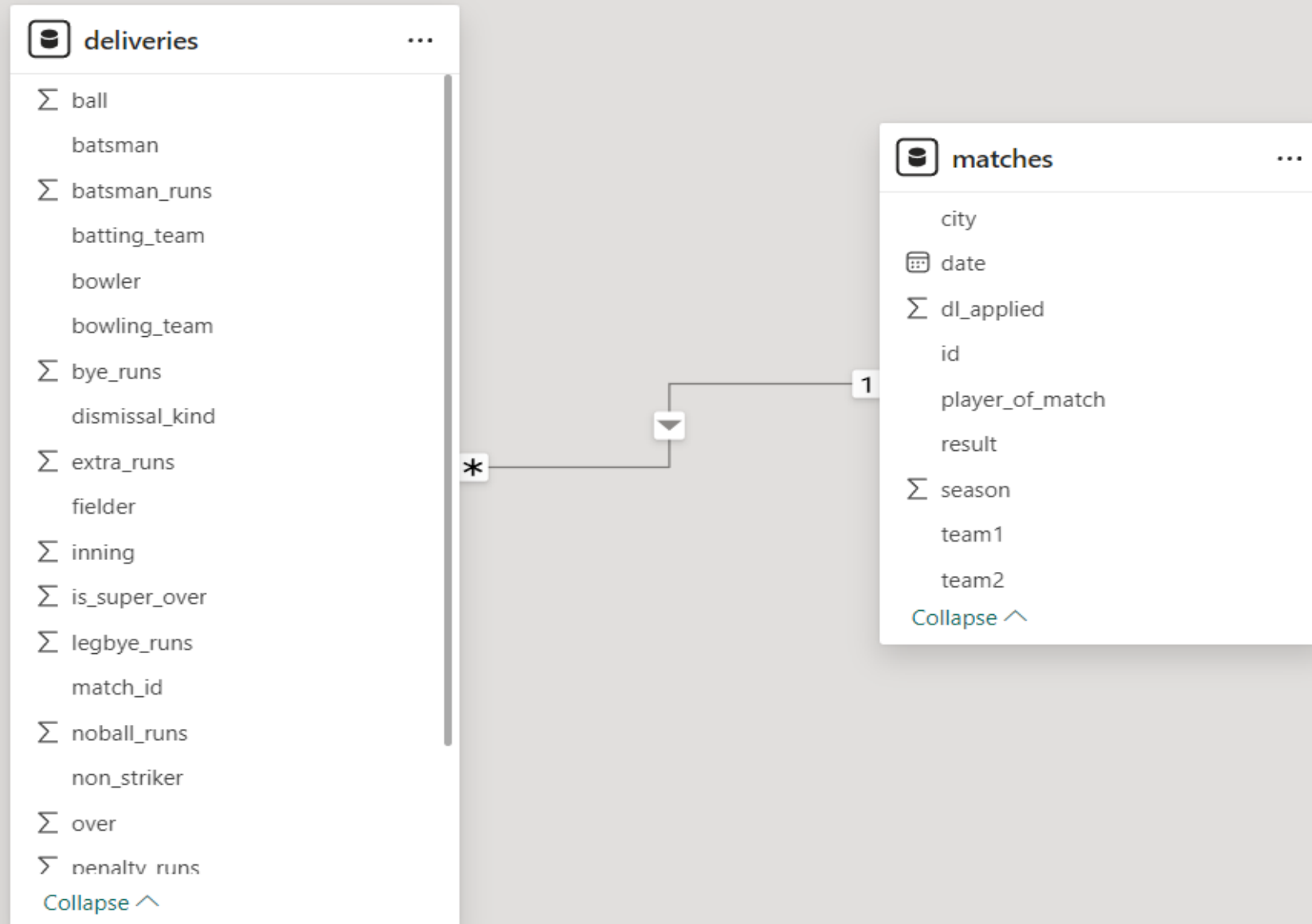# IPL ANALYSIS

Sahil Honyalkar

INTRODUCTION

Hello! My name is Sahil Sambhaji Honyalkar and in this project, I have utilized SQL queries to solve problems related to IPL Matches such as deliveries and batting information. The Indian Premier League (IPL) is one of the most popular cricket leagues in the world, featuring top international and domestic players competing in a fast-paced T20 format. With its rich history and vast datasets, the IPL provides an excellent opportunity for data analysis and deriving meaningful insights. By querying the data, we aim to extract insights related to player performances, team statistics, match outcomes, and other key aspects of the tournament. The analysis can help in understanding trends, identifying top performers, and making data-driven decisions.

SCHEMA

deliveries ...

- Σ ball
- batsman
- Σ batsman_runs
- batting_team
- bowler
- bowling_team
- Σ bye_runs
- dismissal_kind
- Σ extra_runs
- fielder
- Σ inning
- Σ is_super_over
- Σ legbye_runs
- match_id
- Σ noball_runs
- non_striker
- Σ over
- Σ penalty_runs

Collapse ∧

matches ...

- city
- date
- Σ dl_applied
- id
- player_of_match
- result
- Σ season
- team1
- team2

Collapse ∧

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- WHAT IS THE NUMBER OF MATCHES WON BY EACH TEAM BATTING FIRST VERSUS BATTING SECOND?

- WHICH BATSMAN HAS THE HIGHEST STRIKE RATE (MINIMUM 200 RUNS SCORED)?

- HOW MANY TIMES HAS EACH BATSMAN BEEN DISMISSED BY THE BOWLER 'MALINGA'?

- WHAT IS THE AVERAGE PERCENTAGE OF BOUNDARIES (FOURS AND SIXES COMBINED) HIT BY EACH BATSMAN?

- WHAT IS THE AVERAGE NUMBER OF BOUNDARIES HIT BY EACH TEAM IN EACH SEASON?

- WHAT IS THE HIGHEST PARTNERSHIP (RUNS) FOR EACH TEAM IN EACH SEASON?

- HOW MANY EXTRAS (WIDES & NO-BALLS) WERE BOWLED BY EACH TEAM IN EACH MATCH?

- WHICH BOWLER HAS THE BEST BOWLING FIGURES (MOST WICKETS TAKEN) IN A SINGLE MATCH?

- HOW MANY MATCHES RESULTED IN A WIN FOR EACH TEAM IN EACH CITY?

- HOW MANY TIMES DID EACH TEAM WIN THE TOSS IN EACH SEASON?

- HOW MANY MATCHES DID EACH PLAYER WIN THE "PLAYER OF THE MATCH" AWARD?

- WHAT IS THE AVERAGE NUMBER OF RUNS SCORED IN EACH OVER OF THE INNINGS IN EACH MATCH?

- WHICH TEAM HAS THE HIGHEST TOTAL SCORE IN A SINGLE MATCH?

- WHICH BATSMAN HAS SCORED THE MOST RUNS IN A SINGLE MATCH?

WHAT ARE THE TOP 5 PLAYERS WITH THE MOST PLAYER OF THE MATCH AWARDS?

```sql
SELECT
    player_of_match, COUNT(*) AS awards_count
FROM
    matches
GROUP BY player_of_match
ORDER BY awards_count DESC
LIMIT 5;
```

player_of_match	awards_count
YK Pathan	5
SE Marsh	5
SR Watson	4
MS Dhoni	3
BA Stokes	3

HOW MANY MATCHES WERE WON BY EACH TEAM IN EACH SEASON?

```sql
SELECT
    season, winner AS team, COUNT(*) AS matches_won
FROM
    matches
GROUP BY season , winner;
```

season	team	matches_won
Sunris	Sunrisers Hyderabad	8
2017	Rising Pune Supergiant	10
2017	Kolkata Knight Riders	9
2017	Kings XI Punjab	7
2017	Royal Challengers Bangalore	3
2017	Mumbai Indians	12
2017	Delhi Daredevils	6
2017	Gujarat Lions	3
2008	Kolkata Knight Riders	6
2008	Chennai Super Kings	9
2008	Delhi Daredevils	7
2008	Royal Challengers Bangalore	4
2008	Rajasthan Royals	13
2008	Kings XI Punjab	10
2008	Deccan Chargers	2
2008	Mumbai Indians	7
2009	Mumbai Indians	1
2009	Royal Challengers Bangalore	1
2009	Delhi Daredevils	2

```sql
SELECT
    AVG(strike_rate) AS avg_strike_rate
FROM
    (SELECT
        batsman,
            (SUM(total_runs) / COUNT(ball)) * 100 AS strike_rate
    FROM
        deliveries
    GROUP BY batsman) AS batsman_stats;
```

avg_strike_rate
113.73738442

```sql
SELECT
    batting_first, COUNT(*) AS won_count
FROM
    (SELECT
        CASE
                WHEN win_by_runs > 0 THEN team1
                ELSE team2
            END AS batting_first
    FROM
        matches
    WHERE
        winner != 'Tie') AS batting_first_teams
GROUP BY batting_first;
```

batting_first	won_count
Sunrisers Hyderabad	8
Rising Pune Supergiant	10
Kolkata Knight Riders	17
Kings XI Punjab	18
Royal Challengers Bangalore	8
Mumbai Indians	20
Delhi Daredevils	16
Gujarat Lions	3
Chennai Super Kings	9
Rajasthan Royals	13
Deccan Chargers	5

WHICH BATSMAN HAS THE HIGHEST STRIKE RATE (MINIMUM 200 RUNS SCORED)?

```sql
SELECT
    batsman,
    (SUM(batsman_runs) * 100 / COUNT(ball)) AS strike_rate
FROM
    deliveries
GROUP BY batsman
HAVING SUM(batsman_runs) >= 200
ORDER BY strike_rate DESC
LIMIT 1;
```

batsman	strike_rate
V Sehwag	175.7813

HOW MANY TIMES HAS EACH BATSMAN BEEN DISMISSED BY THE BOWLER 'MALINGA'?

```sql
SELECT
    batsman, COUNT(*) AS total_dismisals
FROM
    deliveries
WHERE
    bowler = 'SL Malinga'
        AND player_dismissed IS NOT NULL
GROUP BY batsman;
```

batsman	total_dismisals
SA Yadav	1
CR Woakes	1
V Shankar	1
BB McCullum	2
AJ Finch	1
SS Iyer	1
CJ Anderson	1
Yuvraj Singh	1
SPD Smith	1
AS Rajpoot	1
PA Patel	1
S Badrinath	1
MS Dhoni	1
Y Venugopa...	1
FH Edwards	1
DB Ravi Teja	1

```sql
SELECT
    batsman,
    AVG(CASE
        WHEN batsman_runs = 4 OR batsman_runs = 6 THEN 1
        ELSE 0
    END) * 100 AS average_boundaries
FROM
    deliveries
GROUP BY batsman;
```

batsman	average_boundaries
DA Warner	19.2641
S Dhawan	14.8611
MC Henriques	15.0235
Yuvraj Singh	20.8617
DJ Hooda	16.9811
BCJ Cutting	29.6296
CH Gayle	17.8988
Mandeep Singh	14.0449
TM Head	13.7615
KM Jadhav	18.0412
SR Watson	18.1592
Sachin Baby	11.7647
STR Binny	11.6883
S Aravind	5.0000
YS Chahal	0.0000
TS Mills	9.0909
A Choudhary	10.0000
PA Patel	16.0180

```sql
SELECT
    season,
    batting_team,
    AVG(fours + sixes) AS average_boundaries
FROM
    (SELECT
        season,
        match_id,
        batting_team,
        SUM(CASE
            WHEN batsman_runs = 4 THEN 1
            ELSE 0
        END) AS fours,
        SUM(CASE
            WHEN batsman_runs = 6 THEN 1
            ELSE 0
        END) AS sixes
    FROM
        deliveries, matches
    WHERE
        deliveries.match_id = matches.id
    GROUP BY season , match_id , batting_team) AS team_boundaries
GROUP BY season , batting_team;
```

season	batting_team	average_boundaries
2017	Sunrisers Hyderabad	20.6923
2017	Royal Challengers Bangalore	16.0000
2017	Mumbai Indians	20.1765
2017	Rising Pune Supergiant	17.8750
2017	Gujarat Lions	22.1429
2017	Kolkata Knight Riders	19.6667
2017	Kings XI Punjab	19.7857
2017	Delhi Daredevils	20.6429
2008	Kolkata Knight Riders	18.3077
2008	Royal Challengers Bangalore	17.5714
2008	Chennai Super Kings	20.6250
2008	Kings XI Punjab	21.7333
2008	Rajasthan Royals	21.5000
2008	Delhi Daredevils	19.4286
2008	Mumbai Indians	19.5000
2008	Deccan Chargers	21.2143
2009	Mumbai Indians	19.5000
2009	Chennai Super Kings	18.6667

```sql
SELECT
    season, batting_team, MAX(total_runs) AS highest_partnership
FROM
    (SELECT
        season,
            batting_team,
            partnership,
            SUM(total_runs) AS total_runs
    FROM
        (SELECT
        season,
            match_id,
            batting_team,
            over_no,
            SUM(batsman_runs) AS partnership,
            SUM(batsman_runs) + SUM(extra_runs) AS total_runs
    FROM
        deliveries, matches
    WHERE
        deliveries.match_id = matches.id
    GROUP BY season , match_id , batting_team , over_no) AS team_scores
    GROUP BY season , batting_team , partnership) AS highest_partnership
GROUP BY season , batting_team;
```

season	batting_team	highest_partnership
2017	Sunrisers Hyderabad	269
2017	Royal Challengers Bangalore	210
2017	Mumbai Indians	328
2017	Rising Pune Supergiant	260
2017	Gujarat Lions	315
2017	Kolkata Knight Riders	229
2017	Kings XI Punjab	240
2017	Delhi Daredevils	216
2008	Kolkata Knight Riders	218
2008	Royal Challengers Bangalore	198
2008	Chennai Super Kings	281
2008	Kings XI Punjab	288
2008	Rajasthan Royals	274
2008	Delhi Daredevils	222
2008	Mumbai Indians	210
2008	Deccan Chargers	253
2009	Mumbai Indians	54
2009	Chennai Super Kings	71
2009	Royal Challengers Bangalore	72
2009	Rajasthan Royals	38
2009	Kings XI Punjab	74
2009	Delhi Daredevils	36
2009	Kolkata Knight Riders	50
2009	Deccan Chargers	62

HOW MANY EXTRAS (WIDES & NO-BALLS) WERE BOWLED BY EACH TEAM IN EACH MATCH?

```sql
SELECT
    m.id AS match_no,
    d.bowling_team,
    SUM(d.extra_runs) AS extras
FROM
    matches AS m
        JOIN
    deliveries AS d ON d.match_id = m
WHERE
    extra_runs > 0
GROUP BY m.id , d.bowling_team;
```

match_no	bowling_team	extras
1	Royal Challengers Bangalore	7
1	Sunrisers Hyderabad	6
2	Rising Pune Supergiant	8
2	Mumbai Indians	4
3	Kolkata Knight Riders	4
3	Gujarat Lions	15
4	Kings XI Punjab	6
4	Rising Pune Supergiant	10
5	Delhi Daredevils	6
5	Royal Challengers Bangalore	5
6	Sunrisers Hyderabad	3
6	Gujarat Lions	3
7	Mumbai Indians	9
7	Kolkata Knight Riders	12
8	Kings XI Punjab	4
8	Royal Challengers Bangalore	6
9	Rising Pune Supergiant	8
9	Delhi Daredevils	5
10	Mumbai Indians	11
10	Sunrisers Hyderabad	4
11	Kolkata Knight Riders	16
11	Kings XI Punjab	11

```sql
SELECT
    m.id AS match_no, d.bowler, COUNT(*) AS wickets_taken
FROM
    matches AS m
        JOIN
    deliveries AS d ON m.id = d.match_id
WHERE
    player_dismissed IS NOT NULL
GROUP BY m.id , d.bowler
ORDER BY wickets_taken DESC
LIMIT 1;
```

match_no	bowler	wickets_taken
83	Sohail Tanvir	6

```sql
SELECT
    m.city,
    CASE
        WHEN m.team1 = winner THEN m.team1
        WHEN m.team2 = winner THEN m.team2
        ELSE 'draw'
    END AS winning_team,
    COUNT(*) AS wins
FROM
    matches AS m
        JOIN
    deliveries AS d ON m.id = d.match_id
WHERE
    result != 'Tie'
GROUP BY m.city , winning_team;
```

city	winning_team	wins
Hyderabad	Sunrisers Hyderabad	1443
Pune	Rising Pune Supergiant	1152
Rajkot	Kolkata Knight Riders	454
Indore	Kings XI Punjab	459
Bangalore	Royal Challengers Bangalore	492
Mumbai	Mumbai Indians	2038
Pune	Delhi Daredevils	226
Kolkata	Kolkata Knight Riders	1561
Bangalore	Mumbai Indians	667
Delhi	Delhi Daredevils	1927
Bangalore	Rising Pune Supergiant	250
Delhi	Kolkata Knight Riders	245
Rajkot	Royal Challengers Bangalore	249
Indore	Mumbai Indians	225
Kolkata	Gujarat Lions	232
Rajkot	Kings XI Punjab	245
Mumbai	Rising Pune Supergiant	497
Pune	Kolkata Knight Riders	239
Bangalore	Gujarat Lions	212
Chandigarh	Sunrisers Hyderabad	243

HOW MANY TIMES DID EACH TEAM WIN THE TOSS IN EACH SEASON?

```sql
SELECT
    season, toss_winner, COUNT(*) AS Toss_wins_count
FROM
    matches
GROUP BY season , toss_winner;
```

season	toss_winner	Toss_wins_count
2017	Royal Challengers Bangalore	9
2017	Rising Pune Supergiant	6
2017	Kolkata Knight Riders	9
2017	Kings XI Punjab	4
2017	Sunrisers Hyderabad	5
2017	Mumbai Indians	11
2017	Delhi Daredevils	8
2017	Gujarat Lions	6
2008	Royal Challengers Bangalore	5
2008	Chennai Super Kings	5
2008	Rajasthan Royals	11
2008	Mumbai Indians	8
2008	Deccan Chargers	9
2008	Kings XI Punjab	8
2008	Kolkata Knight Riders	6
2008	Delhi Daredevils	6
2009	Chennai Super Kings	2
2009	Royal Challengers Bangalore	2
2009	Delhi Daredevils	2

```sql
SELECT
    player_of_match, COUNT(*) AS COUNT_
FROM
    matches
GROUP BY player_of_match
ORDER BY COUNT_ DESC;
```

player_of_match	COUNT_
YK Pathan	5
SE Marsh	5
SR Watson	4
MS Dhoni	3
BA Stokes	3
NM Coulter-Nile	3
AC Gilchrist	3
RV Uthappa	2
SK Raina	2
Rashid Khan	2
N Rana	2
KH Pandya	2
CH Gayle	2
Sandeep Sharma	2
SP Narine	2
JD Unadkat	2
V Sehwag	2
ST Jayasuriya	2
SM Pollock	2
Sohail Tanvir	2
SC Ganguly	2
M Ntini	2

```sql
SELECT
    m.id,
    d.inning,
    d.over_no,
    AVG(d.total_runs) AS average_runs_per_over
FROM
    matches AS m
        JOIN
    deliveries AS d ON m.id = d.match_id
GROUP BY m.id , d.inning , d.over_no;
```

id	inning	over_no	average_runs_per_over
1	1	1	1.0000
1	1	2	2.2857
1	1	3	1.0000
1	1	4	0.6667
1	1	5	1.5000
1	1	6	2.8333
1	1	7	0.8333
1	1	8	1.8333
1	1	9	1.5000
1	1	10	0.6667
1	1	11	1.6667
1	1	12	1.3333
1	1	13	2.5714
1	1	14	1.3333
1	1	15	3.1667
1	1	16	0.6667
1	1	17	1.1667
1	1	18	2.1250
1	1	19	2.0000
1	1	20	2.6667
1	2	1	1.8333
1	2	2	0.1667
1	2	3	2.6667
1	2	4	2.1429
1	2	5	0.7143

```sql
SELECT
    m.season,
    m.id AS match_no,
    d.batting_team,
    SUM(d.total_runs) AS total_score
FROM
    matches AS m
        JOIN
    deliveries AS d ON m.id = d.match_id
GROUP BY m.season , m.id , d.batting_team
ORDER BY total_score DESC
LIMIT 1;
```

season	match_no	batting_team	total_score
2008	61	Chennai Super Kings	240

WHICH BATSMAN HAS SCORED THE MOST RUNS IN A SINGLE MATCH?

```sql
SELECT
    m.season,
    m.id AS match_no,
    d.batsman,
    SUM(d.batsman_runs) AS total_runs
FROM
    matches AS m
        JOIN
    deliveries AS d ON m.id = d.match_id
GROUP BY m.season , m.id , d.batsman
ORDER BY total_runs DESC
LIMIT 1;
```

season	match_no	batsman	total_runs
2008	60	BB McCullum	158