Advanced Data Analytics (CSE-AIML) Course Project One Pager

Team Details

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Project Title

Types of Football Winning Strategies: A Dive into Team Performance Metrics

Possible Dataset and source

We have scraped the required data for this project. It spans 1 league over 7 years, 2016-2023, and covers 2660 unique games.

Shape of the dataset: 2660x90

Uniqueness of the topic

Focus on Tactical Insights and Formations

- While many football analytics papers focus purely on performance prediction or statistical summaries, our project delves into Tactical analysis—a critical aspect of football strategy.

- We are not only looking at wins and losses but also the best-performing styles of play and the key statistics that lead to success for specific teams.

Differentiation Between Top, Mid, and Relegated Teams

- This project isn't limited to blanket predictions or analysis. Instead, it creates a detailed performance study that differentiates between top teams, mid-table teams, and relegation teams.

- This multi-tiered approach helps in understanding whether there are consistent factors (like formations or stats) that drive success or failure based on a team's tier in the league, making it more nuanced and valuable.

Predictive Analysis Based on Premier League, Bundesliga and La Liga

- This project isn't limited to blanket predictions or analysis. Instead, it creates a detailed performance study that finds the features that uniquely define best football leagues in the world.

- This aspect of tailoring models based on different leagues helps in understanding whether there are consistent factors (like tactics or formations) that shape the style of a League and the method of football being played.

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Your Learning goal

Data-Driven Performance Analysis

By leveraging the dataset, the goal is to analyse how various teams perform in different match conditions. This type of analysis will help us learn how to identify patterns and trends that may not be obvious from a casual observation of the game.

Understanding Team Dynamics

We are looking to focus on breaking down team performance by home and away matches and draw meaningful conclusions about how consistent teams, relegated teams, and mid-performing teams differ in terms of performance metrics.

Tactical Insights

A key part of the project is identifying the most crucial features that drive the most accurate win prediction, that is the key statistics that are present in victories.

Modelling and Inference

By building a model predictive modelling to real-world football scenarios. This will help us to enhance our skills in turning raw data into actionable insights.

Application of Football Knowledge

The goal is to enhance our ability to connect our football knowledge with data analytics, understanding how statistics reflect game scenarios and team behaviours.

Reference paper, if any (provide the URL)

No	Title	Link
1	Decision support-system for football team management by using machine learning techniques	Click here
2	Predicting Football Match Outcomes With Machine Learning Approaches	Click here
3	A Compound Framework for Sports Prediction: The Case Study of Football	Click here