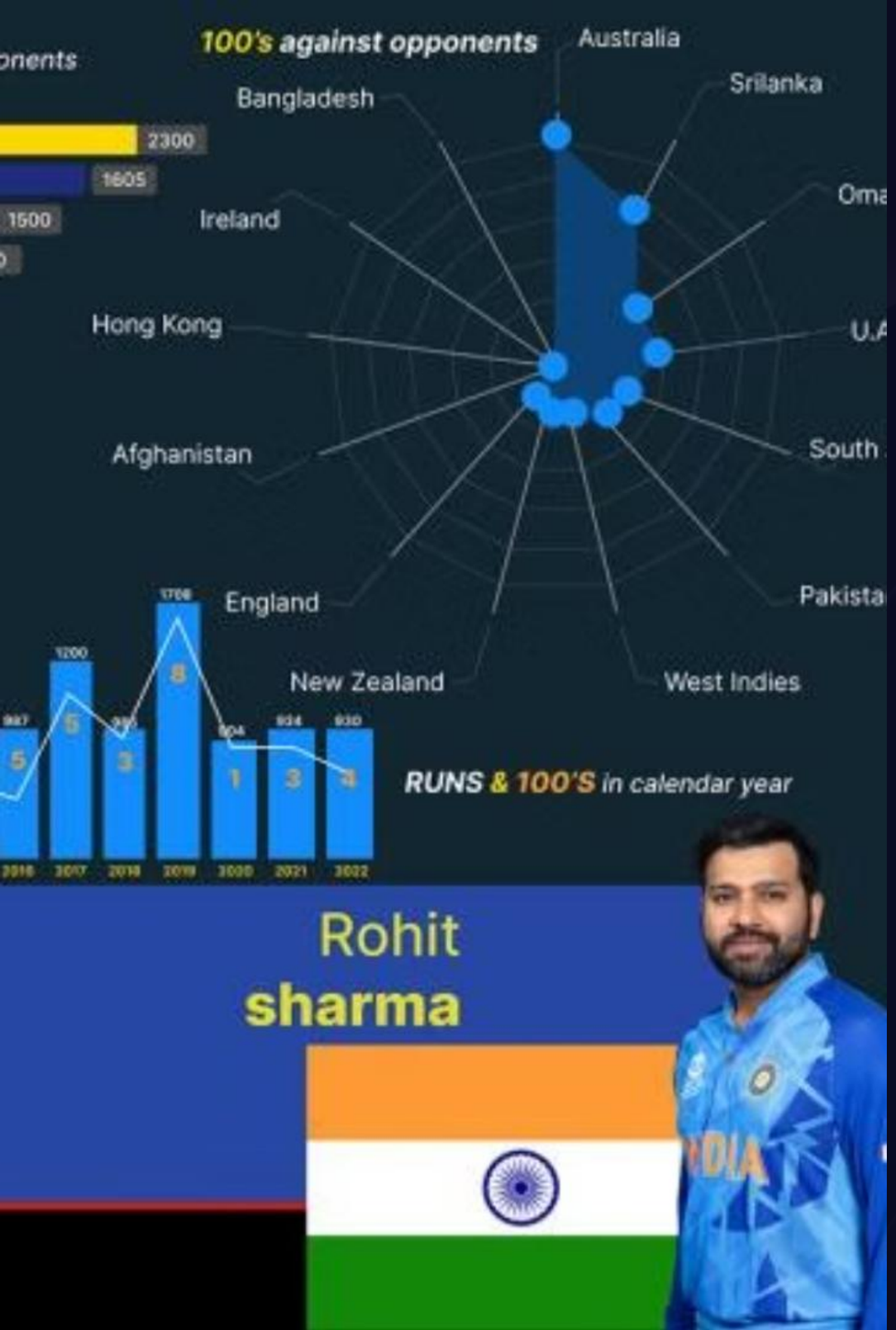
Data-driven analysis offers objective insights using statistics like strike rate and consistency.

Importance

Data driven decision making assists selectors in making informed, fact-based choices when selecting players.

Research

Our analysis demonstrates that machine learning techniques can be successfully applied in sports analytics, enhancing the evaluation process.



Project Scope and Performance Metrics

Scope

Focus on T20 cricket data, concentrating on a specific set of performance metrics for targeted analysis.

Key Performance Indicators

- Runs scored
- Batting average
- Strike rate
- Boundaries hit
- Bowling Economy

Goals

- Identify the best T20 playing 11 using key performance indicators
- Train machine learning models for optimized results
- Develop a dashboard for better visualizations of outcomes

Data Analysis and Key Insights

Data Sources

Historical T20 match data from reliable sports data providers.

Challenges

Data quality issues and limited availability of advanced performance metrics were significant hurdles.

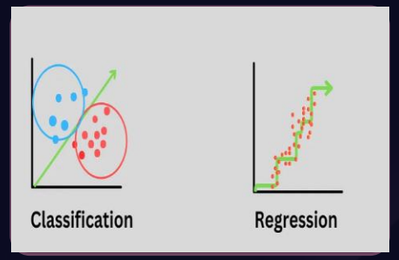
Preprocessing

Cleaning missing values and standardizing formats to ensure data quality.

Key Factors

Strike rate, consistency, and adaptability identified as crucial for player performance.

Solution and Model Implementation



Models Used

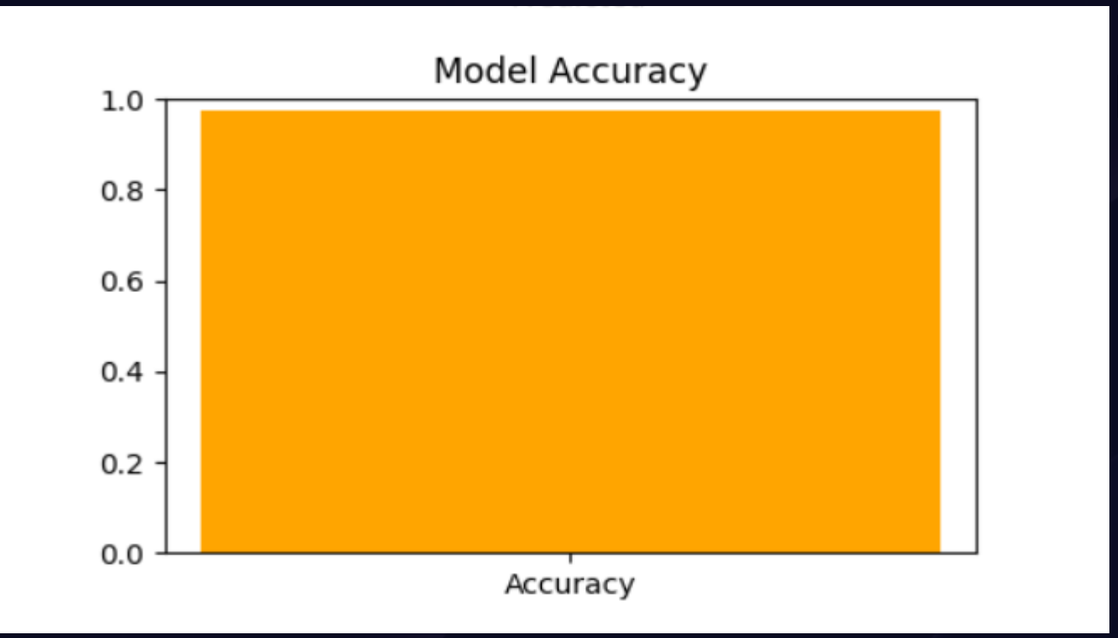
Regression, Classification (Logistic Regression, Random Forest.) were employed.

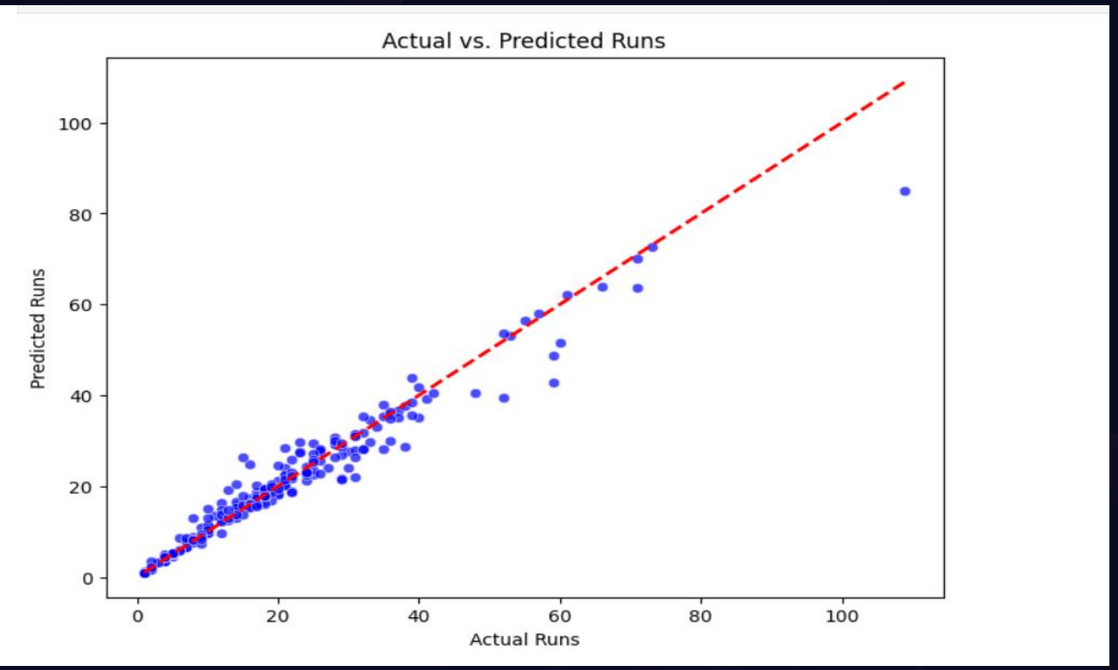
Data Cleaning

Data cleaning & feature engineering, and model training & evaluation were key processes.

Integration

Integration with visualization tools for enhanced data representation.





Preliminary Results and Success Metrics

97%

Model Accuracy

Prediction success rate achieved with our models.

Top

Players Identified

Top-performing players in different categories determined.

MAE

Metrics for regression models such as Mean Absolute Error.

Feedback

Positive user feedback on the dashboard's usability.

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Challenges and Risk Mitigation

Obstacles Faced

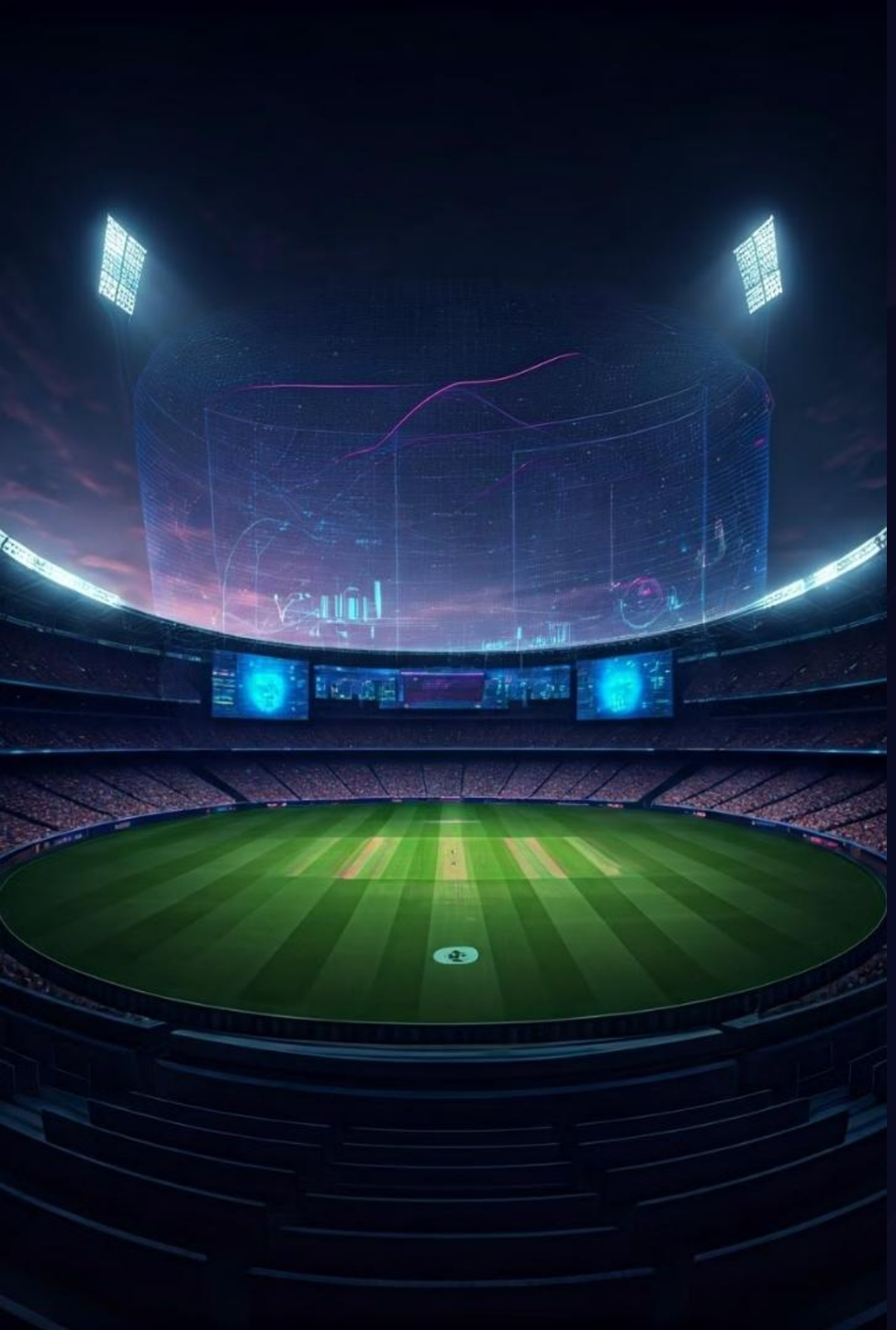
- Incomplete player statistics
- Model overfitting issues
- Dashboard usability concerns

Data Cleaning

- Techniques such as imputation were used to address data gaps.

Risk Mitigation

- Hyperparameter tuning to prevent model overfitting
- Iterative dashboard testing for usability improvements



Future Work and Planned Improvements

Remaining Tasks

Improve model accuracy by also embedding the sentiment analysis and enhance dashboard interactivity for better user experience.

Planned Improvements

Introduce deep learning techniques and integrate live match data for real-time analysis.

Timeline

Completion of all tasks and improvements by April 18, 2025.

Conclusion & Takeaways

- Data-driven analysis improves evaluation.
- Machine learning models show promise.
- Visualization makes insights accessible.

Impact: Enhances decision-making in cricket analytics.

Final Thoughts: Future enhancements to improve accuracy.

stage

- [ ] Qualifier
- [ ] Super 12

Shortlisted candidates based on parameters

name	team	battingStyle	Total Innings Batted	Total Runs	total balls faced	Strike rate	Batting Avg	Batting Position	Boundary %
Jos Buttler	England	Right hand Bat	6	225	156	144.23	45.00	1	61.33%
Alex Hales	England	Right hand Bat	6	212	144	147.22	42.40	2	64.15%
Rilee Rossouw	South Africa	Left hand Bat	4	141	83	169.88	35.25	3	63.83%
Kusal Mendis	Sri Lanka	Right hand Bat	8	223	156	142.95	31.86	2	57.40%
Quinton de Kock	South Africa	Left hand Bat	5	124	77	161.04	31.00	2	75.81%
Total			**29**	**925**	**616**	**150.16**	**37.00**	**2**	**63.35%**

Players by Bat Avg & Strike Rate

Consolidated Parameters

20.16
Batting Avg

117.08
Strike rate

50.34%
Boundary %

13.65
Average Balls Faced

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