

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



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 Scrapping



Python - Pandas

Use Python and Pandas for data scraping and collection.

| Rank | Name | Height | Weight | Birth Date | Reviews |
|------|---------------------|--------|--------|------------|---------|
| 1 | Novak Djokovic | 188 | 80 | 1987-05-22 | 100 |
| 2 | Rafael Nadal | 190 | 85 | 1986-06-03 | 95 |
| 3 | Andy Murray | 185 | 75 | 1988-07-17 | 90 |
| 4 | Nicola Pietrangeli | 180 | 70 | 1990-01-15 | 85 |
| 5 | Francesca Schiavone | 175 | 65 | 1976-08-29 | 80 |
| 6 | Flavia Pennetta | 165 | 55 | 1979-09-18 | 75 |
| 7 | John McEnroe | 185 | 75 | 1959-09-19 | 70 |
| 8 | Jimmy Connors | 180 | 70 | 1952-09-02 | 65 |
| 9 | Chris Evert | 170 | 60 | 1955-03-29 | 60 |
| 10 | Steffi Graf | 168 | 58 | 1969-06-14 | 55 |
| 11 | Andre Agassi | 188 | 80 | 1975-03-29 | 50 |
| 12 | Evonne Cuyjk | 175 | 65 | 1960-02-16 | 45 |
| 13 | Kim Clijsters | 175 | 65 | 1983-03-23 | 40 |
| 14 | Monica Seles | 170 | 60 | 1973-11-28 | 35 |
| 15 | Manuela Llaneza | 165 | 55 | 1965-03-10 | 30 |
| 16 | Sherry Peck | 160 | 50 | 1960-01-20 | 25 |
| 17 | Barbara Potter | 165 | 55 | 1959-05-14 | 20 |
| 18 | Julianne Phelps | 160 | 50 | 1959-05-14 | 15 |
| 19 | Barbara Fritzos | 160 | 50 | 1959-05-14 | 10 |
| 20 | Barbara Fritzos | 160 | 50 | 1959-05-14 | 5 |

```
1 # Import the necessary libraries
2 from bs4 import BeautifulSoup
3 import pandas as pd
4
5 # URL of the page to scrape
6 url = "https://www.espn.com/tennis/tournament/getting-most-runs-career/india"
7
8 # Send a GET request to the URL
9 response = requests.get(url)
10
11 # Check if the request was successful (status code 200)
12 if response.status_code == 200:
13     # Parse the HTML content of the page
14     soup = BeautifulSoup(response.text, 'html.parser')
15
16     # Find the table containing the data
17     table = soup.find('table', class_='ds-w-full ds-table ds-table-auto')
18
19     # Check if the table is found
20     if table is None:
21         print("Table not found. Check if the class name is correct or if the webpage exists.")
22         exit()
23
24     # Initialize a list to store all the data
25     data = []
26
27     # Find all rows in the table body
28     rows = table.find_all('tr')
29
30     # Extract data from each row
31     for row in rows:
32         # Find all cells in the row
33         cells = row.find_all('td')
34
35         # Extract text from each cell and append to data list
36         row_data = [cell.get_text(strip=True) for cell in cells]
37         data.append(row_data)
38
39     # Define the file names for CSV and XLSX
40     csv_file = 'tennis_record.csv'
41     xls_file = 'tennis_record.xlsx'
42
43     # Write data to CSV file
44     pd.DataFrame(data).to_csv(csv_file, index=False)
```

| Player | Year | Age | Height | Weight | Birth Date | Reviews |
|---------------------|------|-----|--------|--------|------------|---------|
| Novak Djokovic | 2023 | 36 | 188 | 80 | 1987-05-22 | 100 |
| Rafael Nadal | 2023 | 37 | 190 | 85 | 1986-06-03 | 95 |
| Andy Murray | 2023 | 35 | 185 | 75 | 1988-07-17 | 90 |
| Nicola Pietrangeli | 2023 | 33 | 180 | 70 | 1990-01-15 | 85 |
| Francesca Schiavone | 2023 | 44 | 175 | 65 | 1976-08-29 | 80 |
| Flavia Pennetta | 2023 | 44 | 165 | 55 | 1979-09-18 | 75 |
| John McEnroe | 2023 | 64 | 185 | 75 | 1959-09-19 | 70 |
| Jimmy Connors | 2023 | 71 | 180 | 70 | 1952-09-02 | 65 |
| Chris Evert | 2023 | 68 | 170 | 60 | 1955-03-29 | 60 |
| Steffi Graf | 2023 | 54 | 168 | 58 | 1969-06-14 | 55 |
| Andre Agassi | 2023 | 48 | 188 | 80 | 1975-03-29 | 50 |
| Evonne Cuyjk | 2023 | 63 | 175 | 65 | 1960-02-16 | 45 |
| Kim Clijsters | 2023 | 40 | 175 | 65 | 1983-03-23 | 40 |
| Monica Seles | 2023 | 50 | 170 | 60 | 1973-11-28 | 35 |
| Manuela Llaneza | 2023 | 58 | 165 | 55 | 1965-03-10 | 30 |
| Sherry Peck | 2023 | 63 | 160 | 50 | 1960-01-20 | 25 |
| Barbara Potter | 2023 | 64 | 165 | 55 | 1959-05-14 | 20 |
| Julianne Phelps | 2023 | 64 | 160 | 50 | 1959-05-14 | 15 |
| Barbara Fritzos | 2023 | 64 | 160 | 50 | 1959-05-14 | 10 |
| Barbara Fritzos | 2023 | 64 | 160 | 50 | 1959-05-14 | 5 |

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:

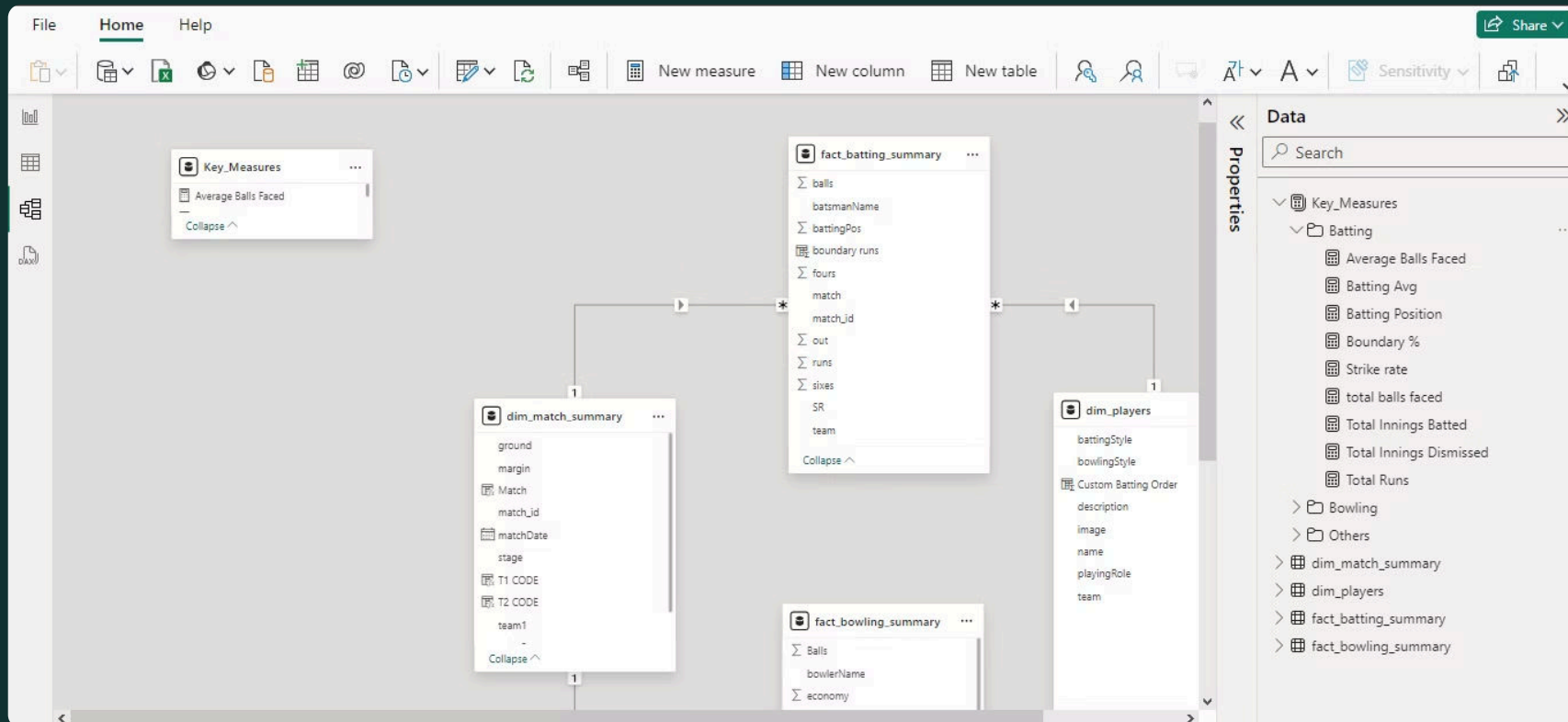
| match | teamInnings | battingPos | batsmanName | runs | balls | 4s | 6s | SR | out/not_out | match_id |
|-----------------------|-------------|------------|------------------------|------|-------|----|----|--------|-------------|-------------|
| Namibia Vs Sri Lanka | Namibia | 1 | Michael van Lingen | 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 Beard | 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 | Pethum 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 | 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 | Chundenggappoyil Rizvi | 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 | 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

CODE
BASICS

Select your Final 11

Search

☐

Aaron Finch

☐

Aayan Afzal Khan

☐

Adam Zampa

☐

Adil Rashid

☐

Afif Hossain

☐

Ahmed Raza

☐

Aiden Markram

☐

Akeal Hosein

☐

Alex Hales

☐

Alishan Sharafu

☐

Alzarri Joseph

☐

Andy Balbirnie

☒

Anrich Nortje

☐

Arshdeep Singh

☐

Aryan Lakra

☐

Ashton Agar

☐

Asif Ali

☐

...

Player Analysis

Final 11

Player's Name

Image

Team

Batting Style

Playing Role

Bowling Style

Batting AVG.

Batting S/R

Economy

Bowling S/R

Bowling AVG.

Custom Batting Order

Rilee Rossouw

Virat Kohli

India

Right hand Bat

Top order Batter

Right arm Medium

98.67

136.41

3

Suryakumar Yadav

India

Right hand Bat

Batter

Right arm Medium, Right arm Offbreak

59.75

189.68

4

Glenn Phillips

New Zealand

Right hand Bat

Wicketkeeper Batter

Right arm Offbreak

40.20

158.27

5

Marcus Stoinis

Australia

Right hand Bat

Batting Allrounder

Right arm Medium

42.00

161.54

9.67

54.00

87.00

6

Team Performance

39.60

154.54

19.71

14.12

13.09

6.47

41.15%

Batting Avg

Strike rate

Average Balls Faced

Bowling Avg.

Bowling S/R

Economy

Dot ball %

Thank You

Thank you for your attention.

