2023 NFL Win Predictions

By Ryan Coughlin

For my capstone project this semester, I will be taking a look at a set of packages called ‘nflverse’. These packages are comprised of numerous different datasets that can be called as functions from the ‘nflverse’ package in R. This package was developed by five people, Sebastian Carl, Ben Baldwin, Lee Sharpe, Tan Ho, John Edwards.​​ Nflverse is updated every week and is up-to-date with data from this year’s Super Bowl. The url for my data is <https://nflverse.nflverse.com/>

The goal of my project is to predict the number of wins each team in the NFL will have next season. By doing this, I understand that I will be making assumptions on roster that will turn out being wrong due to the ever changing aspect of and NFL roster, however, I believe I will be able to accurately predict the wins with the current information that I have.

My response variable for this project will be number of wins. As of right now, I have a 3 datasets that will be joined paired down into one manageable dataset. I’m going to be using player stats, roster data, and team info.





I currently have a lot of columns, however, I believe I will be able to bring the number down a lot. Most of the columns in the team\_info table are used to identify and add color to the teams, but will not be used in any analysis.

After doing some exploratory data analysis, I was able to get a grasp and better understanding of the data I was looking at. A few main keys I wanted to look at initially were the number of wins, amount of points scored, and the stats for the skill positions on offense.

Starting with the points. I started looking at the 2022 season. I believe this will be indicative of where the team is headed more than previous years, but I will still account for previous years as I make my way through the project. 

Unsurprisingly, the two teams that played in the Super Bowl were at the top in pointes per game last season.



Similarly, the two teams in the Super Bowl also had the most wins in the NFL. What’s interesting to me about this graphic is the step-like look to the number of wins. Teams can almost be grouped in to 4 different groups. 12-14 wins, 7-10, and <= 6 wins. The four teams that made it to the conference championships fall into that first grouping of 12-14 wins, so no underdogs made it this year.

The next level I wanted to look at was average wins per year since 2010. This can show how the team is run from a front office/coaching perspective. The play on the field is important, but so are the people who determine the players that make will be on the roster. Coaching staff and front office personnel play a big role in the team’s success.



Over the years, it has been a safe bet that the teams at the top of this chart, will be contenders on a regular basis. New England, Green Bay, Kansas City, and Pittsburgh are good year over year, and front office and coaching staff is very key to making that happen by choosing the right players and coaches.



I believe total wins will be important, but I also think the division a team plays in is important too. If there is a lot of parity in a division, it will be harder to predict the outcomes since any team could win on any given Sunday.

Even though coaches and front office personnel are important, they aren’t the ones playing. I wanted to see which players are producing, and which players are falling off in their career. The average NFL career is just over 3 years, so decided to look at the last 4. Quarterbacks are the most important offensive player, so I wanted to see who the best qbs were over the last 4 years.



Besides Derek Carr, All of those quarterbacks have been in the playoffs or won a super bowl in the last 4 years. It shows me that this is an important stat.

Overall, I think I have a lot of information to sift through and learn over the next few months. Even though it’s early in the project, and I’m only in the exploratory stage, I can tell that there is some good data here that could yield some very interesting results. My initial hypothesis, from what I have seen so far, and the football knowledge that I have, I believe quarterback play will be very important in predicting the number of wins for a team next season.