TECH CRICKET

Innovating game with advanced technologies

This project aims to leverage data scraping techniques to gather comprehensive performance statistics of every cricket player in **T20 WORLD CUP 2022** By applying advanced analytics and setting specific performance constraints, the team will identify and select the best team of 11 players. This data-driven approach will enable informed decisions based on objective performance metrics, ultimately enhancing team composition and strategic planning for **T20** .

By Team **CREATORS**

Foundation/Basis

1 Data Scraping

The project aims to use data scraping techniques to gather comprehensive performance statistics of every cricket player in the **T20 world cup 2022.**

2 Advanced Analytics

By applying advanced analytics and setting specific performance constraints, the team will identify and select the best team of 11 players.

3 Data-Driven Approach

This data-driven approach will enable informed decisions based on objective performance metrics, ultimately enhancing team composition and strategic planning for the **world cup** 2022 season.

Scope and Relevance

Scope of the Study

This study aims to use data scraped from cricket websites to analyze player performance in **world cup** 2022 and formulate an optimal team composition for **world cup** 2022

Relevance of the Study

This study is relevant as it provides data-driven insights for **T20** team selection, potentially enhancing team performance and fan engagement.

Research Questions

How can data analytics improve player evaluation in **T20**?

Methodology

1 Data Collection

Gather player performance data from cricket website for **WC 2022**

2 Data Preprocessing

Clean and normalize the data, handling missing values and outliers.

3 Feature Selection

Identify key performance metrics for batting, bowling, and fielding.

4 Data Analysis

Use statistical analysis and visualization tools to evaluate player performance.

5 Player Evaluation

Rank players based on performance scores derived from analysis.

6 Team Composition

Formulate an optimal team by selecting top-performing players based on set criteria.

7 Validation and Sensitivity Analysis

Validate team composition against historical data and conduct sensitivity analysis.

8 Documentation and Reporting

Document methodology and findings in a comprehensive report.

Player Selection Constraints

OPENERS

PARAMETERS	DESCRIPTION	CRITERIA
Batting Average	Average runs scored in an innings	> 30
Strike Rate	No of runs scored per 100 balls	> 140
Innings Batted	Total Innings batted	> 3
Boundary %	% of runs scored in boundaries	> 50
Batting Position	Order in which the batter played	< 4

ANCHORS / MIDDLE ORDER

PARAMETERS	DESCRIPTION	CRITERIA
Batting Average	Average runs scored in an innings	> 40
Strike Rate	No of runs scored per 100 balls	> 125
Innings Batted	Total Innings batted	> 3
Avg. Balls Faced	Average balls faced by the batter in an innings	> 20
Batting Position	Order in which the batter played	> 2

FINISHER / LOWER ORDER ANCHOR

PARAMETERS	DESCRIPTION	CRITERIA
Batting Average	Average runs scored in an innings	> 25
Strike Rate	No of runs scored per 100 balls	> 130
Innings Batted	Total Innings batted	> 3
Avg. Balls Faced	Average balls faced by the batter in an innings	> 12
Batting Position	Order in which the batter played	> 4
Innings Bowled	Total Innings Bowled by the bowler	> 1

Steps to follow

1

Data scraping

Scrape all the data from the ESPN website using Python program.

2

Data Cleaning and Transformation

Clean and transform the data using Python Pandas.

3

Data Transformation in Power Query

Further transform the data using Power Query.

4

Data Modeling and Building Parameters

Model the data and build parameters using DAX.

5

Build Dashboard in Power BI

Visualize the data and insights in a Power BI dashboard.

6

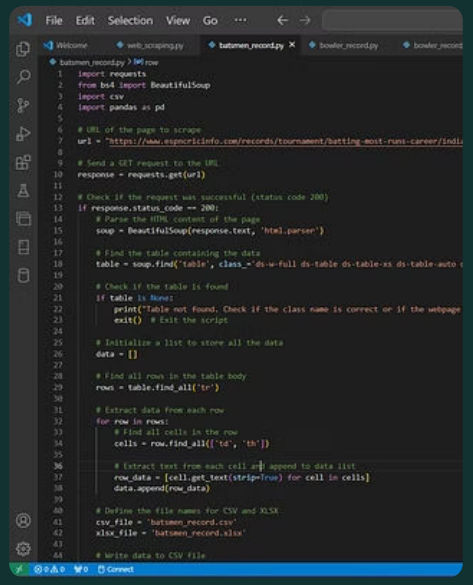
Collect Insights and Select Final 11 Players

Analyze the dashboard to select the optimal 11 players for world cup 2022

Data Collection using Web Scraping

Python - Pandas

Use Python and Pandas for data scraping and collection.



Data Cleaning & Transformation

Python - Pandas

Use Python and Pandas for data cleaning and transformation into csv files

Data Transformation in Power Query

Power Query

Further transform the data using Power Query.

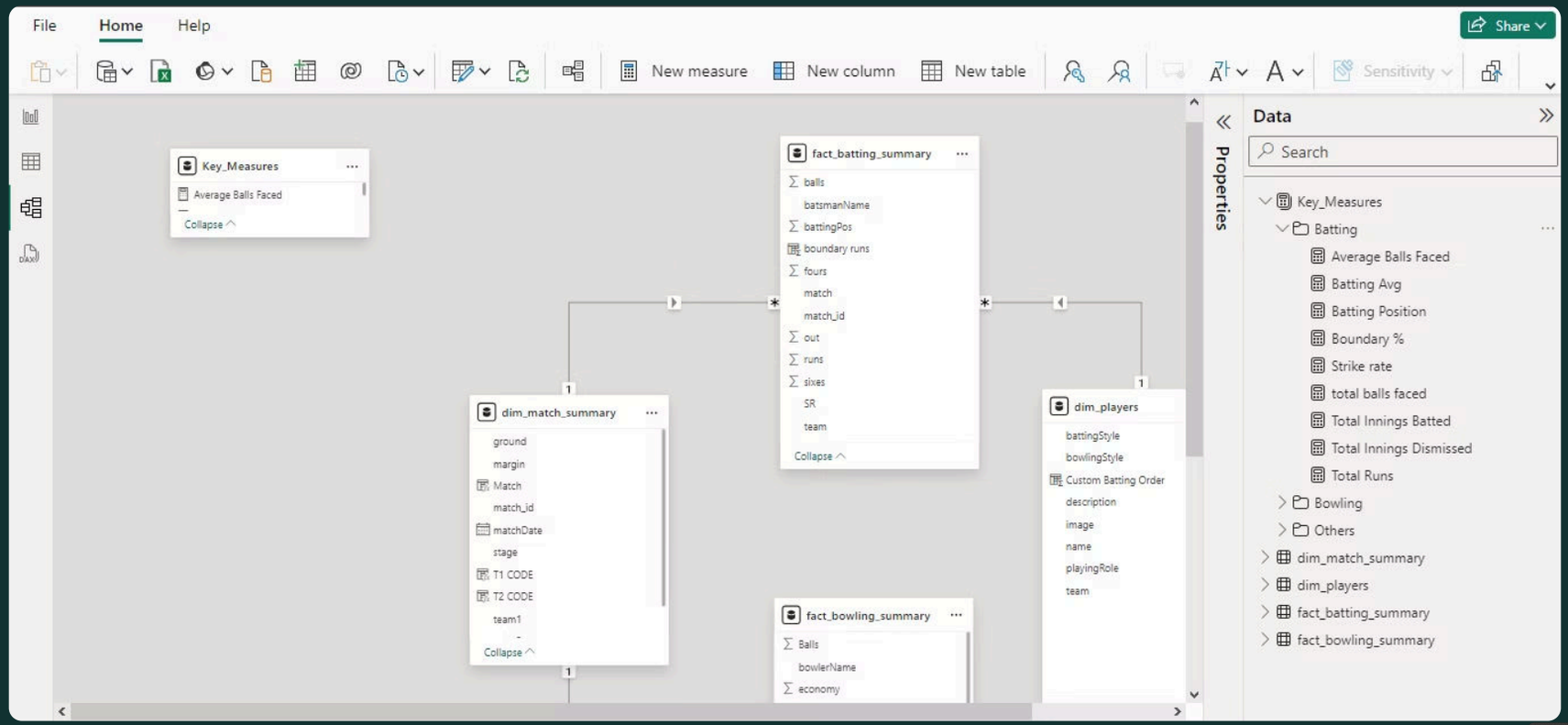
e.g of the output:

match	teaminnings	battingPos	batsmanName	runs	balls	4s	6s	SR	out/not_o	match_id
Namibia Vs Sri Lanka	Namibia	1	Michael van Lingen	3	6	0	0	50	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	2	Divan la Cock	9	9	1	0	100	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	3	Jan Nicol Loftie-Eaton	20	12	1	2	166.66	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	4	Stephan Baard	26	24	2	0	108.33	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	5	Gerhard Erasmus(c)	20	24	0	0	83.33	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	6	Jan Frylinck	44	28	4	0	157.14	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	7	David Wiese	0	1	0	0	0	out	T20I # 1823
Namibia Vs Sri Lanka	Namibia	8	JJ Smit	31	16	2	2	193.75	not_out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	1	Pathum Nissanka	9	10	1	0	90	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	2	Kusal Mendis	6	6	0	0	100	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	3	Dhananjaya de Silva	12	11	1	0	109.09	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	4	Danushka Gunathilak	0	1	0	0	0	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	5	Bhanuka Rajapaksa	20	21	2	0	95.23	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	6	Dasun Shanaka(c)	29	23	2	1	126.08	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	7	Wanindu Hasaranga (	4	8	0	0	50	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	8	Chamika Karunaratne	5	8	0	0	62.5	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	9	Pramod Madushan	0	0	0	0	-	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	10	Dushmantha Chameer	8	15	0	0	53.33	out	T20I # 1823
Namibia Vs Sri Lanka	Sri Lanka	11	Maheesh Theekshana	11	11	0	1	100	not_out	T20I # 1823
U.A.E. Vs Netherlands	U.A.E.	1	Chirag Suri	12	20	1	0	60	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	2	Muhammad Waseem	41	47	1	2	87.23	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	3	Kashif Daud	15	14	0	1	107.14	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	4	Vriitya Aravind	18	21	0	0	85.71	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	5	Zawar Farid	2	4	0	0	50	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	6	Basil Hameed	4	4	1	0	100	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	7	Chundangapoyil Rizw	1	2	0	0	50	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	8	Aayan Afzal Khan	5	7	0	0	71.42	out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	9	Karthik Meiyappan	0	0	0	0	-	not_out	T20I # 1825
U.A.E. Vs Netherlands	U.A.E.	10	Junaid Siddique	0	1	0	0	0	not_out	T20I # 1825

Data Modelling & Building Parameters

DAX

Neural network and AI to process and clean the data to create prediction and analytics based on cleaned and analysed data



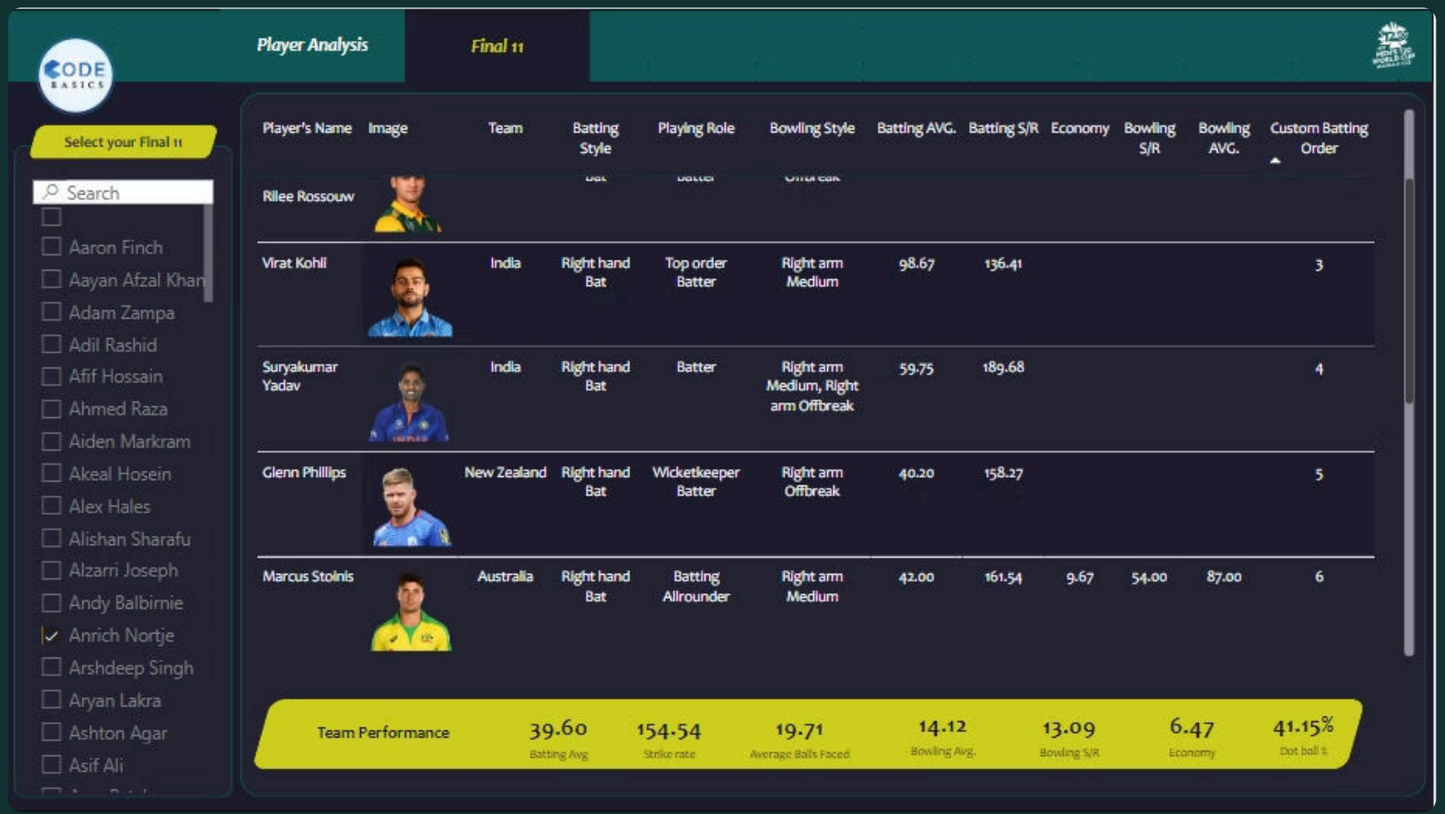
Build Dashboard in Power BI

Power BI

Visualize the data and insights in a Power BI dashboard.

Collect Insights and Select Final 11 Players

Analyze the dashboard to select the optimal 11 players for world cup 2022



Thank You

Thank you for your attention.