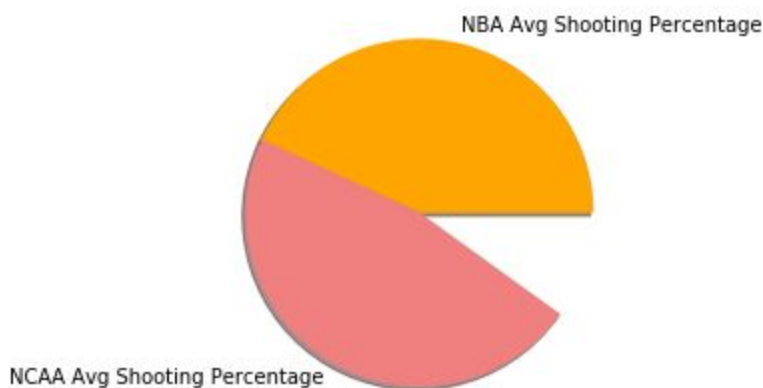
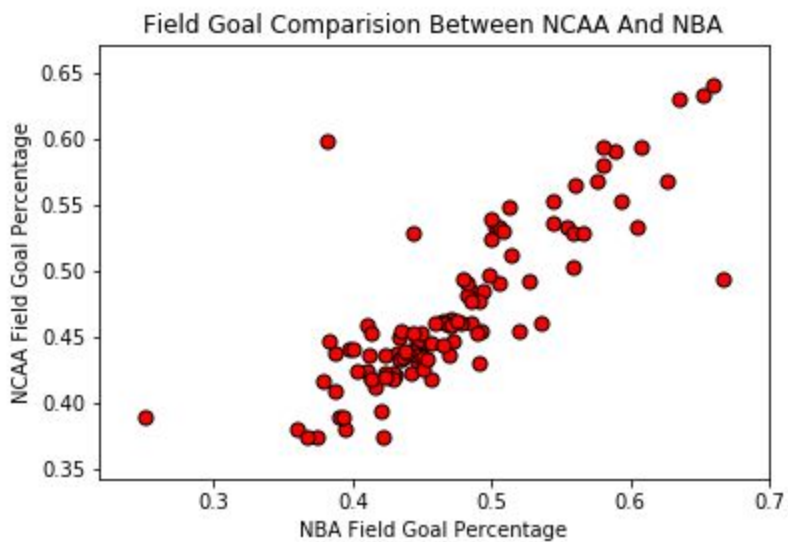


NCAA vs NBA Summary

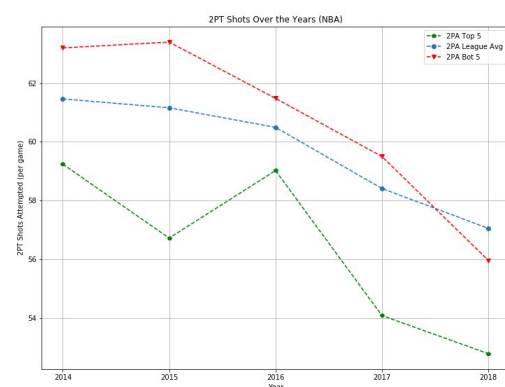
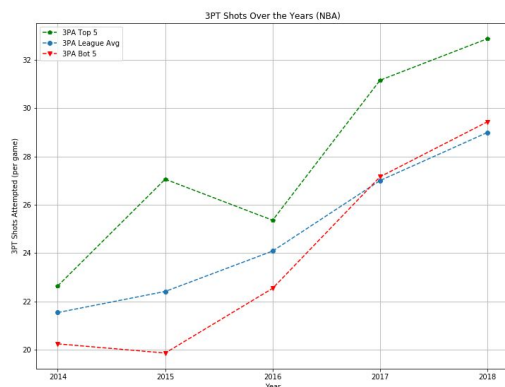
Question 1 Conclusion: Do NCAA players shoot better than NBA players?

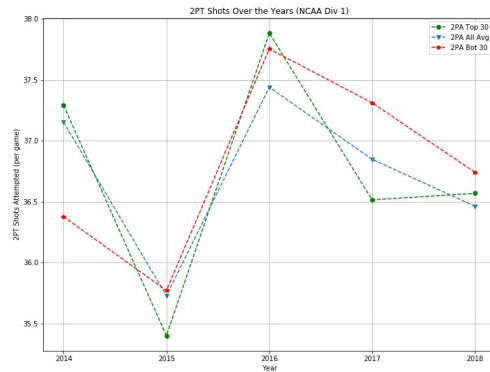
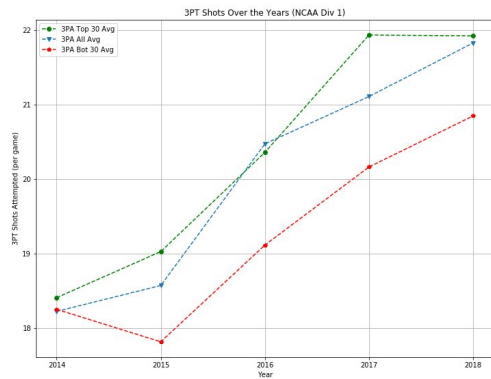
1. For this question, we looked at a player's data during their NCAA seasons versus their NBA seasons. We found that in general, NCAA players shoot better than NBA players. This can be due to many factors such as the play style, defensive style, and coaching style. The one limitation we found when attempting to draw a conclusion was that less than 5 percent of NCAA players actually make it to the NBA.



Question 2 Conclusion: What offensive stats correlate with more wins?

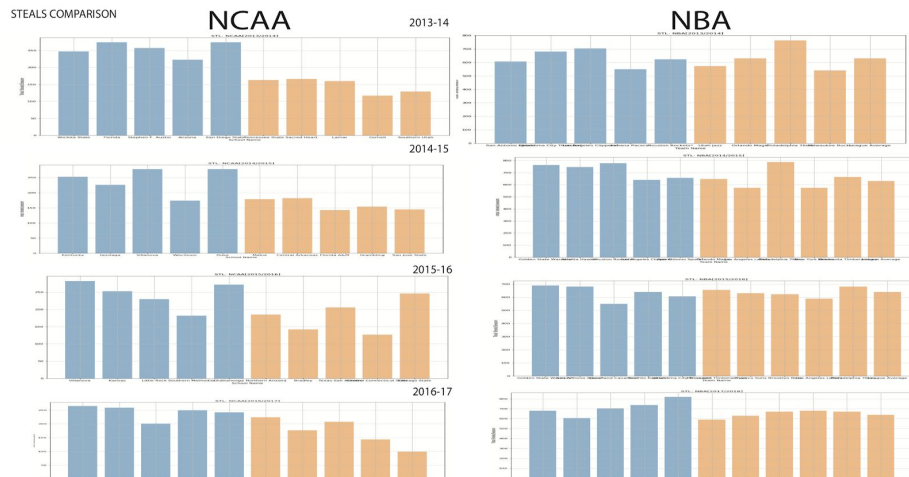
1. For this question we took a look at 3 point shots and 2 point shots attempted per game for both the NBA and NCAA. The reason we decided to look at attempts per game instead of made shots is to see which shot top teams try to look for more often. And from this data we could not conclude that any data was significant, but we could identify the trends between the NBA and NCAA. The NBA's top teams seem to attempt more 3 point shots, but less 2 point shots than the rest of the league. This changes in the NCAA because the top teams take more 3 point shots, but there is not clear separation or trend when it comes to 2 point shots. As far as trends go the NBA is definitely heading towards more 3 point shots over 2 point shots with an increase of about ten 3 point shot attempts per game in the last 5 years.





Question 3 Conclusions:

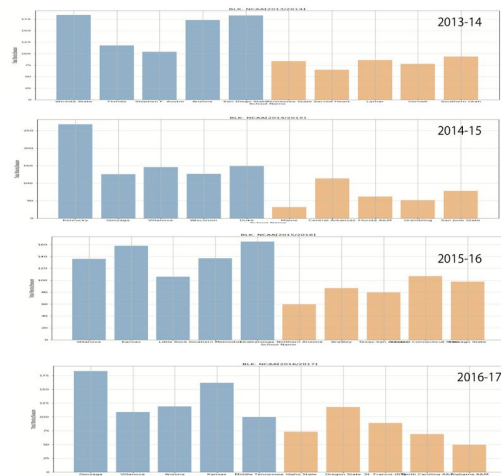
1. When it comes to steals, within the NBA there is a significant correlation between more steals and more wins. The correlation is not clear for the NBA teams.



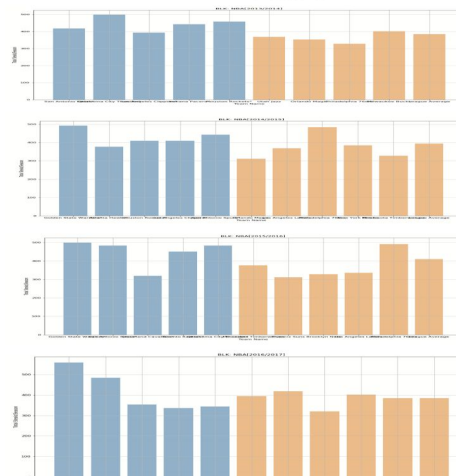
2. The same can be said about the number of blocks: within the NBA there is a significant correlation between more steals and more wins. The correlation is not clear for the NBA teams.

BLOCKS COMPARISON

NCAA



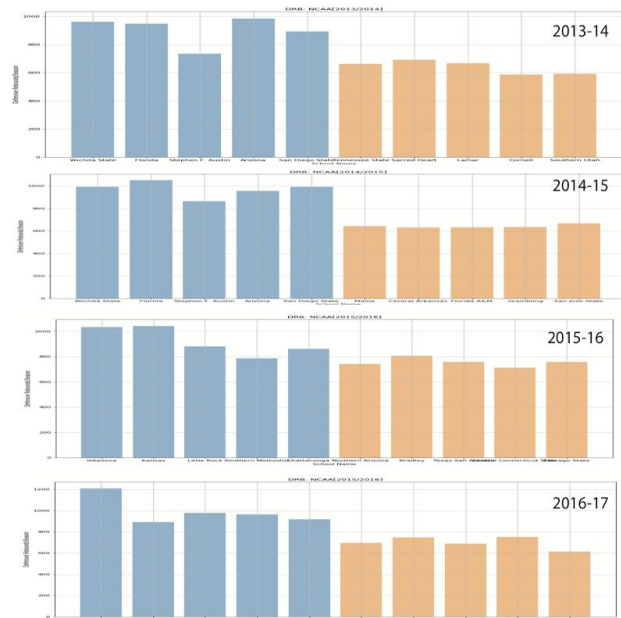
NBA



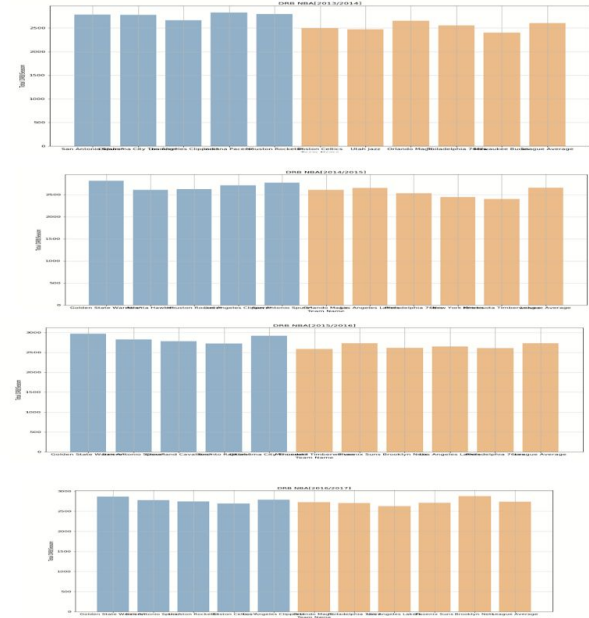
3. The same can also be said about defensive rebounds: When it comes to steals, within the NBA there is a significant correlation between more steals and more wins. The correlation is not clear for the NBA teams.

DEFENSIVE REBOUND COMPARISON

NCAA



NBA



The overall significance of this data reveals that the importance of defensive stats seems greater in the NCAA than in the NBA.

Question 4 Conclusion:

Trends in the scatterplots indicate that Star Power is positively correlated with Team Wins per Season for the NBA ($r = 0.34$), while negatively correlated for the NCAA ($r = -0.16$). There is a negative correlation ($r = -0.29$ and -0.18) between Assists/Score and Star Power, establishing a weak dichotomy between the two metrics meant to represent the effectiveness of Teamwork vs Star Power (as one goes up, the other goes down).

The bar graphs show the performance of the top 10% (averaged) of each league for each season (2013-17) next to the average of all teams in that league. Again, the graphs reaffirm the conclusions demonstrated by the scatterplots listed in the preceding paragraph and show that Assists/Score seems to be equally important (relative to each league).

Considering the complexity of basketball in how players interact with both teammates and opponents, the metrics do not fully represent Teamwork and Star Power. Additionally, what correlations exist are rather weak. The metrics used need a lot of refining, especially Assists/Score as effective facilitation of the ball to the Star Player would contribute heavily to this metric. I can see using machine learning to find stats with strong correlation with team wins, and combination of stats with strong negative correlation with one another (to establish a strong dichotomy to do comparative analyses).

