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**IPL Analytics and Prediction Dashboard:**

**Introduction**

This project aims to create an interactive web application using Streamlit to showcase analytics and insights derived from Indian Premier League (IPL) data. The application will feature a home page with an introduction to IPL and multiple other pages dedicated to various analytics and insights such as match analysis, player statistics, and team insights.

**Objectives**

* To develop an understanding of Streamlit and its capabilities in creating web applications.
* To learn how to process and visualize data using Python.
* To gain insights into the IPL through data analysis.
* Building Ml and ANN Model

**Requirements**

* Python: Knowledge of Python programming is essential, as the project involves data manipulation and visualization.
* Streamlit: The web application will be built using the Streamlit library.
* Pandas: For data manipulation and analysis.
* Matplotlib/Seaborn/Plotly: For data visualization.
* Machine learning- sklearn
* Deep Learning - Keras

**Project Structure:**

* Organize your project directory with folders for datasets, scripts, and documentation.

**Dataset:**

* Many IPL datasets has been provided below that include match details, player statistics, and team performances etc .You need to understand which dataset to use

**Application Design**

**Navigation:**

* Implement a sidebar using st.sidebar for page navigation.
* Implement Pages: Few examples given below
* Home Page
* Objective: To provide an introduction to the IPL and the dashboard and Building models to predict the result and prediction

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* Content: Brief history, purpose of the dashboard, and what users can expect in terms of analytics and insights.
* Analytics and Insights Pages
* Match Analysis: Visualizations and statistics on matches, such as highest scores, best bowling figures, and win margins.
* Player Statistics: Insights into player performances, including run scorers, wicket-takers, and player of the match awards.
* Team Insights: Analysis of team performances over different seasons, head-to-head comparisons, and championship wins,more [details give below](#_mc6cxfixk94j)

**Conclusion**

This project not only provides practical experience in developing a web application with Streamlit but also offers insights into the rich dataset of IPL. It's an excellent opportunity for students to apply their Python and data analytics skills in a real-world project and get a deep understanding of building ml and deep learning models and there performances

**Additional Notes**

Collaboration: Students are encouraged to work in teams to foster collaboration and peer learning.

Extension: As an extension, students can explore adding predictive analytics features, such as match outcome predictions, player performance forecasts, etc.

This project documentation outlines the scope, objectives, and step-by-step guide to building an IPL analytics dashboard with Streamlit. It is designed to provide students with a comprehensive learning experience, from data manipulation and visualization to web application development.

### **Pages to include:**

**ALL SHOULD BE DYNAMIC**

* Individual Player Analysis and Visualization
* Team Past Records Analysis and Visualization
* Neck to Neck analysis between two teams
* Batsman vs Bowler analysis
* In Depth EDA on data of ipl
* Bar charts for matches per season, player of the match, toss winners, match winners, player with most runs, wickets, etc.
* Ipl auction analysis from 2013 to 2023
* Representing team wins and lucky venue
* Predicting winner probability based on second innings
* IPL Win Probability Predictor
* The IPL Win Probability Predictor is a web application built using Streamlit. It uses a machine learning model to predict the probability of a team winning an IPL match based on various factors such as batting team, bowling team, host city, target, score, overs completed, and wickets.
* **Features**

1. Select the batting team from the dropdown menu.
2. Select the bowling team from the dropdown menu.
3. Select the host city from the dropdown menu.
4. Enter the target score.
5. Enter the current score, overs completed, and wickets out.
6. Click on the "Predict Probability" button to see the predicted win probability for each team.

* IPL First Innings Score Prediction
* IPL is very popular in India. The match of ipl has 20-20 overs, if we can estimate the score of the first innings. Although it is difficult to predict what will happen in cricket, this project would give us an estimate based on past matches.
* **Features**
  + - 1. Select the batting team from the dropdown menu.
      2. Select the bowling team from the dropdown menu.
      3. Select the overs greater than or equal to 5
      4. Select the venue
      5. Enter the current score
      6. Enter the current wicket
      7. Enter runs scored in previous 5 overs
      8. Enter wickets taken in previous 5 overs
      9. Click on the "Predict Probability" button to see the predicted first inning score.
    - Dataset link for this project:-[Click here](https://drive.google.com/file/d/1IdrlTyQ-C4HcMWw8spBeH728Q2rC7IuD/view?usp=sharing)

**Note:-**

When building the model use all machine learning models and Ann model and compare and show the performance of each model .,Ands choose the best model for deployment purpose.Use tunning correctly

All Dataset Link:- [All Dataset Click here](https://drive.google.com/drive/folders/1kocaRmGms6-GpeUFXzLRuuMyrO6LXgod?usp=sharing)

Deadline:- 6-04-2024