**Question:**

Predicting direction and distance of pass can a Quarterback in NFL do based on scenario.

**Model:**

Our model is to predict how many yards will a Quarterback throw and in which direction does he pass, based on previous seasons data we train our model to predict the type of pass a Quarterback do in coming season and we compare the results for accuracy of our model. Moreover, we would like to find some insights like, what are the most type of passes for top 10 Quarterbacks and how they differ form each other. We would like to use Random Forest, XGBOOST and Neural Networks to predict the accuracy of the model and Classification model to identify patterns between Quarterbacks.

**Data:**

We obtain the resource from <https://www.pro-football-reference.com/years/2014/games.htm>

Pro-football-reference.com to get the stats of play-by-play data for each team from 2014 to 2018 season as our training data and predict our results on 2019 season as testing data. We used web scraping to obtain our data which is very crucial in obtaining the right data. For web scraping we use R-Studio and to modify the text data to get our desired data we used python. We would also like to use Tableau for better insights and visualizations.

**Conclusion:**

Our main objective is not only to obtain accuracy but also to provide more insights from the data that are useful for NFL teams.

Team Members:

Kausik Valeti

Rahul Sonti

Bhagirath Vulupala