摘要

本文通过综合考虑球员基本数据对球员的整体影响，从而构建衡量球员效率的指标，然后根据球员在整个赛季中的上场时间作为参数，构建所在球队整体球员贡献指标，综合球队的进攻效率，防守效率和净得分等指标，建立对球队在下一赛季胜率的预测模型。本文首先对NBA篮球赛制和特点进行总结，分析出影响球队胜率的最主要因素，提取变量特征，建立决策树回归模型，多元线性回归模型和支持向量回归模型，以下一赛季的数据作为测试集计算出每个模型的均方误差，得到最小的均方误差是多元线性回归模型，利用该模型预测未来赛季中每个球队的胜率。

Abstract

In this article, we comprehensively analysized the basic box scoring, and construct a metric reflecting the contribution of the player to his basketball team, namely the efficiency rate of the player. We use the playing time of the player in the entire season as index to construct the metrics to evaluate the overall contribution of player to each team, combine with other metrics like Net Rating, Offensive Rating, Defensive Ratings etc, to build a model for predicting the winning ratio or a specific team in the next season. We applied multi-variable regression model, decision tree regression model and supporting vector regression model to predict the next season’s winner. We calculate the mean square error as the standard to evaluate which model is the best fit. We use the final model as our result.