

ORIE 4741 Final Project: NBA Analysis

Andrew Kozma

Akash Nadan

Question

Our goal is analyze NBA player data and identify the best situations for taking a shot. We plan on answering the following questions:

- Whether or not a player will make their shot based on their current situation (see dataset features below)
- What are the optimal characteristics for making a shot

Dataset

We have a dataset consisting of 128,070 shots taken in every NBA game from October 28, 2014 (opening day) to March 4, 2015. For every shot, we have data on the home and away teams, the date of the game, which team won, the margin of the final score, the player who took the shot, which shot number it was, the period of the shot, the game and shot clock at the time of the shot, how many dribbles they took before shooting, how long they touched the ball before shooting, how far away the shot was, how far the closest defender was and who he was, and finally whether they made or missed the shot and from how far.

Our data was collected from Kaggle.com.

<https://www.kaggle.com/dansbecker/nba-shot-logs>

We plan on using various combinations of the variables listed above in order to predict whether or not a player makes a shot.

Project Value

We believe that this is a worthwhile project because many teams can benefit from our analysis. NBA coaches teams are constantly trying to find ways to improve their overall shot percentage and win ratio. Our analysis will allow coaches and players to better understand which shots are best to take and have the highest probability of going in. Through implementation of our findings teams will be able to increase their odds of winning games.

We believe that we will succeed in solving this problem because making a shot in basketball has a strong relationship with the variables in our dataset, and we plan on identifying the exact nature of this relationship.