

Brief overall summary of what was done by the game-by-game team:

1. Designed model: takes in a difference vector as an input, outputs either a win/loss (0/1) or a point spread based on the home team. Used linear regression, logistic regression, neural network, decision tree, and random forest
2. Data querying and parsing:
 - a. Queried the NBA API to get all NBA games for all NBA teams, and stored this data in a dictionary that mapped team_id to a games history dataframe
 - b. Cleaned the data such that game history dataframes would only contain 82 regular season games (66 for NBA lockout)
3. Created training set
 - a. For each season from 2009 to 2018 inclusive, we iterated through each team's corresponding games history dataframe.
 - b. For each game, we got the statistical team averages for both teams from the past n games, normalized them, and then subtracted the two. We would also get the corresponding label (0 if the home team lost, 1 if the home team won), or the point differential between the home and away team.
 - c. We had roughly 82 games x 9 seasons data points, where the features were the normalized differences between each team stat, and the labels were either a win/loss or the point differential
4. Results (directly predicting win/loss)
 - a. 67% for logistic regression and the neural network. 55% and 57% respectively for decision tree and random forest

- b. 67% also for predicting win/loss using linear regression point differentials