



IPL MATCH WINNER PREDICTION SHEMAN





INTRO

The Indian Premier League (IPL) is a professional Twenty20 cricket league in India organised by the Board of Control for Cricket in India (BCCI). Founded in 2007, the league features ten state or city-based franchise teams.

The IPL is more than just a cricket league; it is a phenomenon that has changed the face of cricket forever. The Indian Premier League (IPL) is more than just a cricket tournament. It is a phenomenon that has revolutionized the world of cricket, creating a global platform that merges sport, entertainment, and business.



TODAY IPL MATCH TOSS PREDICTION REPORT

OVERVIEW OF THE PROBLEM

PREDICTING THE WINNER OF AN IPL MATCH IS CHALLENGING DUE TO MULTIPLE INFLUENCING FACTORS LIKE TEAM PERFORMANCE, TOSS DECISIONS, VENUE CONDITIONS, AND PLAYER FORM.

MACHINE LEARNING CAN HELP ANALYZE HISTORICAL IPL MATCH DATA TO IDENTIFY PATTERNS AND PREDICT OUTCOMES.

EXPLANATION OF THE DATASET

TEAMS PLAYING (TEAM1, TEAM2)

TOSS DETAILS (TOSS_WINNER, TOSS_DECISION)

MATCH DATE, VENUE, AND CITY

MATCH WINNER & WIN MARGINS

OBJECTIVE OF THE PROJECT

DEVELOP A MACHINE LEARNING MODEL TO PREDICT THE WINNER OF AN IPL MATCH BASED ON MATCH-RELATED FACTORS.

DEPLOY THE MODEL FOR REAL-WORLD USE IN PREDICTING IPL MATCH OUTCOMES.

DATA UNDERSTANDING

DESCRIPTION OF THE DATASET
THE DATASET CONTAINS HISTORICAL IPL MATCH RECORDS WITH MULTIPLE FACTORS AFFECTING MATCH OUTCOMES

SAMPLE DATA ROWS

Seaso n	City	Team 1	Team 2	Toss Winn er	Toss Decisi on	Winn er	Win_b y_run s	Win_by_wick ets
2019	Mum bai	MI	CSK	CSK	Bat	MI	10	0
2018	Delhi	RCB	KKR	RCB	Field	KKR	0	7
2017	Kolkat a	SRH	DC	SRH	Bat	SRH	15	0

DATA CLEANING

CHECKED FOR MISSING VALUES – IDENTIFIED COLUMNS WITH NULL VALUES.

HANDLED MISSING DATA –

CITY, WINNER, PLAYER OF MATCH → FILLED WITH MOST FREQUENT VALUE.

UMPIRES → REMOVED ROWS WITH MISSING VALUES.

ENCODING CATEGORICAL FEATURES

TEAM NAMES, TOSS WINNER, WINNER → LABEL ENCODING

EXAMPLE: 1 = MUMBAI INDIANS, 2 = CHENNAI SUPER KINGS, ETC.

TOSS DECISION → MAPPED AS NUMERIC VALUES

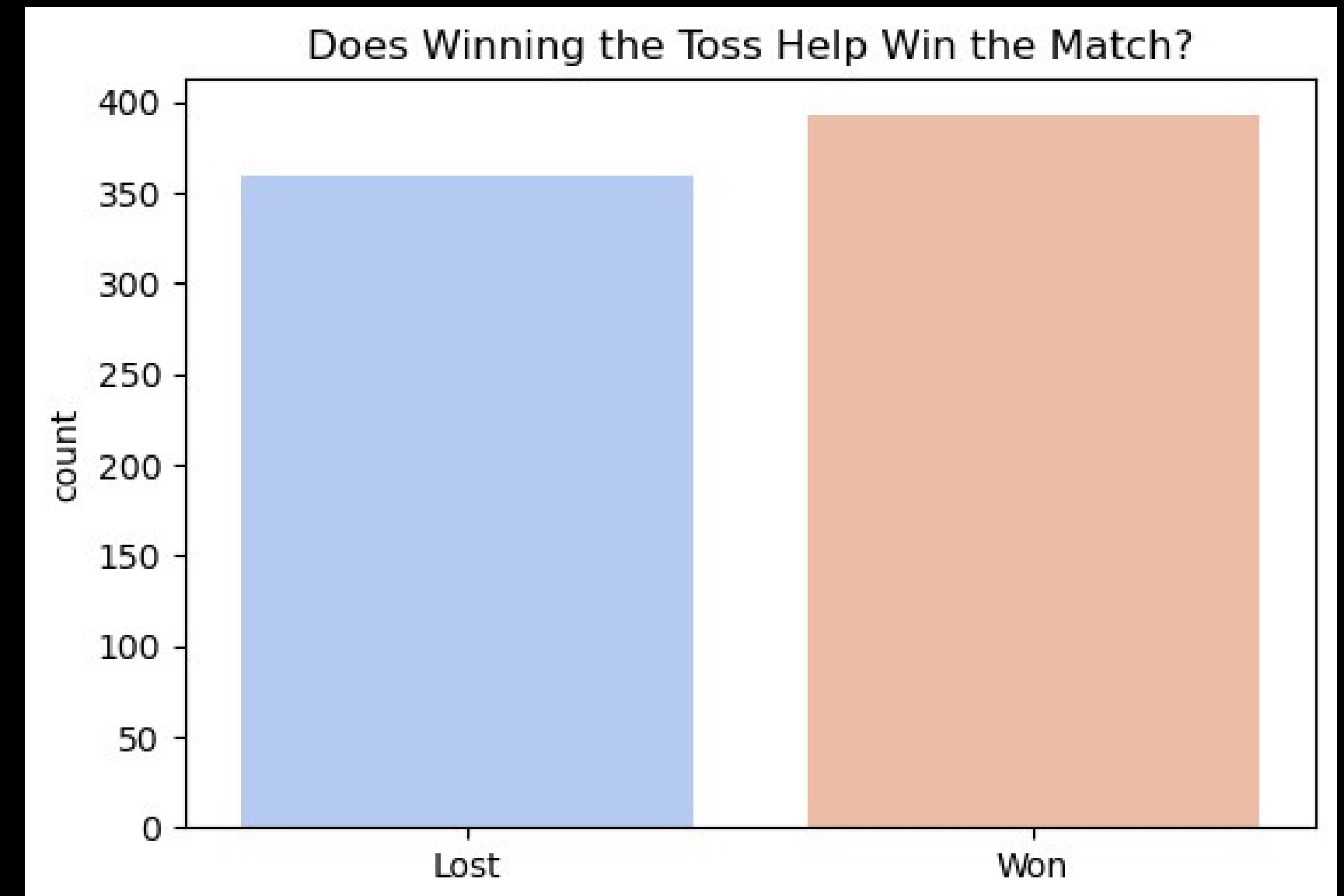
BAT = 0, FIELD = 1

EXPLORATORY DATA ANALYSIS (EDA)

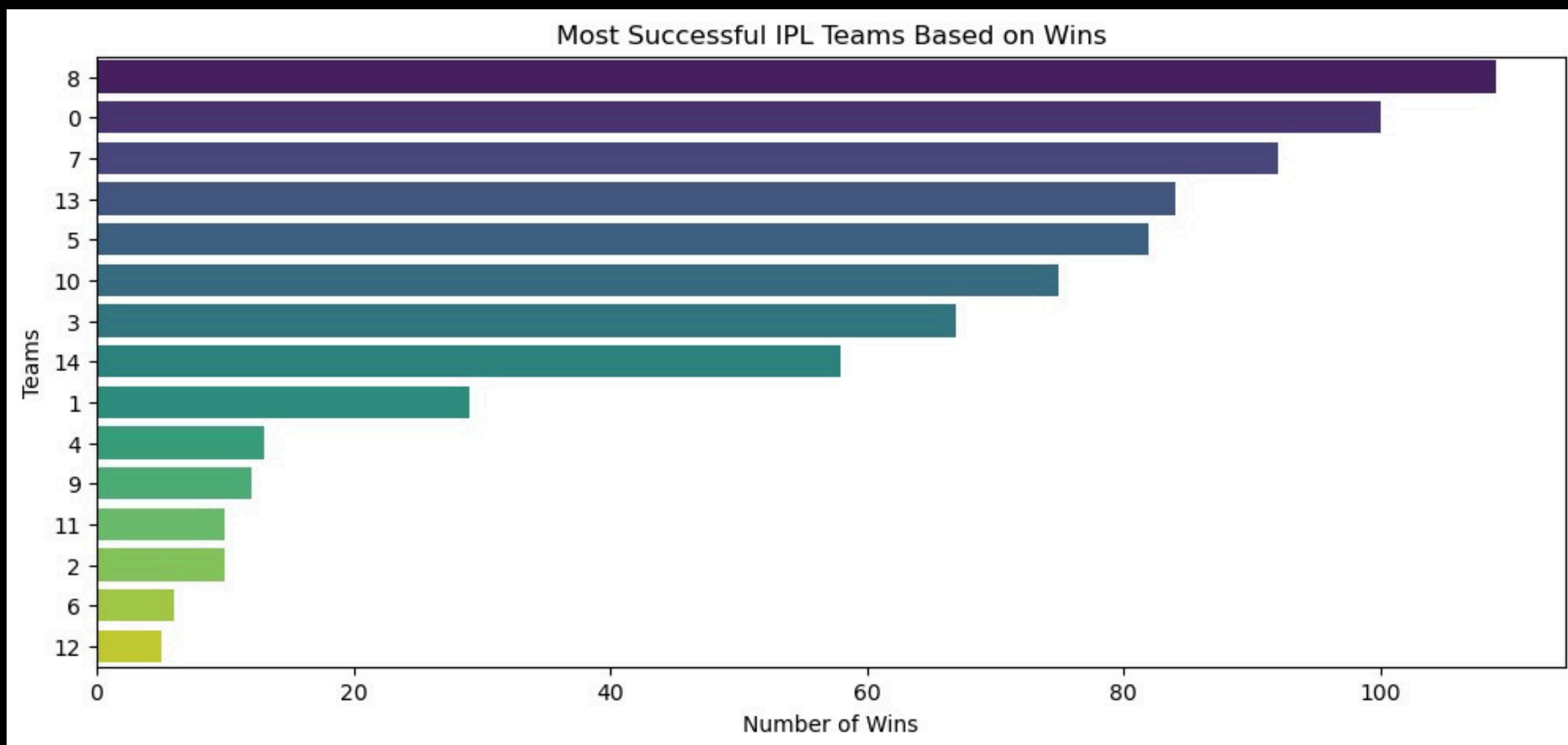
- TOSS DECISION ANALYSIS
- IMPACT OF TOSS ON MATCH RESULT
- WIN MARGIN DISTRIBUTION



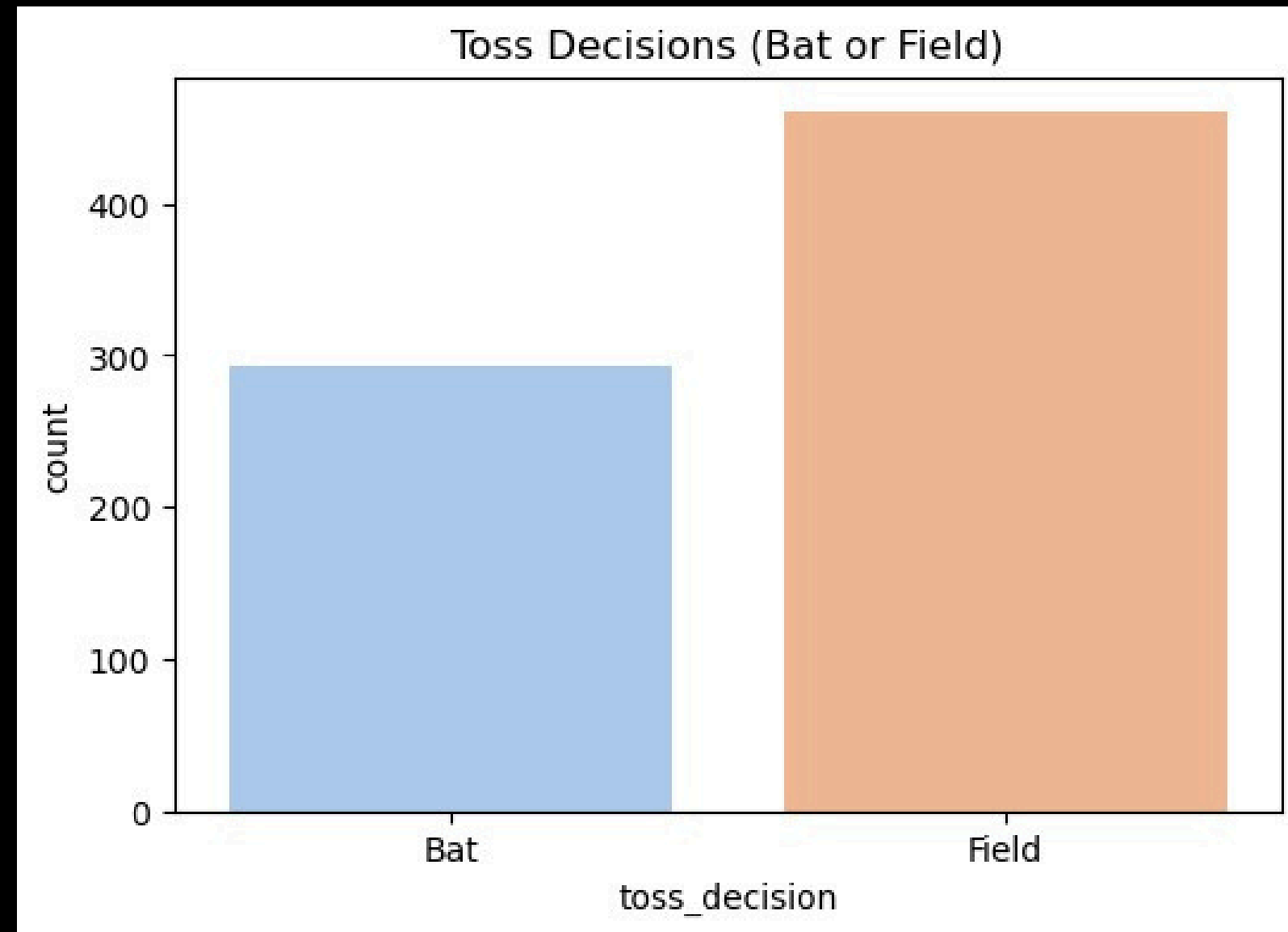
IMPACT OF TOSS ON MATCH RESULT



WIN MARGIN DISTRIBUTION



TOSS DECISION ANALYSIS



LOGISTIC REGRESSION MODEL

IPL MATCH WINNER PREDICTION - LOGISTIC REGRESSION ACCURACY: 0.2649

- **LOGISTIC REGRESSION MODEL USING FIT().**
- **PREDICT THE TEST DATA USING PREDICT().**
- **CALCULATE THE ACCURACY OF THE MODEL.**

RANDOM FOREST

IPL MATCH WINNER PREDICTION - RANDOM FOREST ACCURACY: 0.8344

- **RANDOM FOREST IS USES MULTIPLE DECISION TREES.**
- **IT USUALLY GIVES BETTER RESULTS THAN LOGISTIC REGRESSION**

CONCLUSION: IPL MATCH

OUR MODEL CURRENTLY PREDICTS THE WINNER BASED ON HISTORICAL MATCH DATA. HOWEVER, THERE ARE SEVERAL FACTORS THAT COULD IMPROVE THE ACCURACY:

INCREASE DATASET SIZE BY INCORPORATING MORE RECENT IPL SEASONS.

**SOME VENUES FAVOR BATTING, WHILE OTHERS SUPPORT SPIN-FRIENDLY CONDITIONS.
ADDING AVERAGE FIRST INNINGS SCORES AT EACH VENUE CAN IMPROVE PREDICTIONS.**

**CERTAIN TEAMS PERFORM BETTER WHEN THEY CHASE RATHER THAN DEFEND.
ANALYZE TOSS DECISIONS VS. MATCH OUTCOMES BASED ON VENUE & CONDITIONS.**