**Using Past Scores and Regularization to Create a Winning NFL Betting Model**

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Many papers have been published in recent decades discussing whether or not the National Football League (NFL) betting market is efficient. The authors have devised a betting model that would win 52.9% of the 7,554 bets against the spread it would have made over 33 NFL seasons, enough to make a profit. This performance is statistically greater than winning just 50% of the bets (p<.0001). Each week of the season, NFL scores from previous weeks are used to build a model estimating the point value of each team’s offense and defense. These offensive and defensive point values combine with the average scoring in previous games and the average “home edge” of around 3 points to predict the scores for next week’s games. These predictions are compared to an advertised point spread and a bet is made for the home/away team if the model predicts the home/away team will do better than the advertised spread suggests. The sum of the squares of the offensive and defensive point values are constrained to be less than a given regularization constant. Results from older weeks are discounted in the model via a weekly discount factor. The authors searched over all possible combinations of potential regularization constants and discount factors to find the combination that led to the best results. The bettor would win 52.9% of the games that do not push if he bets on every game. The bettor can be more selective of the games in which he bets and increase his performance further. For example, if the bettor only bets when the spread is 10 points or higher, he will win 54.6% of the 910 games that do not push.