Predicting 2022-23 NBA Playoff Bracket

Syed Alle Mustafa - A20519664
 Andrew Petravicius **A20442138**

Problem Statement:

With the rise of online sports betting, more and more people are making playoff brackets and predicting an ultimate winner. Creating the perfect bracket has long been an unattainable goal for many. As two people who have no real understanding of or vested interest in basketball, we, regardless, have decided to attempt to achieve the impossible and accurately predict the 2022-2023 NBA playoff bracket.

Approach:

The first step in any problem like this is collecting, analyzing, and cleansing the data. Fortunately, the NBA has an online database of all previous games and their stats dating all the way back to 1946. While that means an abundance of data, which is a good thing, it also means an abundance of unhelpful data.

Obviously, the NBA has evolved over the years and what made a winning team back in 1946 won't necessarily translate to what makes a winning team in the year 2022. As a result, the data will have to be analyzed in order to discover which seasons are relevant to this problem.

In addition to that, not all features that the box score provides will be significant, and using all of them is likely to just increase noise, which is why stepwise subset selection will be necessary in order to determine the significant features.

After the dataset is optimized, different types of models will be trained so that given a dataset of every teams' stats of a season, the model will predict the playoff bracket and outcome. Once a final model is generated, it will be used to predict the 2022-23 playoff bracket.

Data:

NBA teams' stats per game and season will be the dataset used

https://www.nba.com/stats/teams/boxscores?Season=2021-22

References:

1. "Predicting Outcomes of NBA Basketball Games | NDSU Libraries." | *NDSU Libraries*, https://library.ndsu.edu/.
2. "Teams Box Scores: Stats." *Teams Box Scores | Stats | NBA.com*, https://www.nba.com/stats/teams/boxscores?Season=2021-22.
3.