Project Proposal

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Project Title: LeBron James (NBA player) career data analysis

Introduction and Motivation

I have been an NBA fan when I was a kid. There are over 400 players in NBA, and in every single year, some of them could be eliminated. In a such competitive league, LeBron James not only still survive, but also one of the legends in NBA. Although he is 37 years old, he is still among the top performers in the league. As a result, I am interested with his career data and would like to verify that if LeBron James's stats are not affected by his physical age and other factors.

There is a lot of analytical data can be found on the Internet; however, most of them are season by season and lack an overall integrated analysis. Hence, I would like to know more about his career integrated data changes. From NBA fans side, we could expect how his games may look like and how his style of playing ball could change in the future.

Questions

1. What is the trend of Lebron James's yearly data including total goals, rebounds and blocks?
2. Has there been any change in shooting distance and shooting percentage in the first five years (2003-2008) and the recent five years (2016-2021) of LeBron James's career?
3. How do different teams affect LeBron James's performance?

Data sources:

A. LeBron James's total stats in regular session and playoff games from 2003 to 2021
B. LeBron James's shooting distance in regular session and playoff games from 2003 to 2021

Data sources A and B can answer both question 1 and 3, and data sources B can answer both question 2 and 3.

Description of data sources (Take 2020-2021 Regular Session as example)

Data source A csv data: ~1600 rows x 29 column

2020-2021 Regular Session data (https://www.basketball-reference.com/players/j/jamesle01/gamelog/2021)

Data source B - R data: ~36K rows x 24 columns [1]

2020-2021 Regular Session data extract from

(https://www.nba.com/stats/events/?flag=3&CFID=33&CFPARAMS=2020-21&PlayerID=2544&ContextMeasure=FGA&Season=2020-21&section=player&sct=plot)

References:

[1] Owen Phillips, *How to download NBA shot data with R,* June 2020 URL: https://www.owenlhjphillips.com/new-blog/2020/6/11/how-to-download-nba-shot-data-with-r