**Abstract**

This study will investigate how average and variance of yards gained impacts a given team's ability to get touchdowns in the NFL. This study uses the 2015 play-by-play

data set available at Kaggle (https://www.kaggle.com/maxhorowitz/nflplaybyplay2015). These data are comprised of 46,129 rows describing every NFL play run over the 20

15 season, by 32 teams. For this analysis, we will be using MySQL for data mining and basic statistics, and R for data visualization and plots. LaTeX is used for the

paper documentation.

The theory is that teams with high average yards gained, but with low variance, would get more touchdowns than those with higher average yards gained, but higher variance. In other words, consistency is more important than big plays. We will also comment on how the teams’ penalties relate to their ability to get more touchdowns.