The National Football League consists of thirty-two teams from two equally divided conferences, National Football Conference and the American Football Conference. Each team plays sixteen games per season over a seventeen-week period. Each team has one ‘bye-week’ in which they do not play. In total there are two-hundred-fifty-six games played in the regular season. The NFL also has four pre-season games and twenty-one playoff games, but this study is only concerning itself with the regular season games.

A tie occurs in an NFL regular season game when, after one ten-minute over-time period, both teams have equal scores. The NFL counts a tie as a half-win and a half-loss. For this study, because the prediction models use a binary win or loss to improve their prediction rates, a tie will be counted as a loss.

Elo, created by Five-Thirty-Eight’s Nate Silver, is one of the prediction models used in this study. Five-Thirty-Eight’s Elo rating system is based on Arpad Elo’s rating system for zero-sum games. American Football and many other major league sports utilize this system to rank teams.

Football Power Index, created by ESPN, is another prediction model used in this study. FPI measures the strength of a team and determines each team’s rating based on a function where the parameters are the offensive, defensive, and special teams’ values. The FPI model has been critiqued in the past for not having a very stable and measurable formula to go by. Instead it appears to change week by week and therefore brings into question how much human involvement there is compared to other prediction models.

Amos, created by Trevor Bischoff:

Is a statistical model created to predict the outcomes of each NFL game. Amos takes into account 224 different data points to compute three different probabilities for each game.

First, Amos calculates the probability of each team winning. The dashboard below then displays the team which has the greatest probability of winning. Second, given the spread that has been assigned to a particular game, Amos calculates the probability of that team covering the given spread. Finally, given the Over/Under assigned to a particular game, Amos predicts the probability of both teams’ combined scores to break that threshold.

Compared to the other models used in this report, Amos is the most independent.