



## Football Player Recognition and Analysis System

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### ABSTRACT:

This paper examines or provides a theoretical perspective on "FOOTBALL PLAYER RECOGNITION AND ANALYSIS SYSTEM" that is used to increase the interest of people (specially in youth) so that people get to know more about football and the game can get its actual value as it has in other parts of world. The sports sector in India has witnessed several recent developments, which have contributed to its significant growth. Although the game was always popular across certain regions and pockets of society, we are trying to build a project to provide all the information and all the rules at a same place. There are multiple websites which provide details but this website will provide not only the details about the football but as most of the people in India knows only three or four players so, this paper focuses on player recognition technology which will classify the player on the basis of a photograph or name which will provide all the details and statistics about that player in addition the user can find out the all the leagues and clubs present currently with the help of the available links on our website.

**Keywords:** automate, recognition, development, statistics

### I. INTRODUCTION

In recent years, computer science has demonstrated great potential in the sport fields. For example, computer vision-based virtual reality was used for sports posture correction, a computer vision-driven evaluation system was adopted for decision-making in sports training, and object detection was used in sports analysis. Sports analysis is crucial for improving athletes' performance. We suppose that every country has its main sport, but in India cricket is a religion. I remember watching a debate on a local television channel, not so long ago about why Indians aren't able to make the cut in sports other than cricket. Things are changing in India though. Wolverhampton Wanderers have linked up with an I-League team and Arsenal have expressed an interest and have also come down to India to do some recruiting. It is reported that three boys have been selected to train at Arsenal for a certain period, and this by itself is a massive achievement for us Indians. Indians have to become more open-minded about sports like football. The opportunities are limited for the foreseeable future but there has to be a start somewhere. So, the main idea behind this project is to make people aware about football and its various aspects. Such as its different rules, different leagues, Qualifications for champions-league, champions league itself, different players and there statistics. With the rapid development of computer vision technology, detection of players is more and more popular in identifying characteristics of athletes and its existence helps in gaining the knowledge in the field of football. This contactless technology enables users to identify the players information accurately and in the detailed manner including the statistics of the players journey in the football world. It can also help the coaches and athletes to analyze opponent teams' strength and weakness from past match statistics data, and design better strategies in future competitions. The key steps are player recognition and providing the detailed information of player as well as the game football on which our predictions are based on. In this work, we develop a player classification model to predict the player and give detailed statistics.

### II. METHODOLOGY

As there is less awareness and knowledge of football in India, so our motive is to create awareness and provide the correct knowledge to the people. Career in football, which is also recognized as soccer, is now a global industry of multi-billion-pound, which indicates there are more football related jobs than ever before.

Football is gaining momentum and also getting nationwide attention with the start of the Indian Super League. It has inaugurated some considerable changes in Indian football. Nowadays, many youngsters or new faces are getting opportunities to play football, grass-roots level courses are also begun across India. Times have evolved, and so has the perception of football and other sports in India. A career in football is not only restricted to the sports industry and opens opportunities in the advertising, media and education sectors.

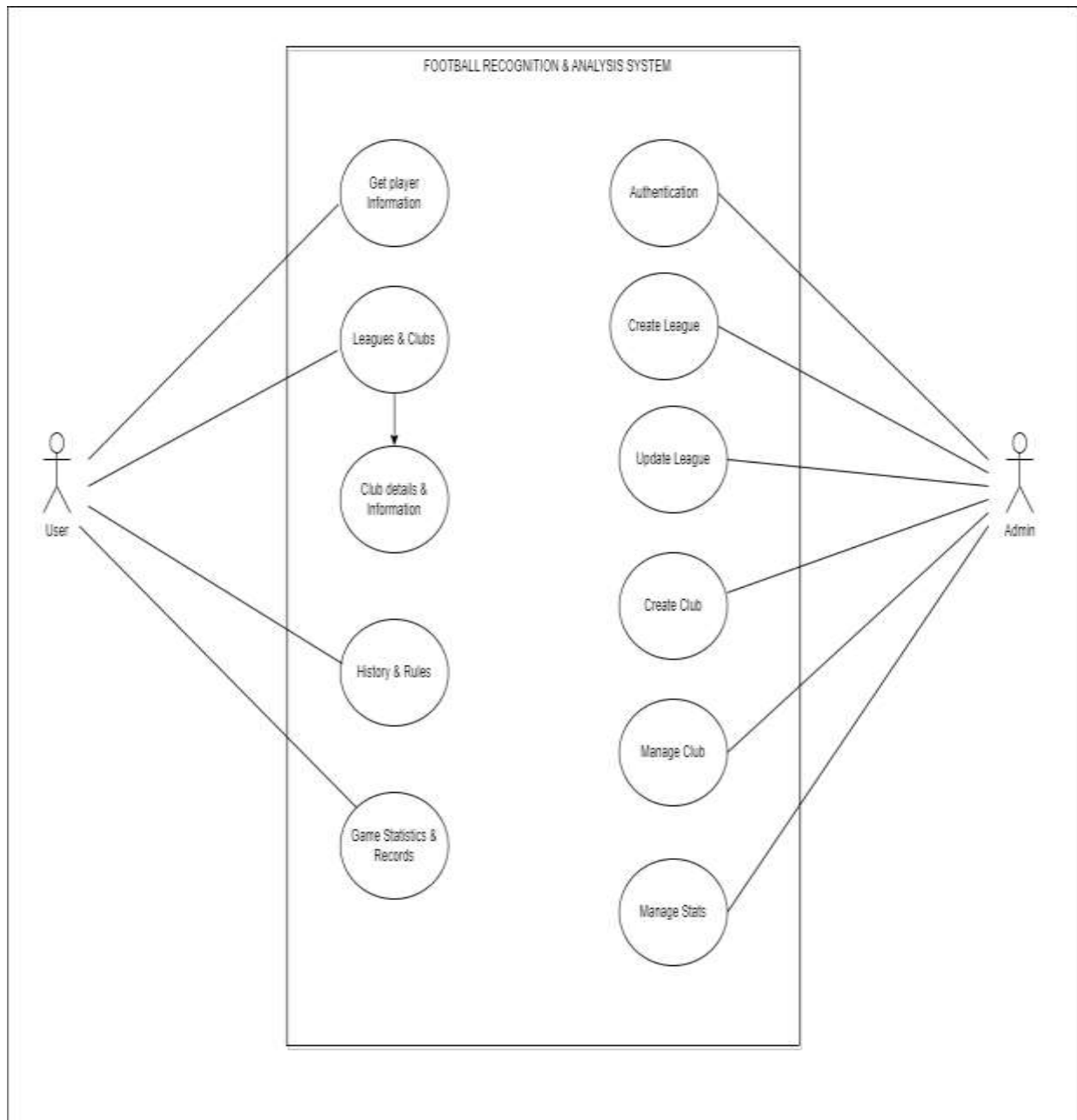


Figure 1: Use Case showing the working of Football Player Recognition and Analysis system

First of all, we will develop a website for our work. On that website we will have the following features –

**Current Leagues** – We will cover most of the popular ongoing leagues of football around and globe such as Premier League, La Liga, Indian Super League and Champions League.

**Clubs and Leagues** – In this section we will cover the part that which clubs falls in which league and which league belong to which part of world and how does teams qualify for the champions league.

**Players Identification** – As we know in our country most of the people know only few of the football icons so we will try to make them familiar with more players by providing player recognition system which will detect the player on the basis of name or photograph.

**Player Stats** – In this section we will provide all the statistics related to searched player i.e. He plays for which club, his nationality, his age etc.

**Rules and Formations** – This section is related to all the rules and regulations in game of football such as offside rule. It will also provide most used formations by the teams and most popular positions of the players so basically it will provide all the basic knowledge you need to understand the game of football.

### III. PERFORMANCE EVALUATION

The proposed system intend to provide everything about the sport football in a well-informative way through a web application. We will be covering all the leagues currently present and which club comes under which league and all the rules , formations and positions present in the football. Through the search bar ,the user can search a player and from the dataset which we have made by taking the reference from Kaggle, the user will get the information of the player and its statistics based on the past data. We'll be using MySQL for the database and all of this data will be accessed through Flask(Python Framework). The stats of the players will be helpful in getting the knowledge and find out the best player which provides strategic indications to coaches and come up with the effective one. Our system also have feature to identify the player by the photograph and give detailed information about it.

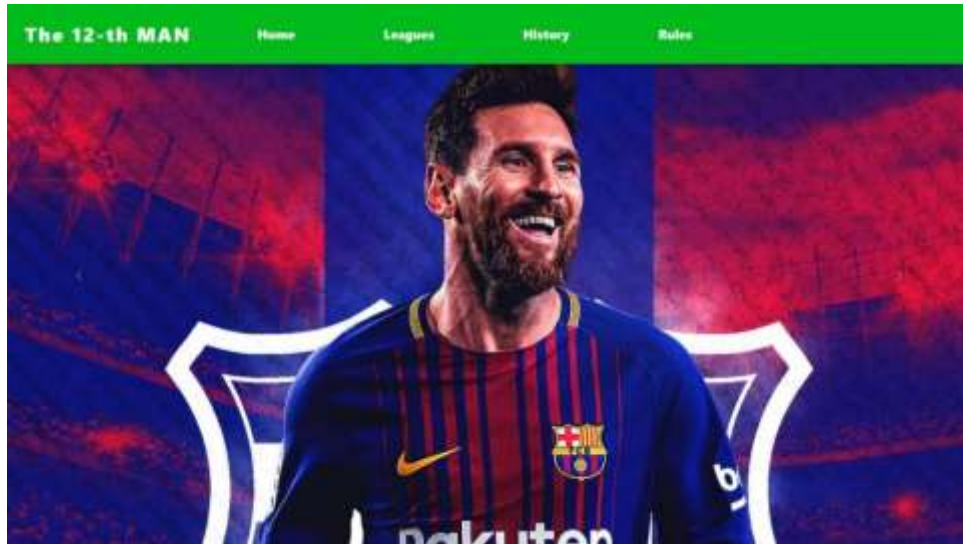


Fig1: Home Page For User

The above is the Home page for user, and our website name is 12<sup>th</sup> Man and on our Home page user can see the leagues and inside the leagues ,clubs are also present and then history and rules of football through the available given links and user can get proper knowledge and information about the players and the football sport.

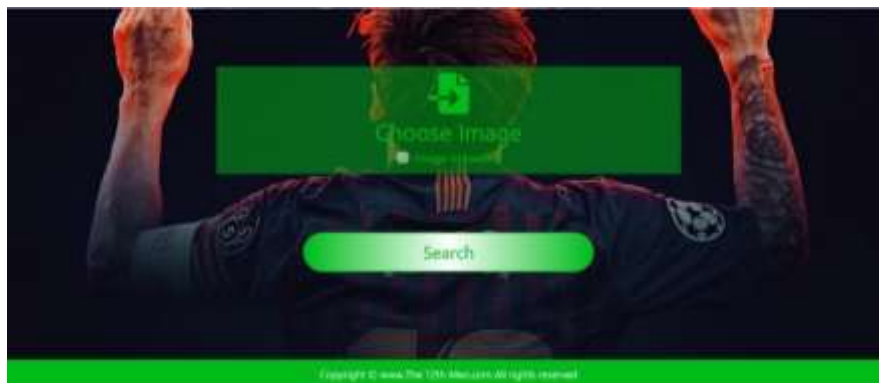


Fig2: Upload image page for User

From the Choose Image, the user can choose the photo of the player of his choice and upload the image , then click on search and the user will get all the details regarding the player.



Fig3: Leagues Page

The above is the demo Leagues page. Here, user will get to know about all the leagues present currently and the clubs and players inside the club. In addition, user will also get the information about the club.

#### IV. CONCLUSION

We have proposed an efficient system which identifies football players from the photograph and provides statistics of the players. Our system uses OpenCV and Haar Cascade Classifier for the recognition of the player, with the advantages of giving information about the leagues and clubs and to fulfill our objective that is to create awareness and interest among youth about football through our website. Our results show that the model can perform well on the dataset obtained from Kaggle, indicating the wide applications of this algorithm. Having done all the above processes successfully, the model was able to identify players from the same team. Detection is just the beginning. Now we can really take it to the next level! We can now quickly analyze the course of the action, knowing how the ball traveled between players, count the distance the players traveled, or locate the field zones where they appeared most often.

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