



# Have NFL players gotten faster and stronger over time?

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<https://sites.google.com/view/summer-dighum100-berkeley/home>

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# BACKGROUND:

Some people view football as a pointless and barbaric game. This notion could not be further from the truth! Football is a very sophisticated game in which very intelligent players engage! Football is a billion dollar industry that allocates a lot of resources towards the game. One of the most interesting developments in the National Football League over the years is the rise of the use of analytics! Analytics now play a very important role in the NFL as a means to improve the league as a whole, but also to give teams a competitive advantage! I am very passionate about Football as it has been a very important part of my life. In this project, I hope to display my passion for football through the use of another developing passion in Data Science!

# Description of Dataset

- NFL teams use player data, in game data, and even salary data to improve their teams and organizations.
- One of the most important parts of the NFL is the NFL draft, where teams choose players from college.
- During the NFL draft process, at the NFL scouting combine, potential players are measured in different ways in order for NFL teams to gather data on relevant metrics regarding performance.
- The dataset I chose is the “NFL combine data” dataset which has data for all college players entering the NFL draft.



<https://www.kaggle.com/savvastj/nfl-combine-data>

# Description of Data Part Two

- The Dataset contains the name of each player who participated in the NFL combine from the year 2000 until 2018 and has different measurements such as height, weight, 40-yard dash time, and also bench press reps, among other variables.
- Since the dataset contains values for all players who participated in the NFL combine from 2000 to 2018, it lends itself to different types of analysis on player data.
- Using this dataset, I plan on telling a story and incorporating different techniques learned in class!

Player	Pos	Ht	Wt	Forty	Vertical	BenchReps	BroadJump	Cone	Shuttle	Year	Pfr_ID	AV	Team	Round	Pick
John Abraham	OLB	76	252	4.55	nan	nan	nan	nan	nan	2000	AbraJo00	26	New York Jets	1	13
Shaun Alexander	RB	72	218	4.58	nan	nan	nan	nan	nan	2000	AlexSh00	26	Seattle Seahawks	1	19
Darnell Alford	OT	76	334	5.56	25	23	94	8.48	4.98	2000	AlfoDa20	0	Kansas City Chiefs	6	188
Kyle Allamon	TE	74	253	4.97	29	nan	104	7.29	4.49	2000	nan	0	nan	nan	nan
Rashard Anderson	CB	74	206	4.55	34	nan	123	7.18	4.15	2000	AndeRa21	6	Carolina Panthers	1	23
Jake Ariens	K	70	202	nan	nan	nan	nan	nan	nan	2000	arianjak01	0	nan	nan	nan

# Research Question/Hypothesis

- For the research question, I plan on using the dataset to analyze if NFL players are getting faster and stronger overall more athletic over the years!
- For my hypothesis, I believe that although there are some outliers, the difference in strength and speed between modern NFL players and from the year 2000 is similar and the different could just be due to chance processes in the data.



# Methods and Tools: Jupyter Notebook

- Given the power of computing and data science, I plan on using Python and a Jupyter notebook to conduct my analysis.
- Using Python and the Jupyter notebook, I plan on analyzing the dataset and observing any trends.
- Using Python and the Jupyter notebook, I plan on conducting statistical analysis, such as hypothesis tests, as well as make storytelling visualizations!



<https://colab.research.google.com/drive/13GUyHe7X-GNL9lqS-1KnqJ8FpJg4Rdjz?authuser=1>

# Methods and Tools: GitHub Repository

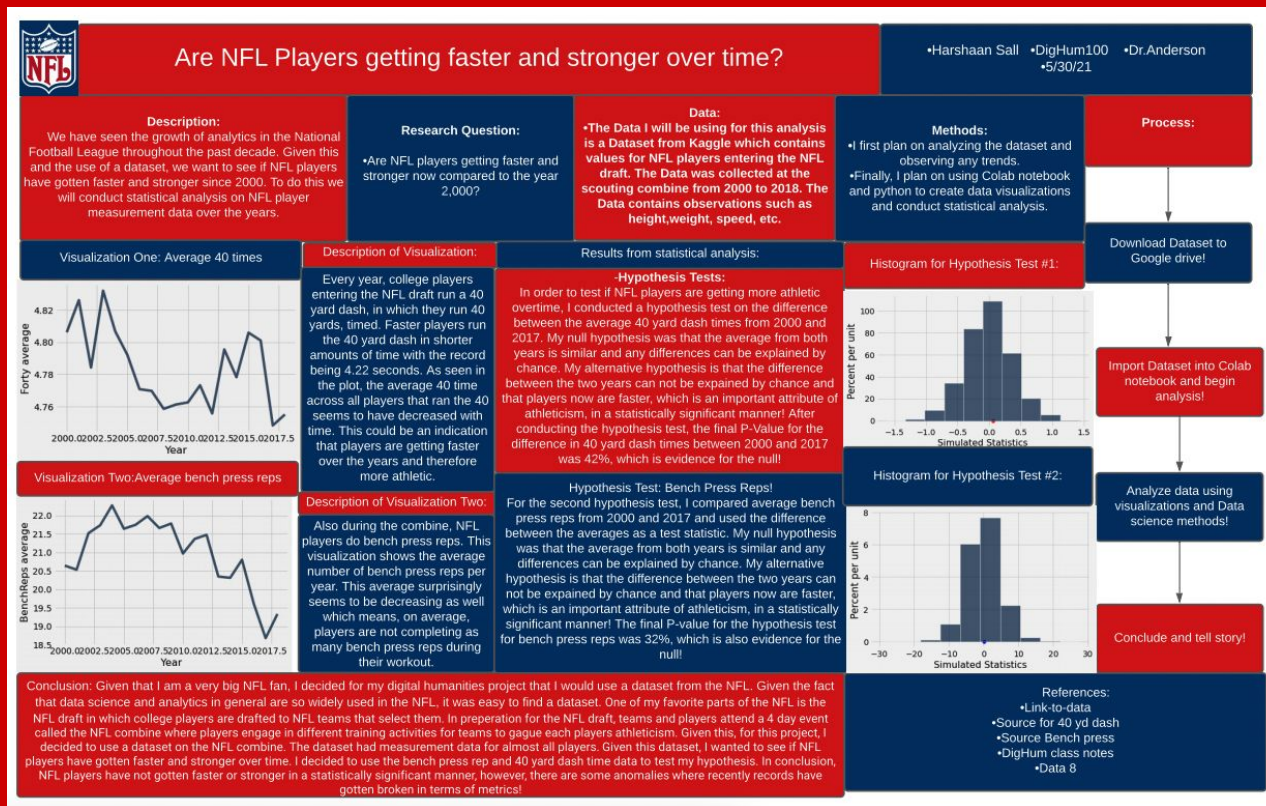
- Another tool that I used during the process of this project was GitHub in order to create a repository for my project.
- Github was a great tool that I'm glad I learned about!



<https://github.com/harshaansall/DigHum100Project>



# Storyboard/Final Poster



# Conclusions/Takeaway

- Overall, the NFL is one of the many industries that has incorporated Data Science and analytics, and since I have an interest in the industry as well as Data Science, I thought it would be perfect for my Digital Humanities project. In this analysis, I chose to analyze a dataset from the NFL combine, with data on all players and their various athletic measurements. . Given this dataset, I wanted to see if NFL players have gotten faster and stronger over time. I decided to use the bench press rep and 40 yard dash time data to test my hypothesis. In conclusion, NFL players have not gotten faster or stronger in a statistically significant manner, however, this analysis was still very interesting to conduct and shows the power of Data Science in the NFL!

# Works Cited/Acknowledgements

- <https://www.kaggle.com/savvastj/nfl-combine-data> -Dataset
- [https://en.wikipedia.org/wiki/40-yard\\_dash](https://en.wikipedia.org/wiki/40-yard_dash)
- [https://en.wikipedia.org/wiki/NFL\\_Scouting\\_Combine](https://en.wikipedia.org/wiki/NFL_Scouting_Combine)
- (Will add more citations)
- [Image](#)
- [Image two](#)
- [Image three](#)
- [Image Four](#)

# Video

- <https://drive.google.com/file/d/151iRIMg-WFg3HU5uQWT94ah5w9rL1htk/view?usp=sharing>