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Using the Oracle to improve the quality of predictions

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There are many different approaches to rank teams in the NFL and NBA. One is able to make predictions of game outcomes and decide postseason odds. In this project, we are interested in quantifying the accuracy and improving the quality of the predictions given by a particular ranking model. We introduce a method to address the over-confidence of game predictions that increases the quality of predictions when assessed by standard scoring metrics. In addition, we develop a method to better include homefield advantage in a ranking method. We evaluate our predictions in the past 15 years of NFL and NBA and show that our newly developed ranking method called the Oracle consistently outperforms currently available computer models in accuracy and quality of predictions.

Biography

E Cabral Balreira is an Associate Professor of Mathematics at Trinity University in San Antonio, Texas. His main area of research is differential topology with applications to global invertibility and discrete dynamics. Motivated by his interest in mathematics and sports, he and his colleagues at Trinity developed a mathematical method, the Oracle, to rank sports teams and predict tournament outcomes. He received his PhD from the University of Notre Dame in 2006.

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