

Projecting NFL Wins

Scott Shapiro



Goals and Assumptions

Can we predict NFL win totals entering the season?

- Using team-based metrics
- Three prior seasons of data (2010-2016)

Assumptions:

- Roster and coaching changes not considered
- Scheduling

Features

Examples:

- Standings: Wins, Points Scored, Points Against
- Passing: TD, Yards, Yards/Attempt
- Rushing: TD, Yards, Yards/Attempt
- Passing Defense: TD, Yards, INT, Sacks
- Rushing Defense: TD, Yards, Yards/Attempt
- Special Teams (for and against): FG made, FG attempted
- DVOA: Total, Offense, Defense, Special Teams, Est. Wins, WtdDVOA

Initial Results

True Range: 13

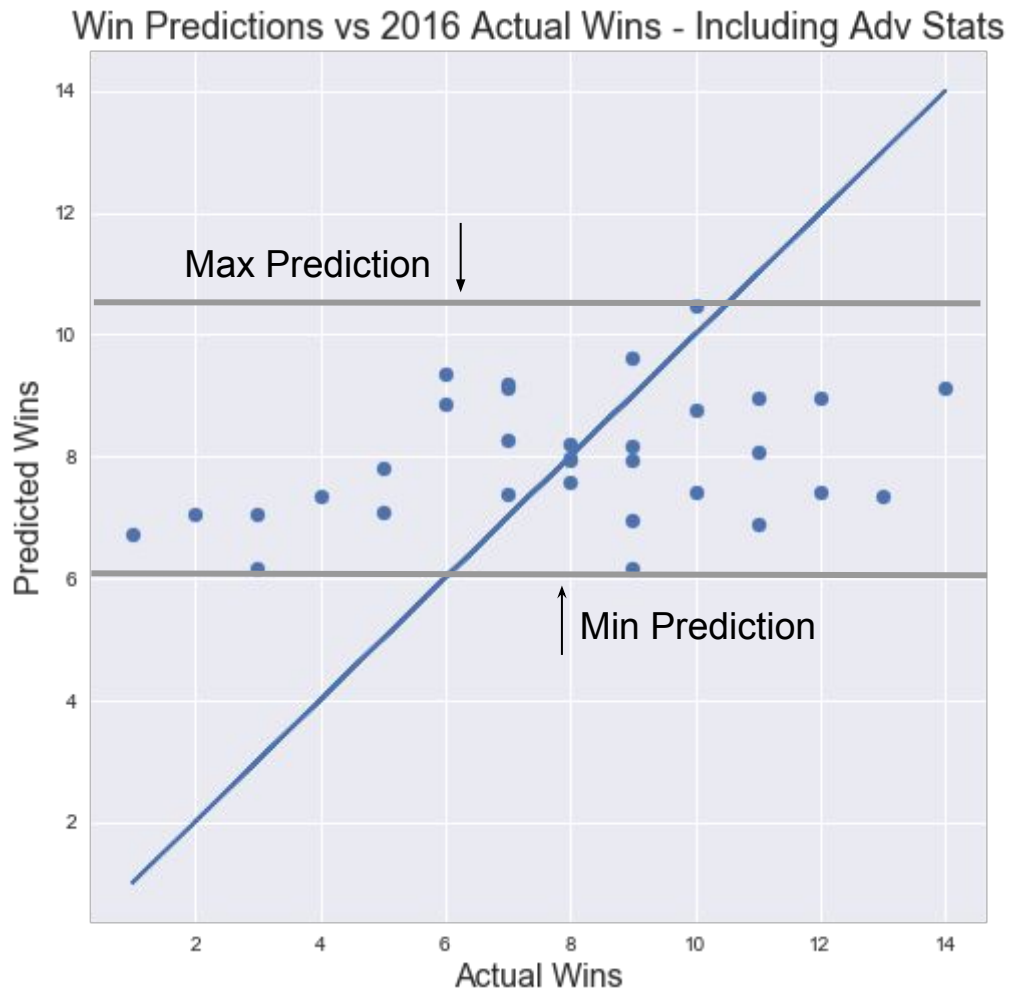
Predicted Range: 4.30

Max: 10.47

Seattle Seahawks (2013-2015)

Min: 6.17

Jacksonville Jaguars (2013-2015)



Different Benchmark¹¹

Football Outsiders 2017:

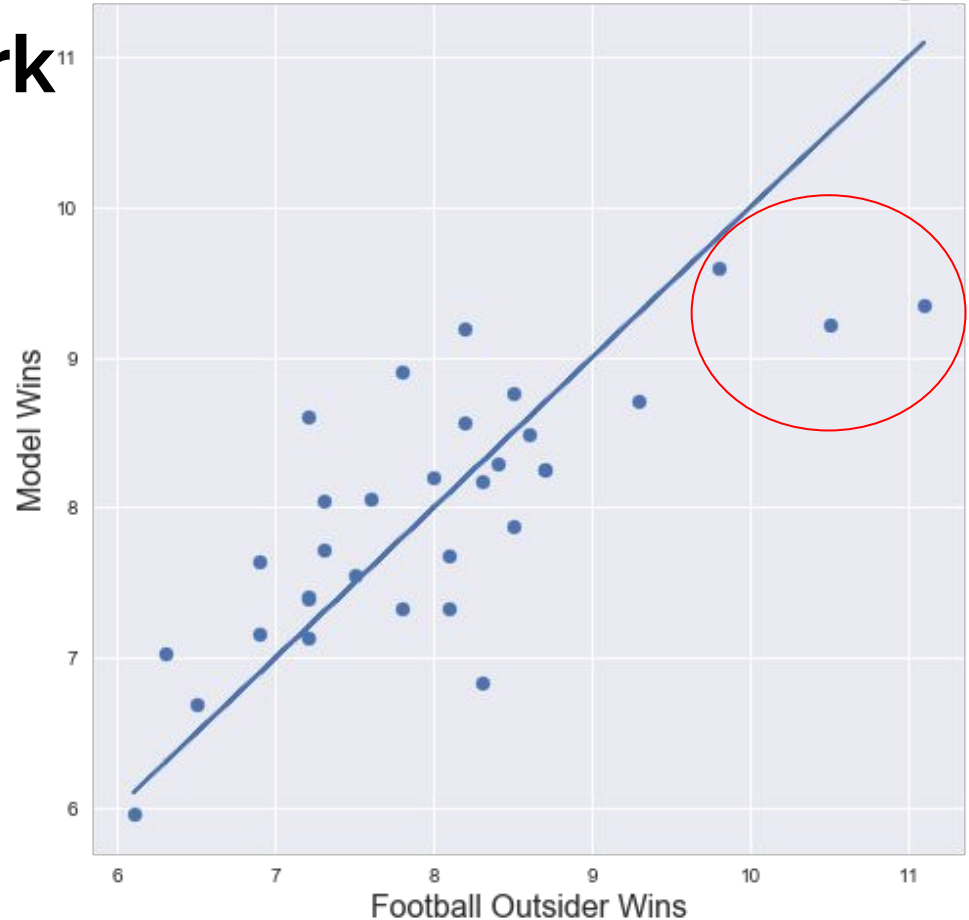
Range: 5.0

Max: 11.1

New England Patriots

Min: 6.1

Cleveland Browns

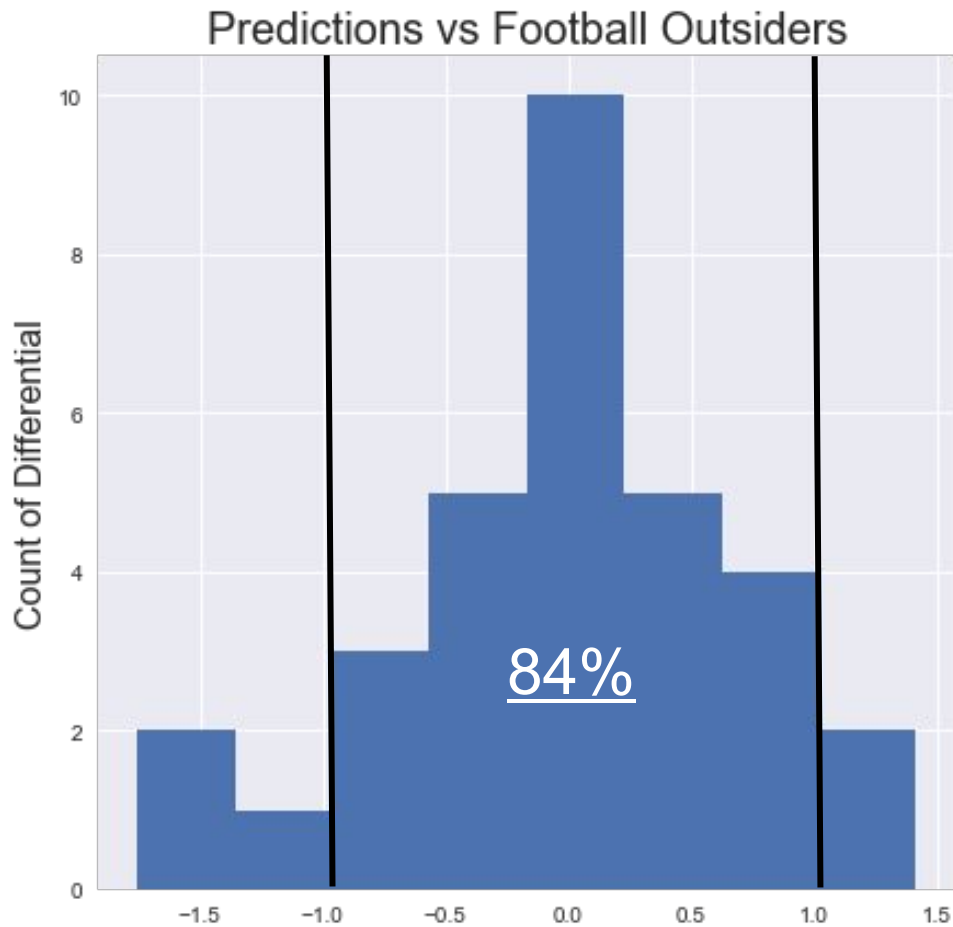


Final Results

Comparing 2017 projections

Top Differences:

<u>Team</u>	<u>Model</u>	<u>FO</u>	<u>DIF</u>
New England Patriots	9.35	11.1	-1.75
St. Louis Rams	6.83	8.3	-1.47
Pittsburgh Steelers	9.22	10.5	-1.28
Tennessee Titans	7.33	8.1	-0.77
Baltimore Ravens	7.88	8.5	-0.62
Miami Dolphins	8.05	7.3	0.75
Buffalo Bills	7.65	6.9	0.75
Kansas City Chiefs	9.19	8.2	0.99
Washington Redskins	8.90	7.8	1.10
Denver Broncos	8.61	7.2	1.41



Next Steps

- Quantify the offseason
- Play by play metrics
- Player based features
- Measure of schedule
- Classify good/bad teams
- Calculate playoff odds
- Use different timeframes