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NFL Prediction Final Project

Proposal:

As someone who likes the NFL, I often find myself curious if a model could predict the outcomes of games based on team statistics. Using NFL statistics from the 2021-2022 NFL season, I will attempt to predict results of games that have already occurred. Each team in the NFL plays 17 regular season games, so I will use 12 games as a training set to predict games 13-16. While doing so, I will find out what features are most important. Then we will know if a model can truly predict game outcomes, and how accurate is the model.

Data Set:

Below is a data set of all NFL outcomes for the 2021-2022 season. It will not need to be balanced/scaled as each team plays the same number of games.

<https://www.kaggle.com/datasets/thedevastator/nfl-team-stats-and-outcomes>

https://www.analyticsvidhya.com/blog/2022/02/logistic-regression-using-python-and-excel/

ML Model:

I will predict game outcome using Logistic Regression, MLP Neural Network, and Gradient Boosting models (Good or Bad). Also, I will analyze the parameters weights of features from the data set for each model.

Accuracy/Error measures:

I plan on using this formula.

Table

Description automatically generated

Existing similar projects:

There are plenty of existing projects in this space, but I am using a unique dataset from Kaggle.