Project proposal

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I like play basketball, so I am big fan of NBA. I always focus on some data to some NBA players, for example LeBron James, Dwyane Wade…. Then, I try to predict the MVP base on players records. In this year, the Warriors won the 2017 NBA championship. Hence, I am wondering that can I use machine learning to predict some results which relate to my favorite sports game? The answer is yes. Therefore, my project is about to predict NBA each team records in 2018-2019 based on 2017-2018 data or even further data which include recent three years.

I looked up some evaluation methods for some sports, especially rating scores system for each team. Then I prefer using Elo score to assess NBA 30 teams. Based on the data from NBA website, I can calculate each team’s level which probably through different angles. Perhaps I also could use SVM, RF or KNN to predict each team’s level. Then using their level scores to label feature vectors. The next thing is using logistic regression to training data.

For the data, it could come from Basketball Refrence.com which is very professional data statistics for NBA. This includes Team per game stats, Opponent per game stats, and Miscellaneous stats. I also need to get through the principle of Elo score which I can through Geeksforgeeks.com to understand the rating system. In addition, I also could through ECEN 765 the know SVM RF or KNN Algorithms.

All in all, my roughly schedule should be in 3 steps. Firstly, getting the NBA each team’s data and understand which data’s meaning. I could get rid of some unimportant data. Secondly, understanding algorithms which I need. Lastly writing the code which realize the prediction.

https://www.geeksforgeeks.org/elo-rating-algorithm/

https://www.basketball-reference.com/

https://medium.com/machine-learning-101/chapter-2-svm-support-vector-machine-theory-f0812effc72

https://www.stat.berkeley.edu/~breiman/RandomForests/cc\_home.htm

https://www.geeksforgeeks.org/k-nearest-neighbours/