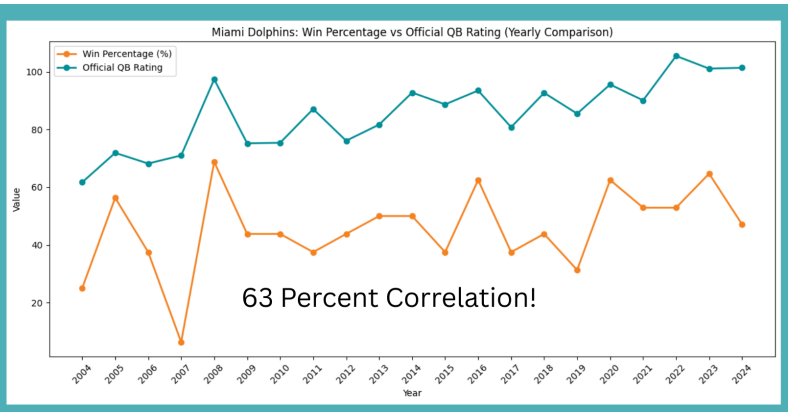
Exploring the Awfulness of the Miami Dolphins

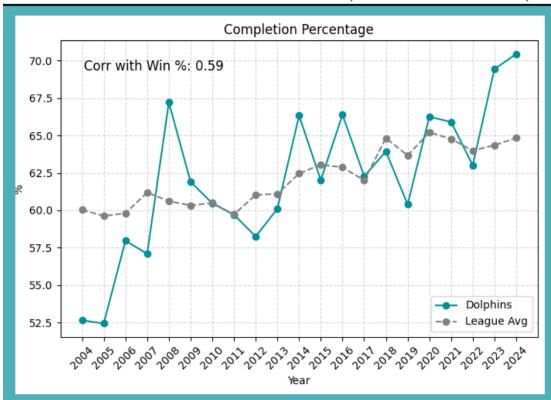
Why are the Miami Dolphins so **BAD?**

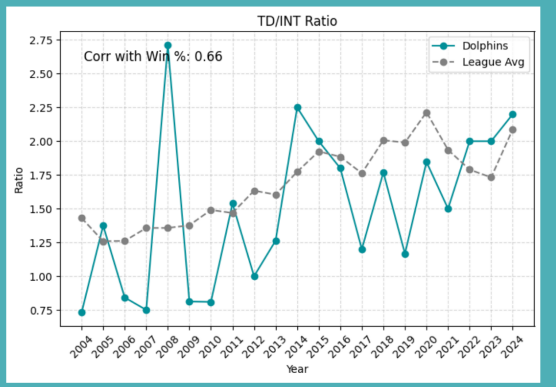
The Miami Dolphins own the title of the longest playoff win drought in the NFL, starting in **2000.** To find out why, the first place to look at is the player that often has the most influence on a team's performance, aka the quarterback. Using data from the pro football reference to look at Miami's stats since 2004, specifically the quarterback passer rating each year, a similar trend can be seen when comparing it to Miami's win percentage each year. There is a 63% correlation between passer rating and win percentage suggesting a strong correlation between a quarterback's performance and a teams record.



Year	Touchdowns	Interceptions	Completion %
2024	42.4	69.7	87.9
2023	84.8	33.3	93.9
2022	81.8	30.3	39.4
2021	30.3	57.6	48.5
2020	28.1	50.0	59.4
2019	28.1	18.8	15.6
2018	39.4	45.5	34.4
2017	54.5	9.1	54.5
2016	62.5	46.9	75.0
2015	45.5	63.6	42.4
2014	56.2	78.1	84.4
2013	48.5	36.4	42.4
2012	6.2	71.9	25.0
2011	39.4	72.7	48.5
2010	18.2	18.2	45.5
2009	15.2	48.5	57.6
2008	43.8	96.9	96.9
2007	6.2	56.2	12.5
2006	18.8	31.2	28.1
2005	65.6	50.0	6.2
2004	34.4	3.1	0.0

To determine what aspects of passer rating are the most influential, this heat map displays three categories: passing touchdowns thrown, interceptions thrown, and completion percentage. Each cell displays the percentile rank of the Dolphins for the according year compared to how every other NFL team performed in the category. The higher the value, the more teams the dolphins performed better than. Over the past 20 years on average, the Dolphins scored more touchdowns than 40.5% of teams, threw fewer interceptions than 47% of teams and had a greater completion percentage than 47.5% of teams. It's important to note that there are many other factors that influence team performance in a year such as the rushing game, defense, and special teams, but when looking at the quarterback specifically, this data suggests that perhaps the Dolphins lack of passing touchdowns is hurting them the most.





These plots show the Miami Dolphin's Completion Percentage and TD/INT ratio compared to the league average every year. When taking a further look at these relationships, the dolphin's completion percentage performance fluctuated every few years as quarterbacks were changed. Notably the Dolphins were often bottom of the pack for TD/INT ratio compared to league average. Both the completion percentage and TD/INT ratio have a relatively high correlation with the Dolphin's win percentage. TD/INT ratio has the highest correlation, even more than the quarterback passing rating. This further suggests that the reason the Dolphins have been so bad for the past 20 years is their lack of touchdowns and plethora of interceptions.

Using data from NFl databases, I created an infographic exploring why the Miami Dolphins are so bad, using quarterback stats across the league. I explore stats such as passer rating, team win percentage, passing touchdowns thrown, interceptions thrown, completion percentage, and TD/INT ratio. I compare some of these stats to the rest of the league by finding what percentile the dolphins are in as well as comparing to league averages. The graphic includes 4 plots, 3 of which are line plots and 1 being a heatmap. My freeform element is located in the bottom right, reinforcing my message.

Project Resource Manifest

Name	Type	Description	Link
qb_data_cleaned.csv	Data File	Cleaned NFL QB stats (main analysis source)	https://github.com/kbr8ey/Design-Final Project/blob/main/Data/qb_data_cleane
qb_data(in).csv	Data File	Raw NFL QB stats (original source)	https://github.com/kbr8ey/Design-Final Project/blob/main/Data/qb_data(in).csv
miami_qb_data.csv	Data File	Miami Dolphins QB ratings by year	https://github.com/kbr8ey/Design-Final Project/blob/main/miami_qb_data.csv
Infographic.png	Image	Final infographic visualizing Dolphins' performance	https://github.com/kbr8ey/Design-Final Project/blob/main/Infographic.png
Establish.ipynb	Notebook	Data acquisition and initial setup	https://github.com/kbr8ey/Design-Final Project/blob/main/Establish.ipynb
Explore.ipynb	Notebook	Data exploration and cleaning	https://github.com/kbr8ey/Design-Final Project/blob/main/Explore.ipynb
Final.ipynb	Notebook	Final summary and infographic presentation	https://github.com/kbr8ey/Design-Final Project/blob/main/Final.ipynb
NFL Player Stats (Pro Football	External	Source for NFL player	https://www.pro-football-reference.com

Reference)	statistics