

# CS 6140 Project Proposal

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## **Mining FIFA 19 soccer players data to find patterns.**

### **Data Source:**

While looking for some data on sports, we came across Soccer player ratings (FIFA 19) on Kaggle. Though FIFA 19 is a soccer simulation video game developed by EA, ratings within the game are considered as the best, even among professional soccer players. These ratings showcase the players in the game based on their performances from the past year of world soccer.

### **Structures to mine from the data:**

We are planning to mine data and find the following:

- Every player has a preferred position, but Managers might have a different plan. It would be interesting to see what attribute a player must improve to fit in the plan.
- Explore the data on top players and mine the different attributes that contribute majorly to their success. Use this to determine if a new player has the potential to be top rated.
- Applying multiple regression algorithms and analyze which one produces the best results for the above problems.
- Suggest the potential cost of a player in the transfer market. This could be useful for an agent as well a team Manager.
- Injuries are part of the game. It would be interesting to see if we can suggest the best replacement for an injured player from a pool of available players.
- Given a set of players and their rating at different positions, we would like to suggest a team formation to the team Manager that would best suit the team.

### **Interesting aspects of the problem:**

Trying to analyze the game from the player data and predicting the formations to attain best results and performance is an interesting and very helpful perspective. Soccer managers tend to do this from their field experience, which can certainly be supplemented by data mining techniques.

### **Things that are new, and what the instructor will learn:**

This data mining and patterns analysis will help us understand the game from multiple points of views. Soccer is a rich game with multiple intricate variables ranging from individual player attributes to team dynamics. Any form of accurate prediction will be an interesting addition to the game.