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Description of Data:

The RAPTOR (Robust Algorithm (using) Player Tracking (and) On/Off Ratings) statistic is an advanced 'Plus-Minus' statistic that determines how many points a player contributes to his team's offense and defense per 100 possessions. In short, it helps determine a point differential when the player is on the floor vs when he is off the floor. This data set contains the offensive, defensive, and total raptor scores in the form of box RAPTOR and On/Off RAPTOR. This also contains the PREDATOR statistic which is a modified version of the RAPTOR statistic that takes into account predicted future performance. On top of that, the WAR statistic is also included which modifies the RAPTOR statistic to reflect a players value based on minutes played, pace (a teams possession length), and playoff and regular season pace with more weight placed on playoffs.

Our data set is a historical RAPTOR collection from the 1977-current NBA seasons for every player. It includes the offensive and defensive versions of these statistics as well as the combined offensive and defensive, or total, versions of RAPTOR, WAR, PREDATOR, and PACE statistics.

It is important to note that we are basing this off of a modified RAPTOR statistic that has been made to include players from the 1977-2020 seasons using the same data. This is important because in the 2013/14 season the NBA began collecting advanced statistics on players which is used in the modern version of the RAPTOR statistic. We are interested in a broader view of the NBA players so we will be using the historical data rather than the modern data sets, which only includes players from 2013 onwards.

Statistics:

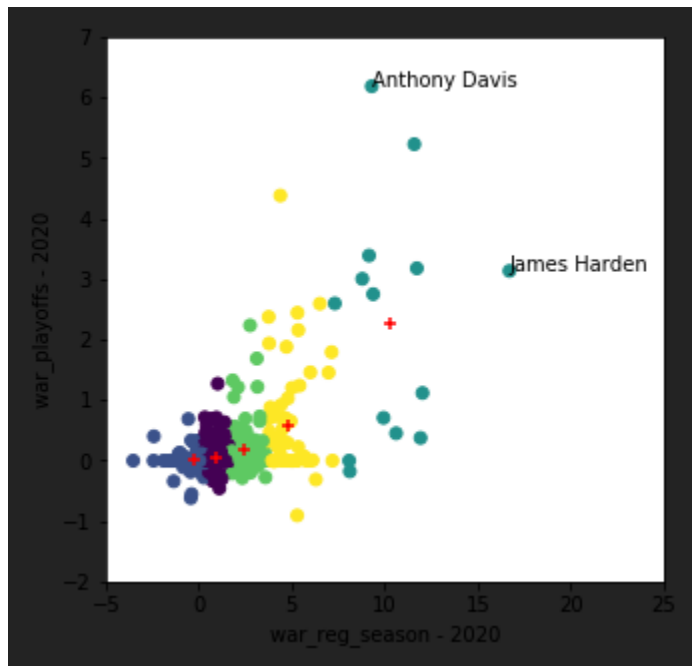
Total Player-Seasons: 18,013

Raptor Total Stats:		War Total Stats:		Predator Stats:	
mean	-1.305130	mean	2.138467	mean	-1.492685
std	3.279292	std	3.564712	std	3.440341
min	-19.317679	min	-7.382978	min	-18.712307
25%	-3.305822	25%	-0.128583	25%	-3.699204
50%	-1.247017	50%	0.806606	50%	-1.483399
75%	0.766939	75%	3.376565	75%	0.729446
max	12.580815	max	28.762877	max	13.347925

The top three raptor scores of all time belong to LeBron James(12.58), Stephen Curry(12.48), and Michael Jordan(12.29).

The top three war scores of all time belong to Michael Jordan(28.76), LeBron James(28.52), and Michael Jordan(28.01).

The top three predator scores of all time belong to Stephen Curry(13.35), Michael Jordan(12.71), and James Harden(12.60).



Based on a K-Means clustering of war_regular season vs war_playoffs for the 2020 year, Anthony Davis and James Harden could be considered dominant.

Analysis of Data:

As we began to look at our dataset, we were looking for a few basic statistics. First, we were interested in the rankings of players regardless of year for these various statistics. We found that based on the historical RAPTOR statistics LeBron James was the most dominant player regardless of era. Going forward with our project, we are interested in digging deeper in a couple of areas. First of all, we are interested in looking at how prolific players progress throughout their careers, and if there are any significant results based on that. Secondly, we are interested in how RAPTOR correlates to any specific season. More specifically, we want to see if there is a correlation between RAPTOR values between players in a specific season vs other seasons.