Introduction

In this report I will be using the dataset that comes from the 2012 National Basketball Association (NBA) draft combine measurements. The data contains measurements and results from the basketball players in college all over the USA. While usually the scouts know who the best players in college basketball are, sometimes it gets a little tricky for the players who aren't regarded as one of the top 10 players in the country. So, in order to evaluate them better and give a chance for them to improve their chances of entering the league, NBA do this program called 'combine' where they players get to participate in drills like sprinting, vertical jumping, agility while also measuring their physique such as their height and weight etc. In this dataset, I will show the measurements and how unique they are based on the numbers provided in the dataset in 2012.

1. Best Defender by Physique

Some teams are already set on good offense, but problem is they lack defensive players. How do I determine whether the player is capable of being a great defensive player? We need them to be tall enough to stop block shots, long arm in order to steal the ball from opponents and agile enough to keep up with the offensive players. A simple formula of '*Height + Wingspan + Vertical + Reach − Agility*'. We can clearly see that from Figure 1 that player 0 is the best defender and from my code I found that player 0 is "Andre Drummond".
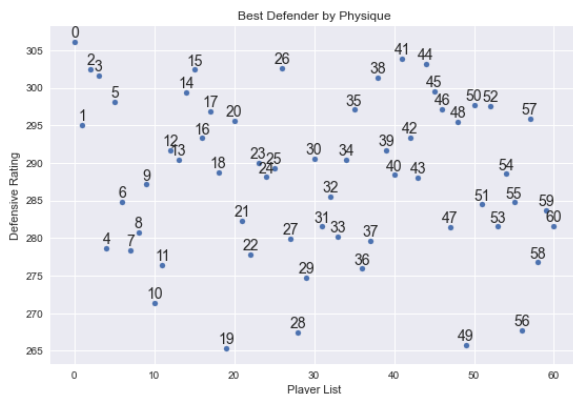

Figure 1 : Best Defender by physique with player numbers listed above the points

2. Height and Wingspan Correlation

The average human has a height to wingspan ratio of one to one. What makes a basketball player so peculiar other than their bizarrely tall height? They usually have a much bigger wingspan than their height, sometimes even almost a foot longer than their height! Here we see a graph of the height of the players compared to their wingspan, but some players do have a shorter wingspan than their height as observed at x around 55 *(Figure 2).*
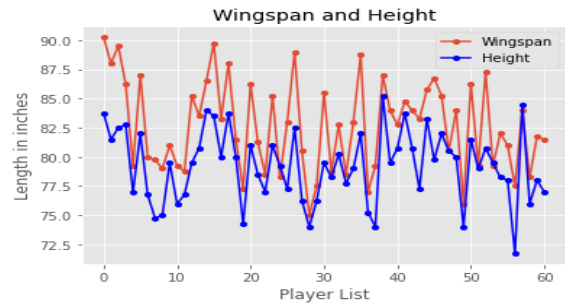

Figure 2 : Wingspan at red and Height at blue, a clear graph that shows Wingspan are higher than blue.

Let's have a look and see if their height and wingspan really do correlate. First, I generate a simple scatter plot *(Figure 3).* We see that visually there is a positive correlation but to really know if that's true, we should generate correlation coefficient values. *(Figure 4)*
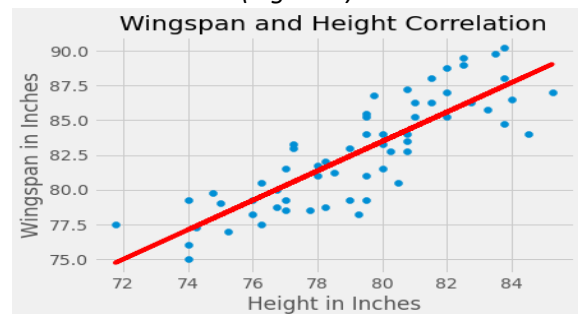

Figure 3: Wingspan and Height correlation

	P-value	Correlation Coefficient
Spearman's	4.6 x 10^{-19}	0.862
Pearson's	1.7 x 10^{-17}	0.842

Figure 4: P-value and Correlation Coefficient of Height and Wingspan

I can see that not only is the P value is so small that I have strong evidence of null hypothesis, but my correlation coefficient is 0.84-0.86 which indicates that there is a clear positive relationship between my height and wingspan.