



The NBA 2020 Draft

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Our Mission

The New Orleans Pelican's 2019 Season in numbers

- 33 Wins and 49 Losses (League Rank 22/30)
- 116.8 points conceded per Game (League Rank 27/30)
- A 9.1% decrease in blocks per game from the year before
- A decrease in 3 point percentage throws from the year before
 - A League Rank of 19 for Personal Fouls

Why we are here:

We want to help your franchise reach the playoffs of the 2020 Season



How we can improve your team

4 Points of Action

We want to improve your team by:

1. Raising your 3 point shooting percentage

- The modern game needs clinical 3 point shooters

2. Decreasing the team's personal fouls count

- Giving away too many fouls will make defenses weaker

3. Raising your free throw shooting percentage

- Maximizes attacking output

4. Making your defense more robust with more blocks

- Decrease the chance of your opponents scoring points

Our approach:

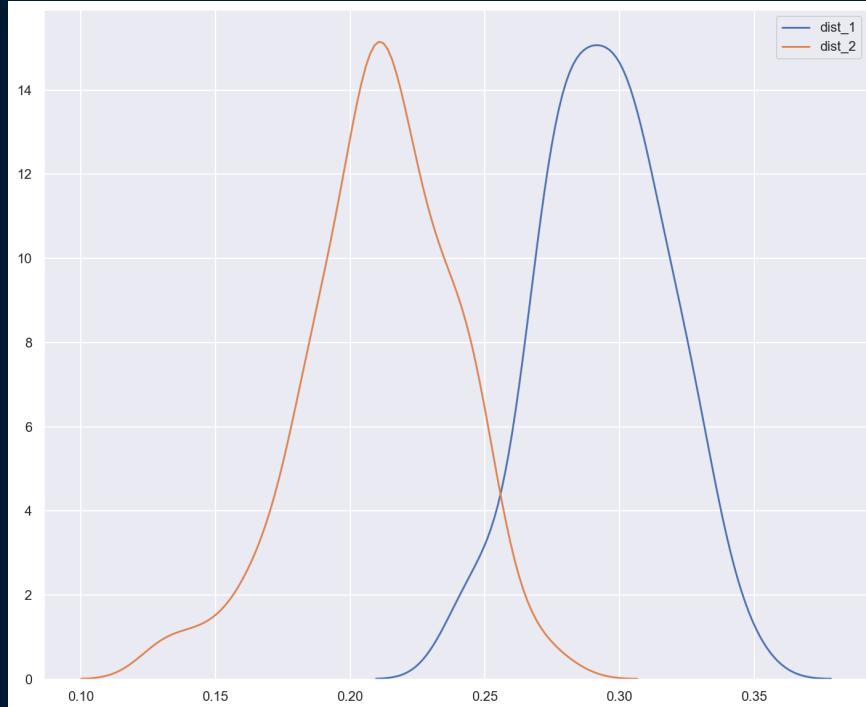
Using comprehensive statistics consisting of more than 1500 players we investigated these points of action

Our thorough analysis will allow us to prescribe the type of player the New Orleans Pelicans ought to buy in the NBA 2020 Draft



1) Raising 3 point percentage

Short vs. Tall Samples Distribution



The relationship between 3 point shooting and height

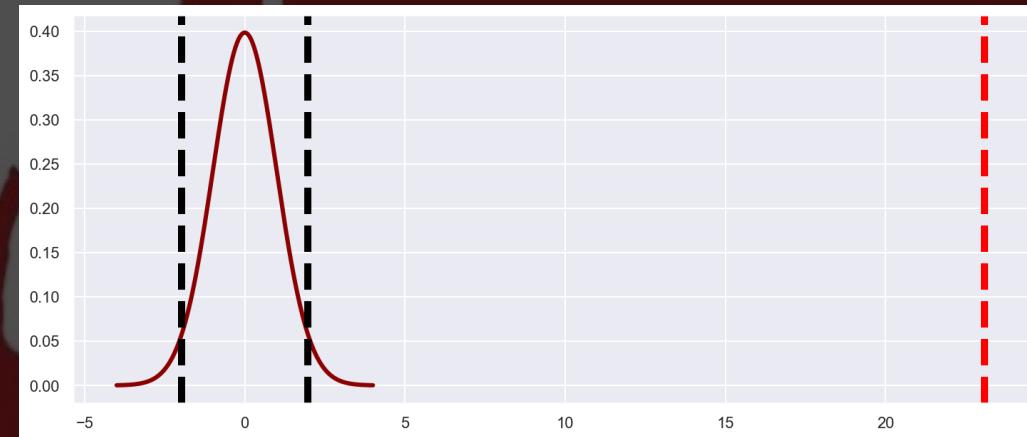
Our hypothesis more formally:

Null Hypothesis:

The average 3 point shooting percentage of players shorter than 200cm is no different to those who are taller than 200cm

Alternative Hypothesis:

The average 3 point shooting percentage of players shorter than 200cm is greater than those who are taller than 200cm

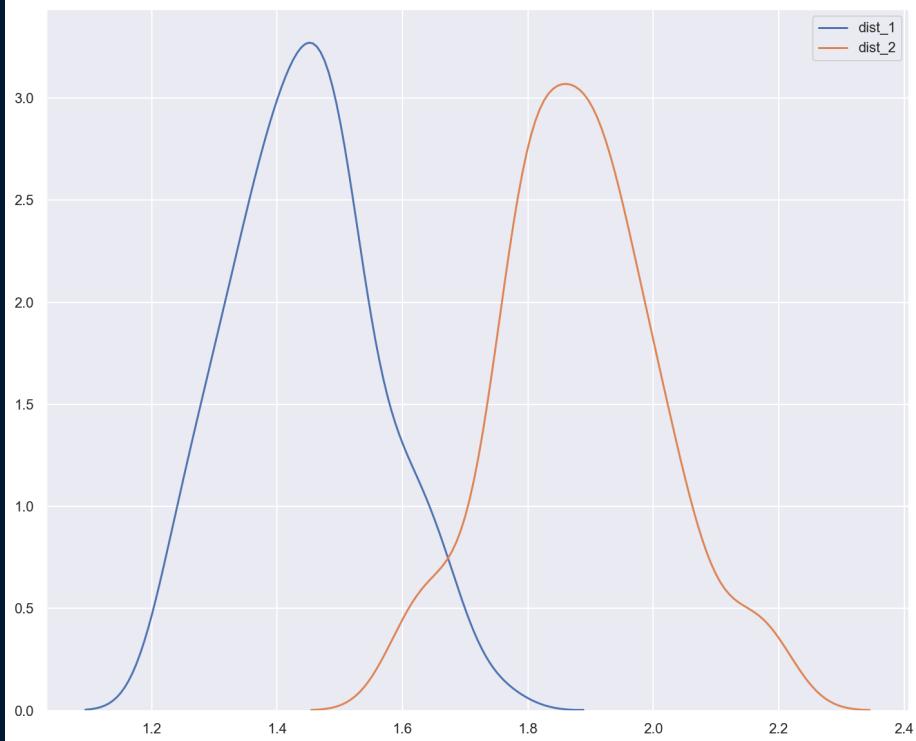


We can reject the null hypothesis!
Tall players are indeed worse at shooting 3
pointers

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In [14]: ht.Two_Sample_Test.conclusion(result, t_crit, alpha)
Null hypothesis rejected. H1 is accepted. Results are statistically significant with t-value
= 23.09 critical t-value = 0.6757308423854822 and p-value = 0.0
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In [ ]:
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2) Decreasing personal fouls



We can reject the null hypothesis!
Heavy players are indeed worse at personal foul

The relationship between personal fouls and weight

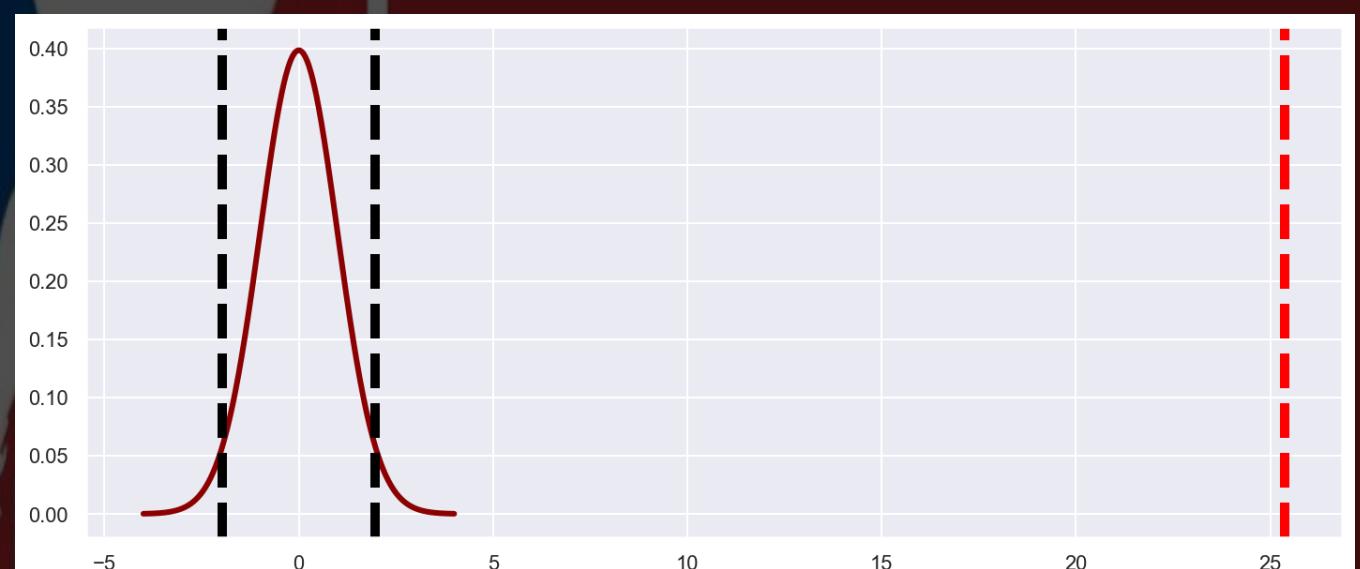
Our hypothesis more formally:

Null Hypothesis:

The average foul count of players lighter than 95kg is no different to those who are heavier than 95kg

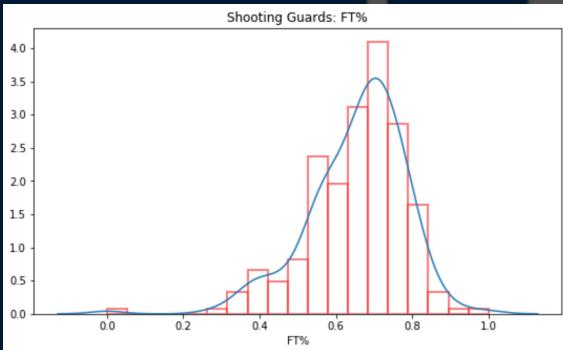
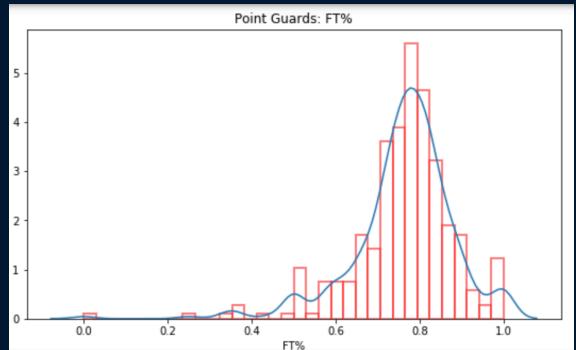
Alternative Hypothesis:

The average foul count of players lighter than 95kg is less than those who are heavier than 95kg



3) Raising your free throw percentage

An initial glimpse into the data



Point Guards vs. Shooting Guards

Our hypothesis more formally:

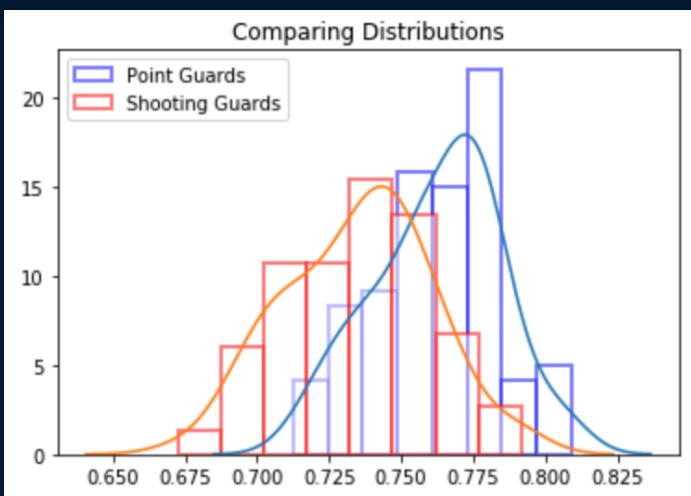
Null Hypothesis:

The average free throw shooting percentage for point guards is NO DIFFERENT to the shooting percentage of shooting guards

Alternative Hypothesis:

The average free throw shooting percentage for point guards is GREATER THAN the shooting percentage of shooting guards

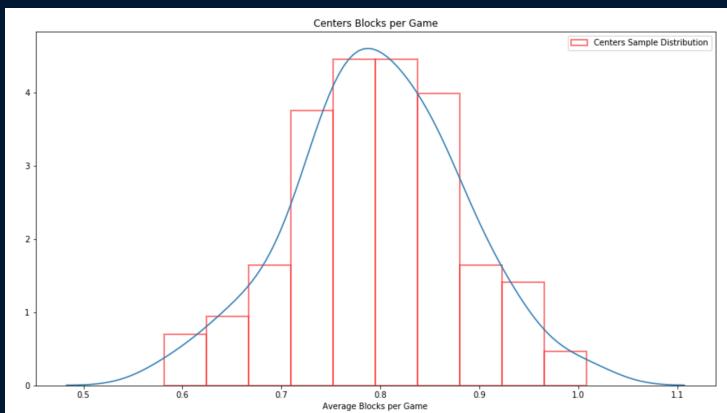
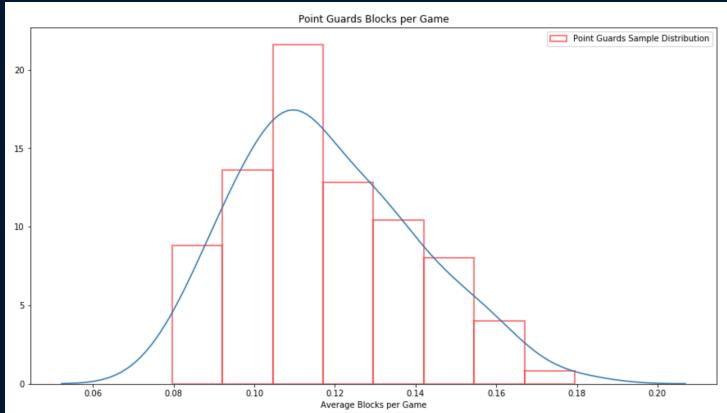
Our sample distributions



Welch's t-statistic	8.28
p-value	Very small
t-critical value	1.645
Conclusion	REJECT the Null Hypothesis



4) Raising your blocks per game



A pair-wise t-test between point guards and centers allows us to conclude that centers are better at blocking!!

Blocks per game differ by positions

- Using another statistical method called ANOVA, we can compare the differences in blocks per game across all the different positions on a basketball court

Our hypothesis more formally:

Null Hypothesis:

Across different positions, there is NO DIFFERENCE in blocks per game

Alternative Hypothesis:

Across different positions, there are certain positions which have GREATER blocks per game

ANOVA Analysis

	sum_sq	df	F	PR(>F)
C(POS)	79.314438	4.0	196.649897	2.608512e-136
Residual	155.382167	1541.0		NaN

REJECT THE NULL!!



Concluding remarks

- Draft point guards over shooting guards to increase free throw percentage
 - Draft centers to improve blocks per game
 - Draft shorter players to improve 3 point percentage
 - Draft lighter people to avoid more fouling



SAFE

Q&A

