Capstone Project One

Predicting NBA player salary and performance for coming season

Proposal

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Problem

Every off-season the management of each NBA team have to find a way to improve their roster, usually through recruiting new players on the free market, or signing new contracts with their current players. But how to decide which new player to sign or which player on the old roster to keep? Will that player be able to provide the desirable contribution for the team? How much salary worth paying for each player given their performance? As each team try to optimize the diversity and the integrity of the skill sets of the entire roster, and keep the salary cap at manageable level, these are the problems they have to consider.

Data

Proposed Data Collection 1:

aggregate NBA player's Statistics for 67 NBA seasons.

Data Location: https://www.kaggle.com/drgilermo/nba-players-stats/data

Proposed Data Collection 2:

NBA player's Statistics and Salary 2016-2017

Data Location: https://www.kaggle.com/noahgift/social-power-nba/data

NBA player's Salary 2017-2018

Data Location: https://www.kaggle.com/koki25ando/salary/data

Approach

The approach to the problem will be considered to have two parts:
1. Predict the player performance statistics
2. Predict the player salary

For the part one I'm considering to use data collection 1 primarily, which includes the performance statistics of each individual player in each season. I can potentially see the trend of overall development of that player throughout the year, I may also use clustering and classifying model to compare contemporary player with historical examples, in order to have a general estimate of the career projection trend based on other players of similar prototype. The prototype could be built according to college background, physicality measure or specialty. etc

For the second part
Build a model to find the correlation between the performance of player in previous several seasons and the salary of 2016-2017, use that to predict the salary in 2017-2018.