

PRO-Line Props Prediction Model

What is the problem you would like to solve?

- In the preliminary analysis we will identify which players by position have the most variability
- From this we will test 2 players to find out if they differ significantly from the avg player at their position
- My model will use NBA Box Score data to predict player points, using time series forecasting methods.

Who is your client and why do they care about this problem?

- My clients would be any gamblers who participate in PRO-Line betting as outcomes from the prediction model can be sold to users online via website or social media
- Also will be used by myself and friends who currently make PRO-Line bets solely based on our basketball knowledge and emotional connection to players and teams
- These users care about this problem as it is money-driven and users would like to make the most amount of money possible with the least amount of risk

What data are you using? How will you acquire the data?

- I will be using NBA Box Score data from the previous season when building the model and testing for accuracy of predictions. This data is available from Kaggle's data repository (<https://www.kaggle.com/nathanlauga/nba-games#teams.csv>)
- Moving forward for the Model to work in real-time during the next NBA season and the NBA Box Score Data will need to be scraped directly from the NBA.com website

How will you solve this problem?

- There are many ways to approach this problem. Based on my statistical knowledge I would build a time-series regression or ML model that takes into account a number of variables and makes a prediction on player points
- The model will take into account some of the following variables for player stats:
 1. What is that players stat avg vs that particular team this season
 2. What is that players current avg over the last 5 and last 3 games
- These variables are subject to change once the project has begun and can properly access which variables can be accounted for correctly

What are your deliverables?

- Once the CapStone Project is completed I will have a workable Python code which will produce output that can inform decision making over which players are more like to go over or under for points
- A corresponding report and presentation slides will accompany the Python code to better explain results and future work.