



BET NFL

(Sponsored by DraftKings)



(*Not actually sponsored*)

NFL Project Overview



Data gathered contains

- Spreads
- Over/Under
- Weather Data
- Stadium Names
- Team Scores

A Few Things to consider with the NFL Data

- Data that was gathered dated back to 1966
- Data before 1979 was removed due to incomplete data (prior superbowl incept.)
- Removed incomplete data for better accuracy
- NFL Raw Datasource : [Kaggle](#)



With data we want to ask ourselves this.....



- What is the over/under projection compared to total score of the game?
- How do different weather conditions impact the total score and accuracy of the over/under line prediction?

What Data is needed?

- Total Score (Home & Away scores)
- Over/Under spread
- Accuracy % (Total Score / over-under spreads)
- Temperature Feel
- Humidity Feel



NS	T SMITH SCORE A TD?	+375	10286	RUSHING YARDS	1 1/2
ME:	10189 YES	-500	10287	OVER	
-200	10190 NO	-110	10288	UNDER	+150
+170		-110		LONGEST RUSH: T BRADY	-180
ESS?	RECEIVING YARDS: Z ERTZ				
+280	10191 OVER	-110			
-350	10192 UNDER	-110			
	LONGEST RECEPT: Z ERTZ				
T?	10193 OVER	-110	10289	OVER	+500
+175	10194 UNDER	-110	10290	UNDER	-700
ES				T BRADY SCORE A TD?	
10	RECEPTIONS: Z ERTZ				
10	10195 OVER	-110	10291	YES	-110
	10196 UNDER	-110	10292	NO	-110
	Z ERTZ SCORE A TD?			LONGEST COMPLETION: BRADY	
	10197 YES	+170	10293	OVER	38 1/2
	10198 NO	-200	10294	UNDER	-110
	RECEIVING YARDS: T BURTON			TD PASSES: T BRADY	
	10199 OVER	-110	10295	OVER	1 1/2
	10200 UNDER	-110	10296	UNDER	-240
	RECEIVING YARDS: M HOLLINS			TD PASSES: T BRADY	+190
	10201 OVER	-110	10297	OVER	2
	10202 UNDER	-110	10298	UNDER	-130
	RECEIVING YARDS: B CELEK			TD PASSES: T BRADY	+110
0203	OVER	+120	10299	OVER	2 1/2
0204	UNDER	-140	10300	UNDER	+150
	POINTS: J ELLIOTT			T BRADY THROW FIRST?	-180
0205	OVER	-110	10301	TD PASS	+275
0206	UNDER	-110	10302	INTERCEPTION	-350
	FG'S MADE: J ELLIOTT			T BRADY-TD PASS 1st QTR?	
			10303	YES	+170
			10304	NO	-20

Decades of Football....

Breakdown generations
of football

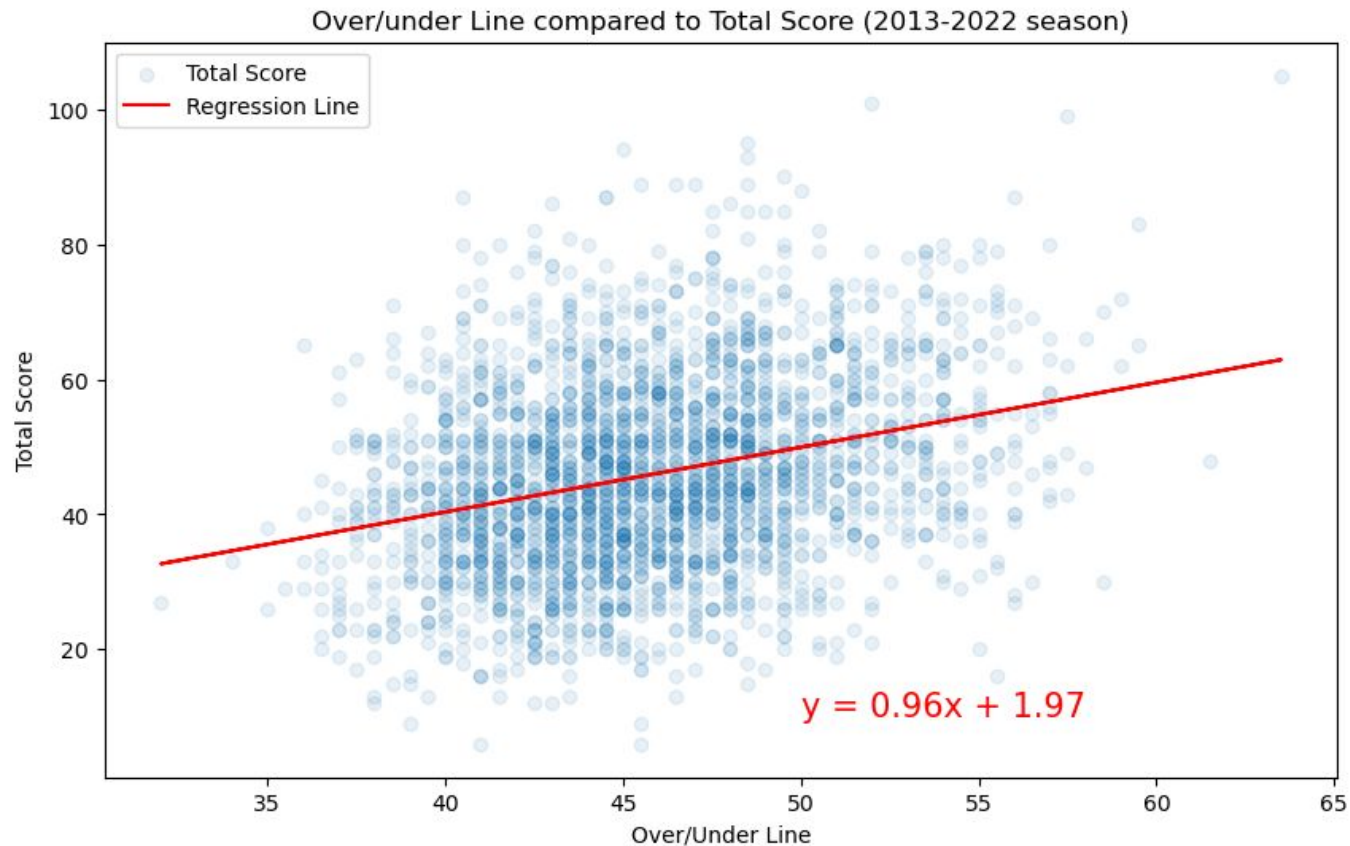
1993-2002

2003-2012

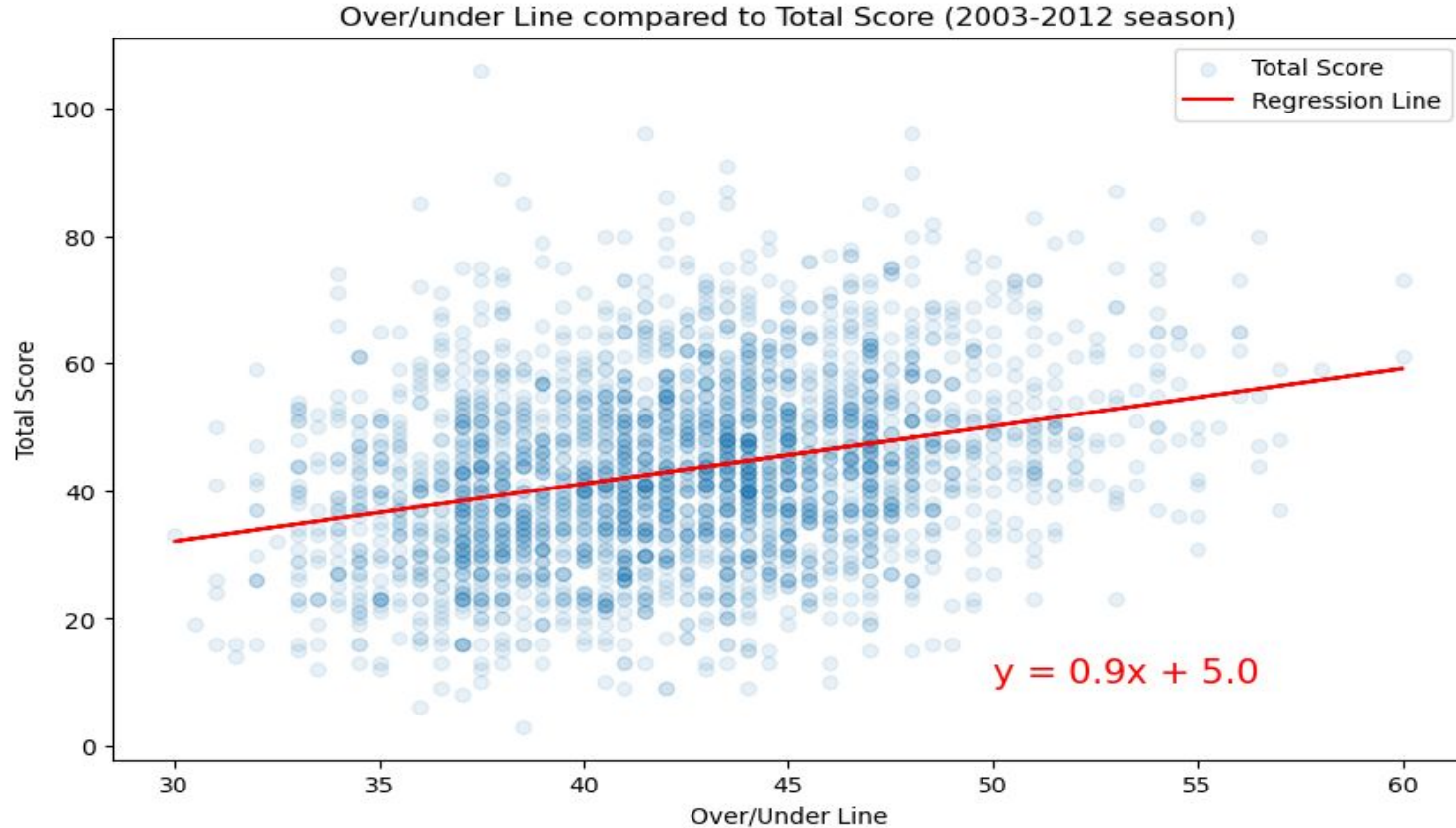
2013-2022



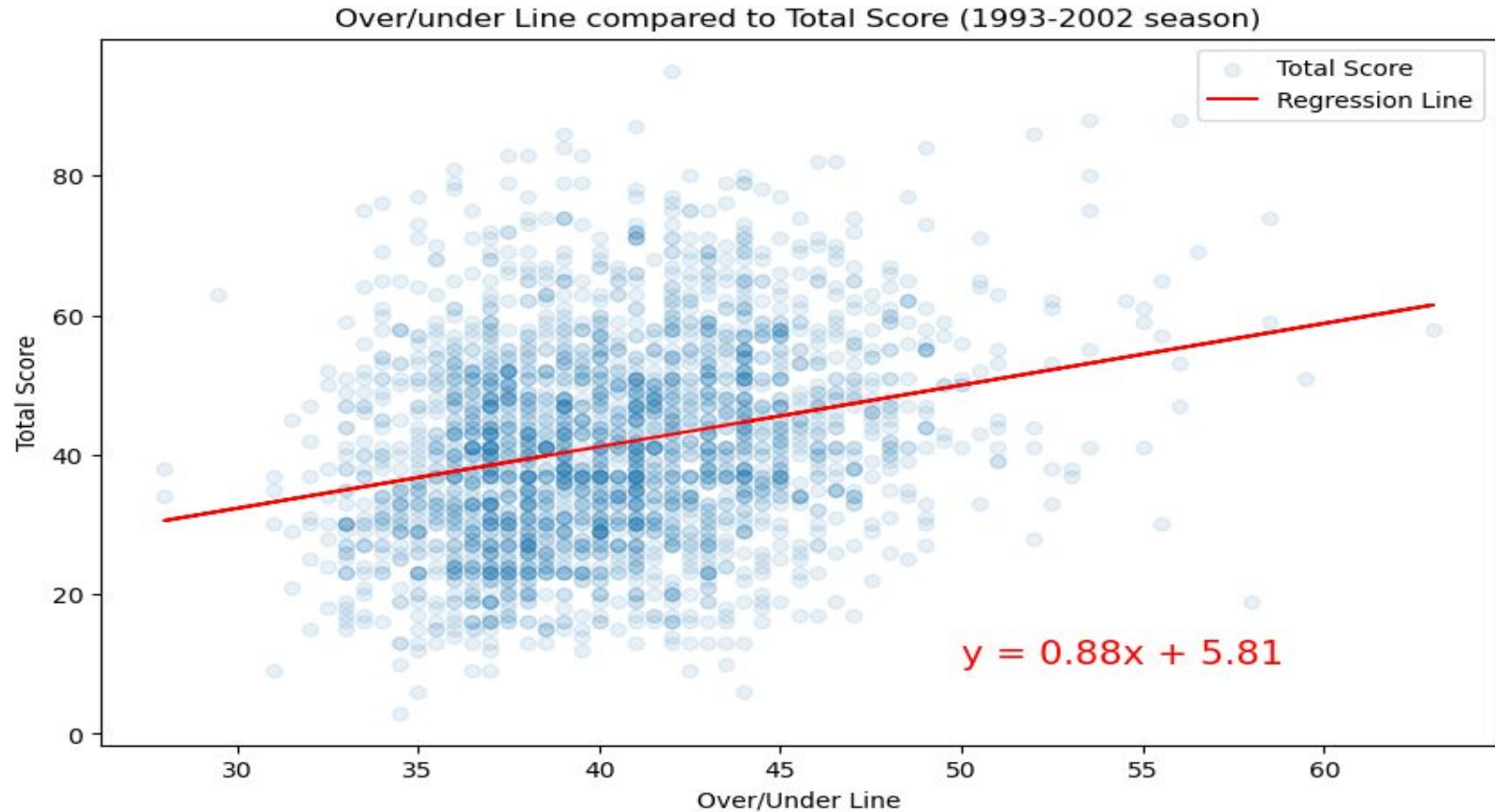
Over/Under Line vs Total Score (2013-2022 Seasons)



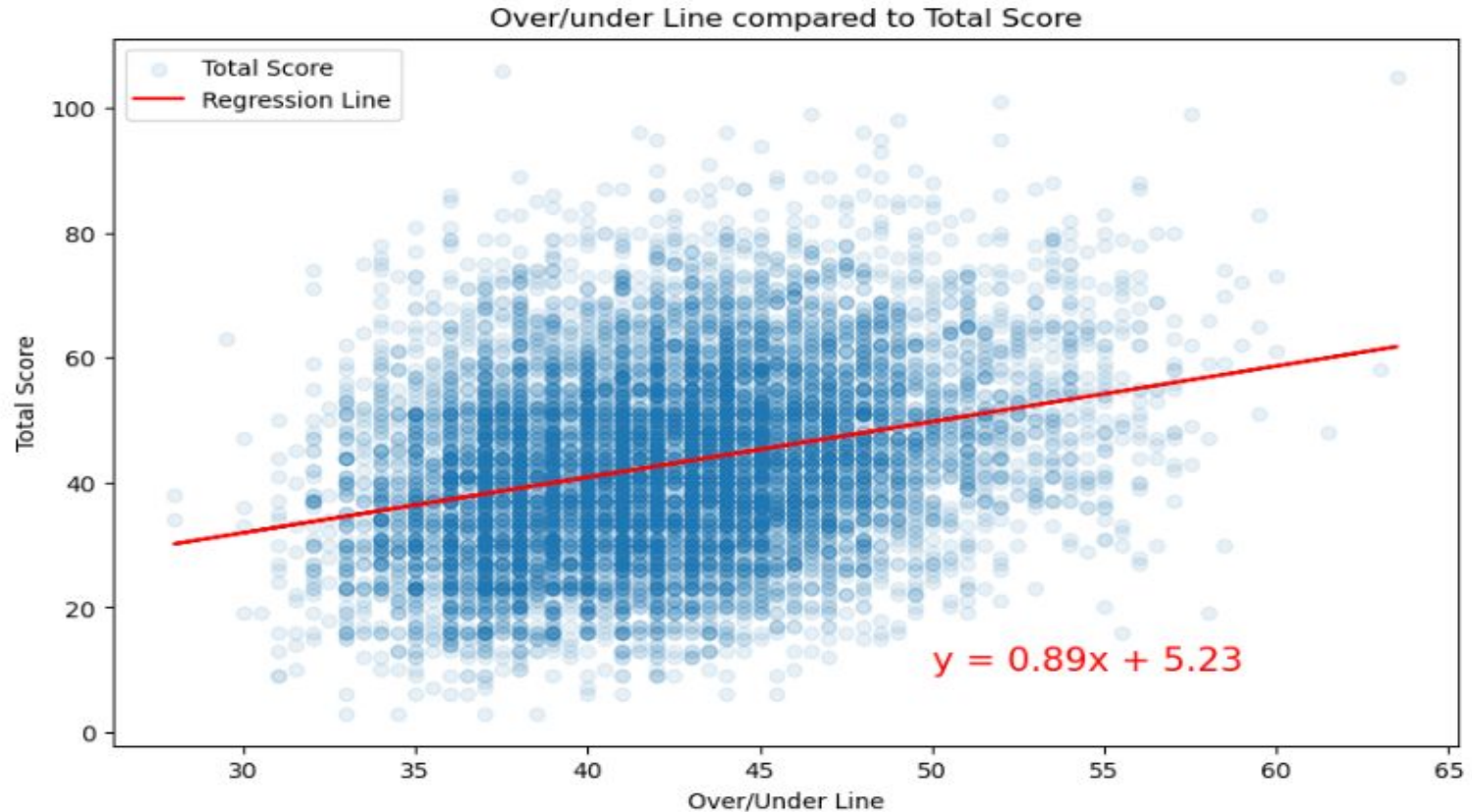
Over/Under Line vs Total Score (2003-2012 Seasons)



Over/Under Line vs Total Score (1993-2002 Seasons)



Over/Under Line vs Total Score (1979-2023)



Conclusions:

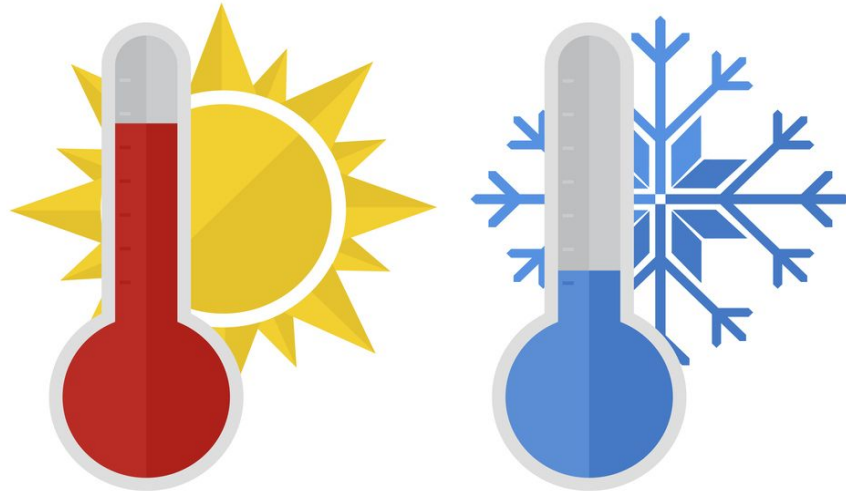
- The over/under line was the most accurate looking at the 2013-2022 decade of football and the least accurate during the 1993-2002 decade of football
- The over/under line has become more accurate with time. This makes sense as they have more data to predict the over/under line and ensure its accuracy.
- The correlation coefficient was fairly consistent around .3 with the exception of the 1993-2002 decade where it was .26

Total Score & Accuracy vs Temperature...

Can Temperature impact the total score of the game?

Does temperature impact the accuracy of the over/under line prediction?

Let's Find Out.....



How was the total score of a game impacted by the temperatures?

On Scale from Burning Heat to Freezing Cold....

"Very Hot" (85°F or above)

"Hot" (75°F to 84°F)

"Warm" (65°F to 74°F)

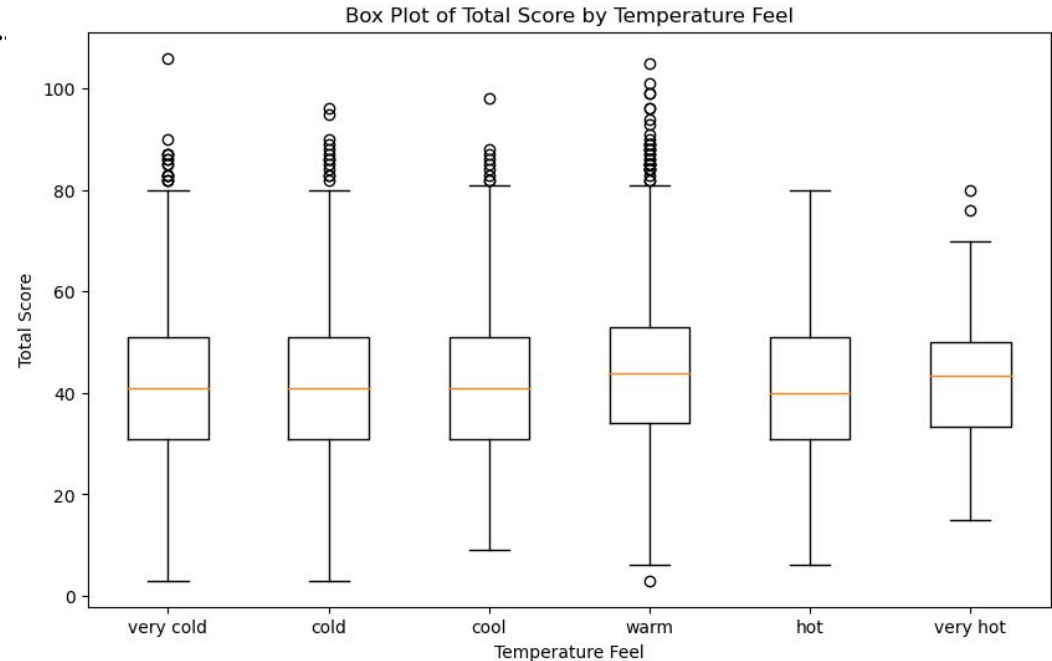
"Cool" (55°F to 64°F)

"Cold" (45°F to 54°F)

"Very Cold" (44°F or below)

Anova Test Results:

- F-statistic: 14.189
- p-value: 7.31e-14
- The differences are statistically significant (reject the null hypothesis).

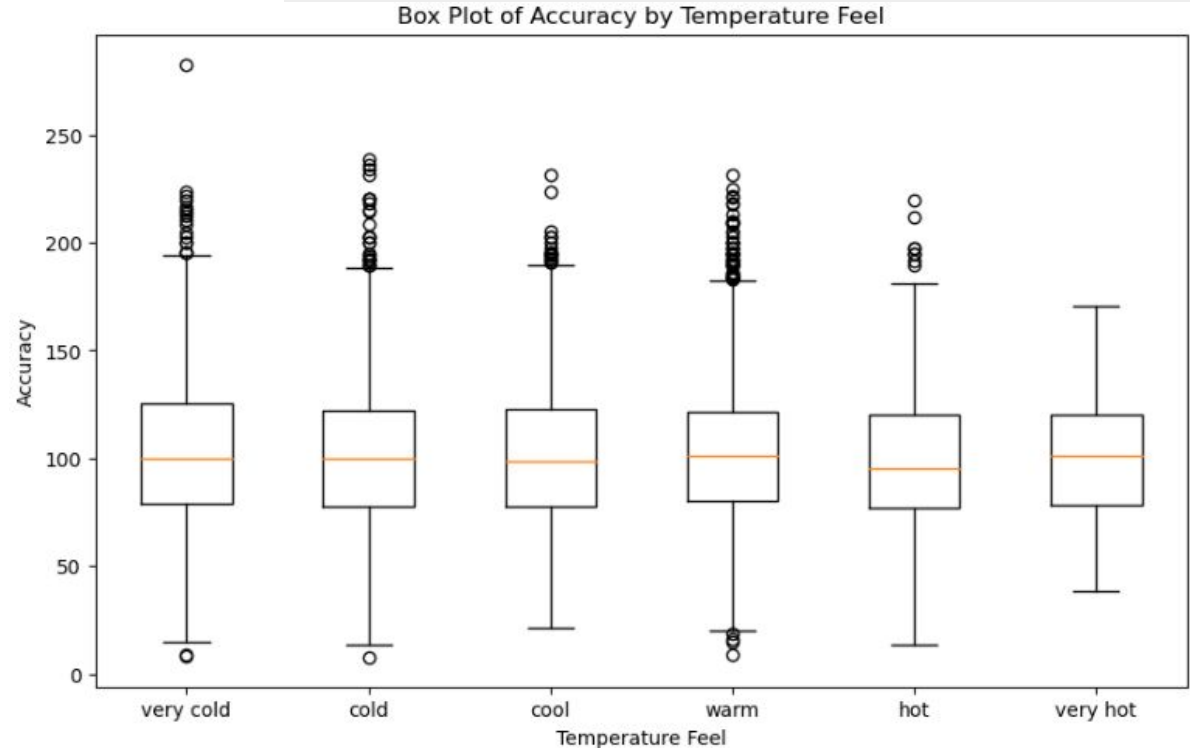


Did temperature impact the accuracy of the over/under line predictions?

"Very Hot" (85°F or above)
"Hot" (75°F to 84°F)
"Warm" (65°F to 74°F)
"Cool" (55°F to 64°F)
"Cold" (45°F to 54°F)
"Very Cold" (44°F or below)

Anova Test Results:

- F-statistic: 1.981
- p-value: 0.078
- The differences are not statistically significant (fail to reject the null hypothesis).



Humidity?....Can it affect the total score of a game?

"Very Humid" (80% to 100%)

"Humid" (60% to 79%)

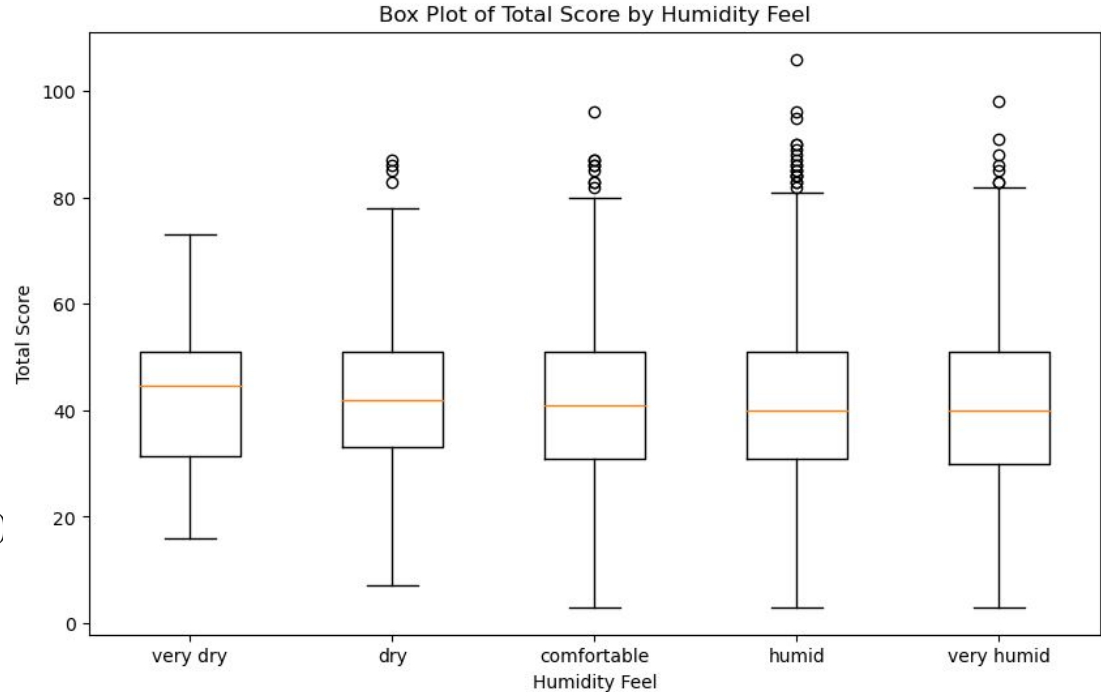
"Comfortable" (40% to 59%)

"Dry" (20% to 39%)

"Very Dry" (0% to 19%)

Anova Test Results:

- F-statistic: 0.739
- p-value: 0.564
- The differences are not statistically significant (fail to reject the null hypothesis)



Does humidity seem to have any relationship with the over/under line prediction?

"Very Humid" (80% to 100%)

"Humid" (60% to 79%)

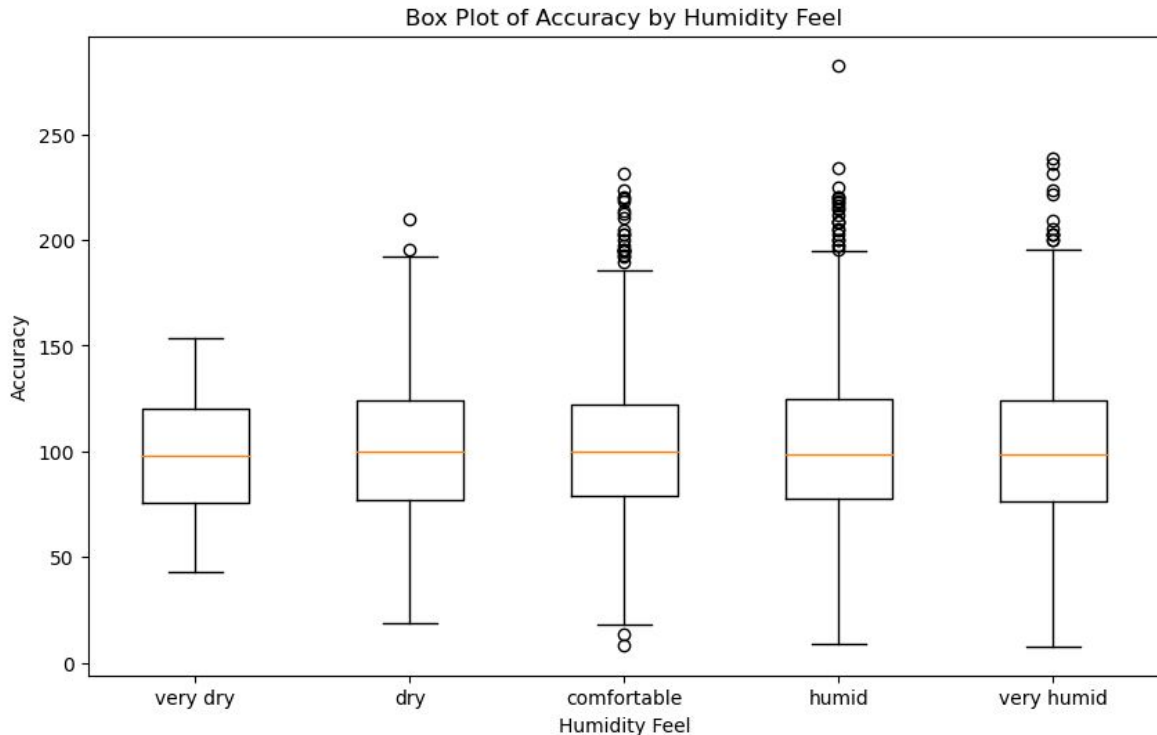
"Comfortable" (40% to 59%)

"Dry" (20% to 39%)

"Very Dry" (0% to 19%)

Anova Test Results:

- F-statistic: 0.126
- p-value: 0.973
- The differences are not statistically significant (fail to reject the null hypothesis).



Do the weather conditions impact the total score of a game?

Snow & Fog

Retractable (open roof)

Snow

Fog

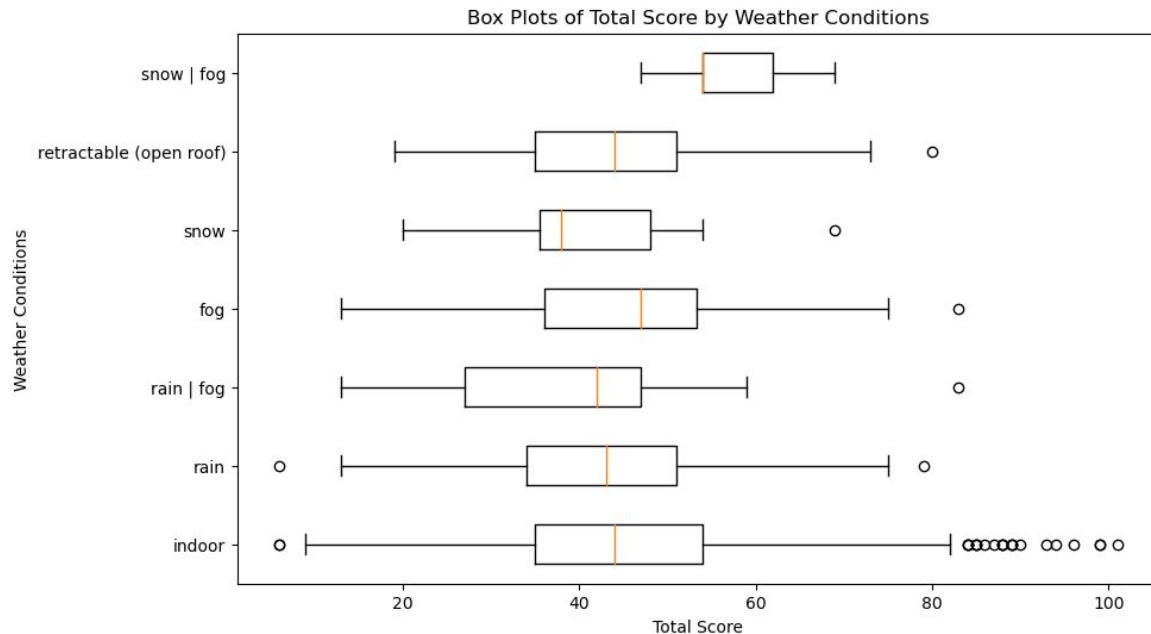
Rain & Fog

Rain

Indoor

Anova Test Results:

- F-statistic: 1.954
- p-value: 0.069
- The differences are not statistically significant (fail to reject the null hypothesis).



Do the weather predictions impact the accuracy of the over/under line prediction?

Snow & Fog

Retractable (open roof)

Snow

Fog

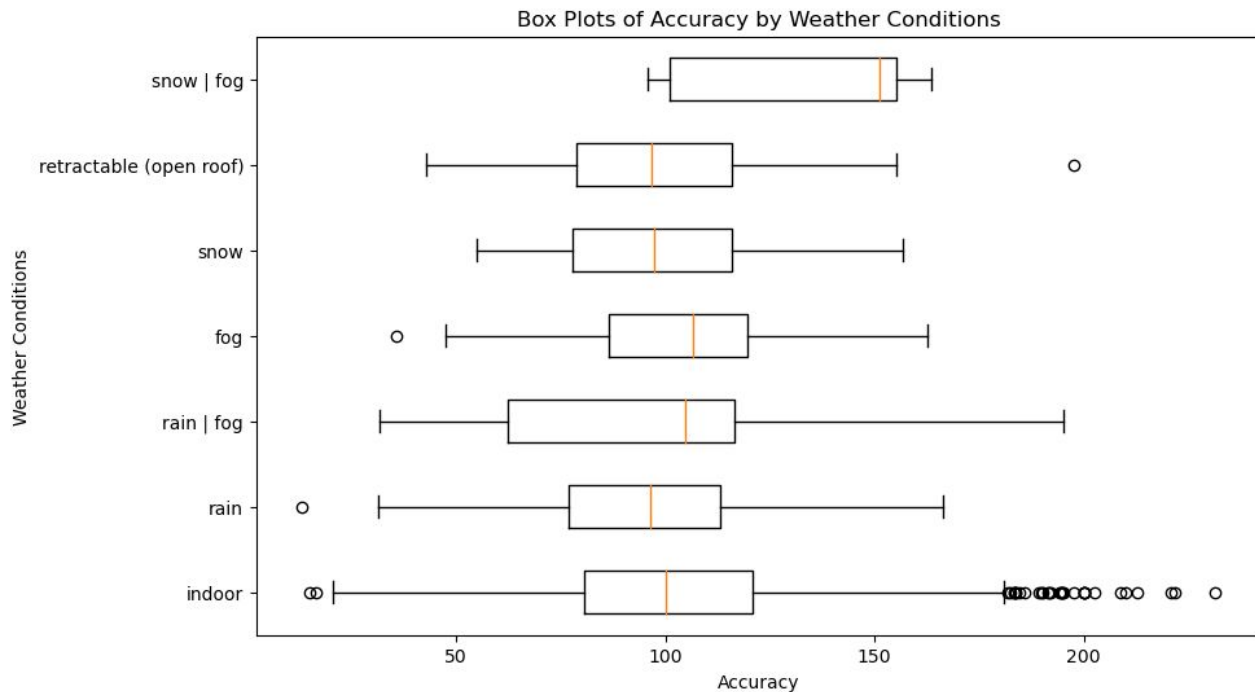
Rain & Fog

Rain

Indoor

Anova Test Results:

- F-statistic: 1.675
- p-value: 0.123
- The differences are not statistically significant (fail to reject the null hypothesis).



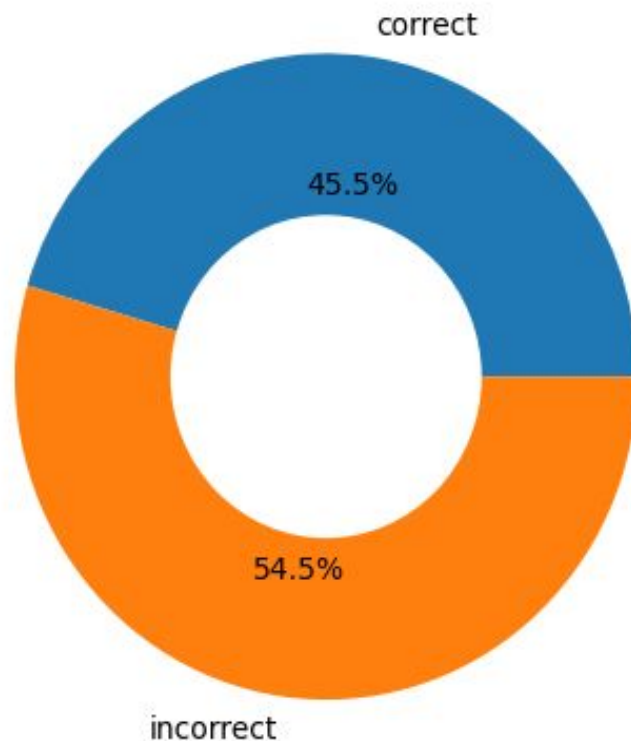
Conclusions:



- The only variables that we found to show a statistically significant relationship were the temperature and the total score. So of the variables we looked at... temperature seems to have the highest impact on the total score of the game
- All other variables we tested came up not statistically significant, meaning they had little to no impact on the total score of a game or the accuracy of the over/under line prediction.

How accurate are
bookmakers at predicting
Super Bowl winners?

Bookmaker Super Bowl Prediction Accuracy



Questions?

*In Memoriam of
Nick Chubb*



(get well soon)