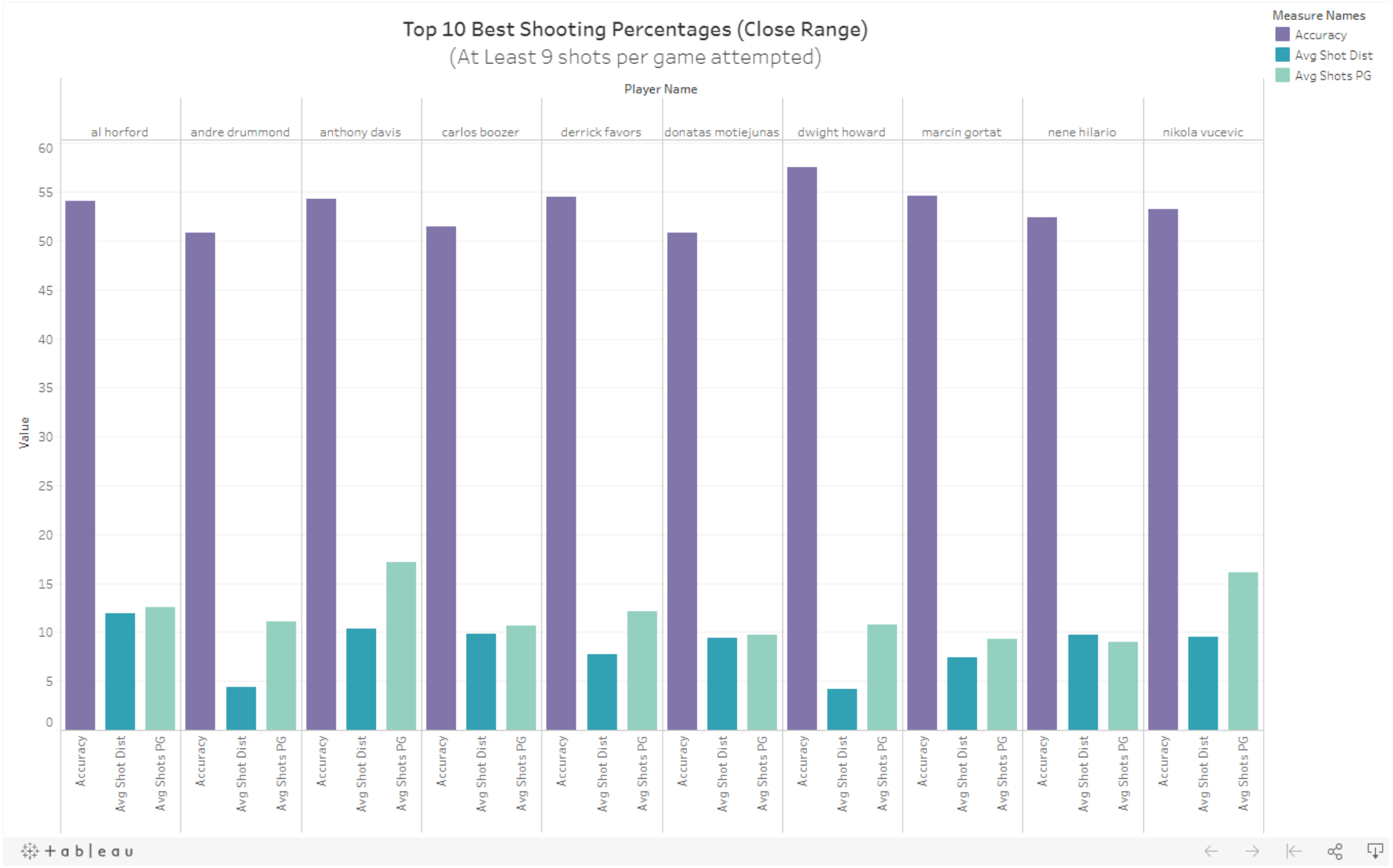
NBA Shots Log Analysis 2014-2015 Season

With Predictive Modeling for Game Won And Shots Made

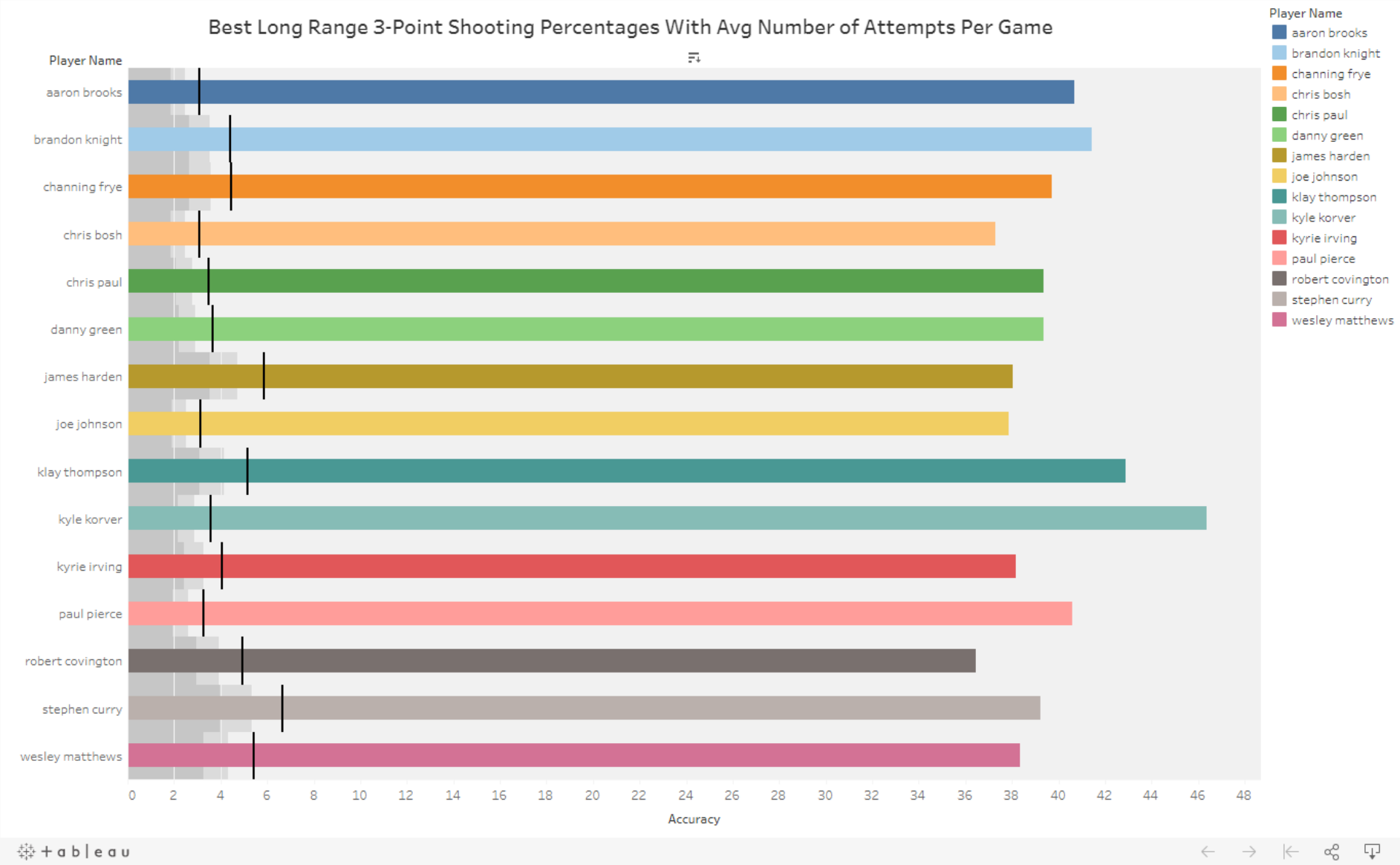
Analysis

- Impact of Analytics on Shot Selection
- Predictive Modeling Game Winner
- Predictive Modeling Shots Made

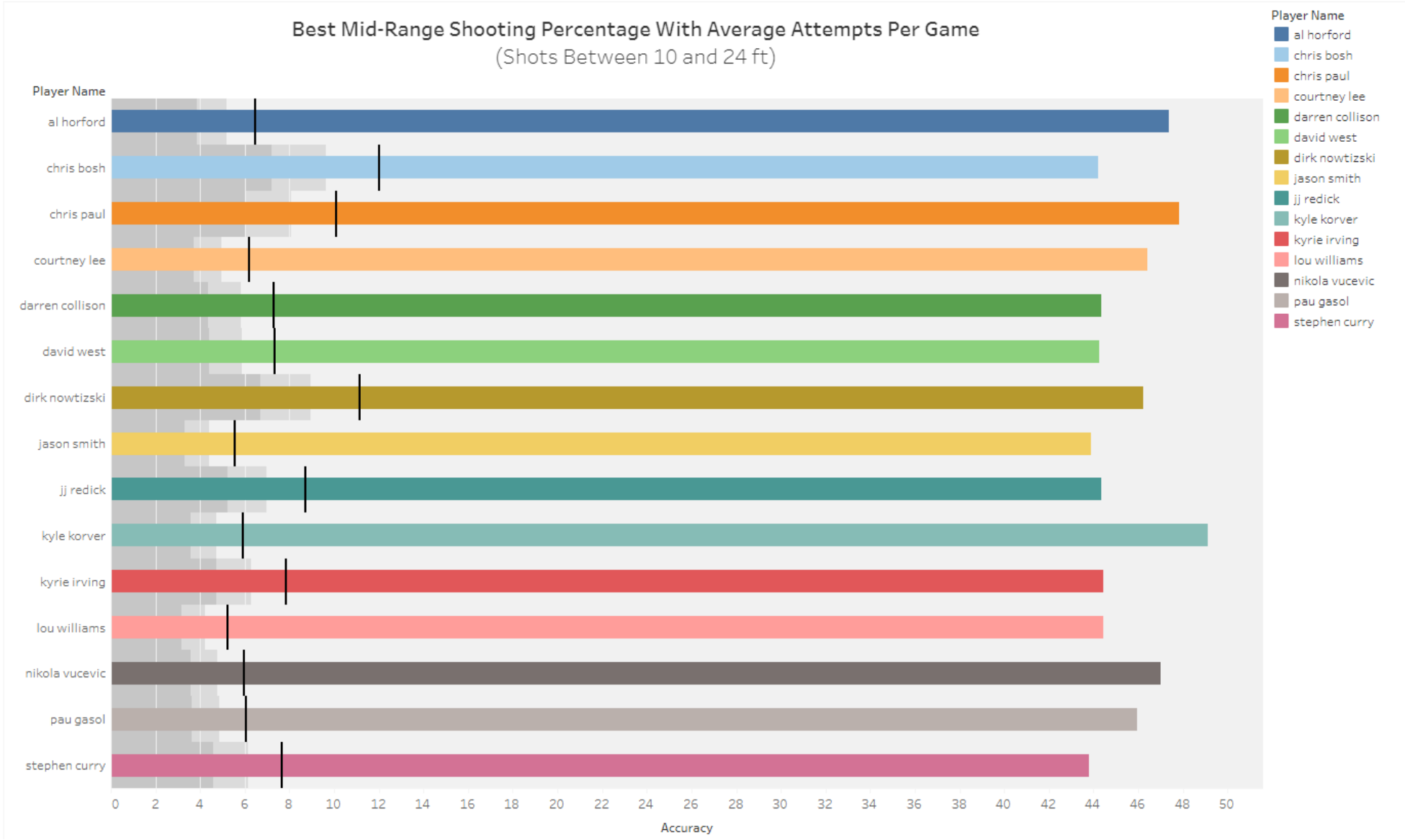
Best Close-Range Shooters



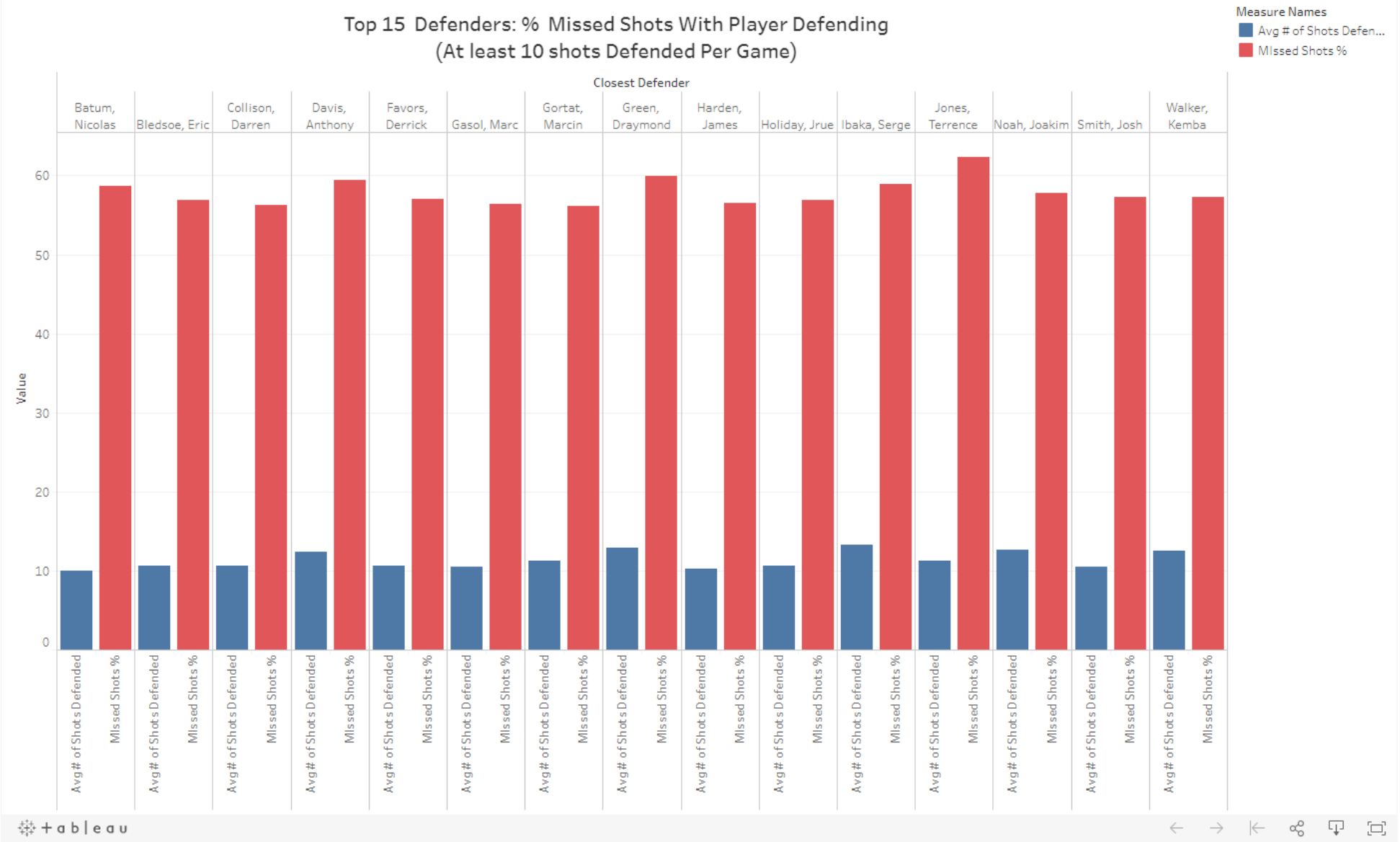
Best Long-Range Shooters



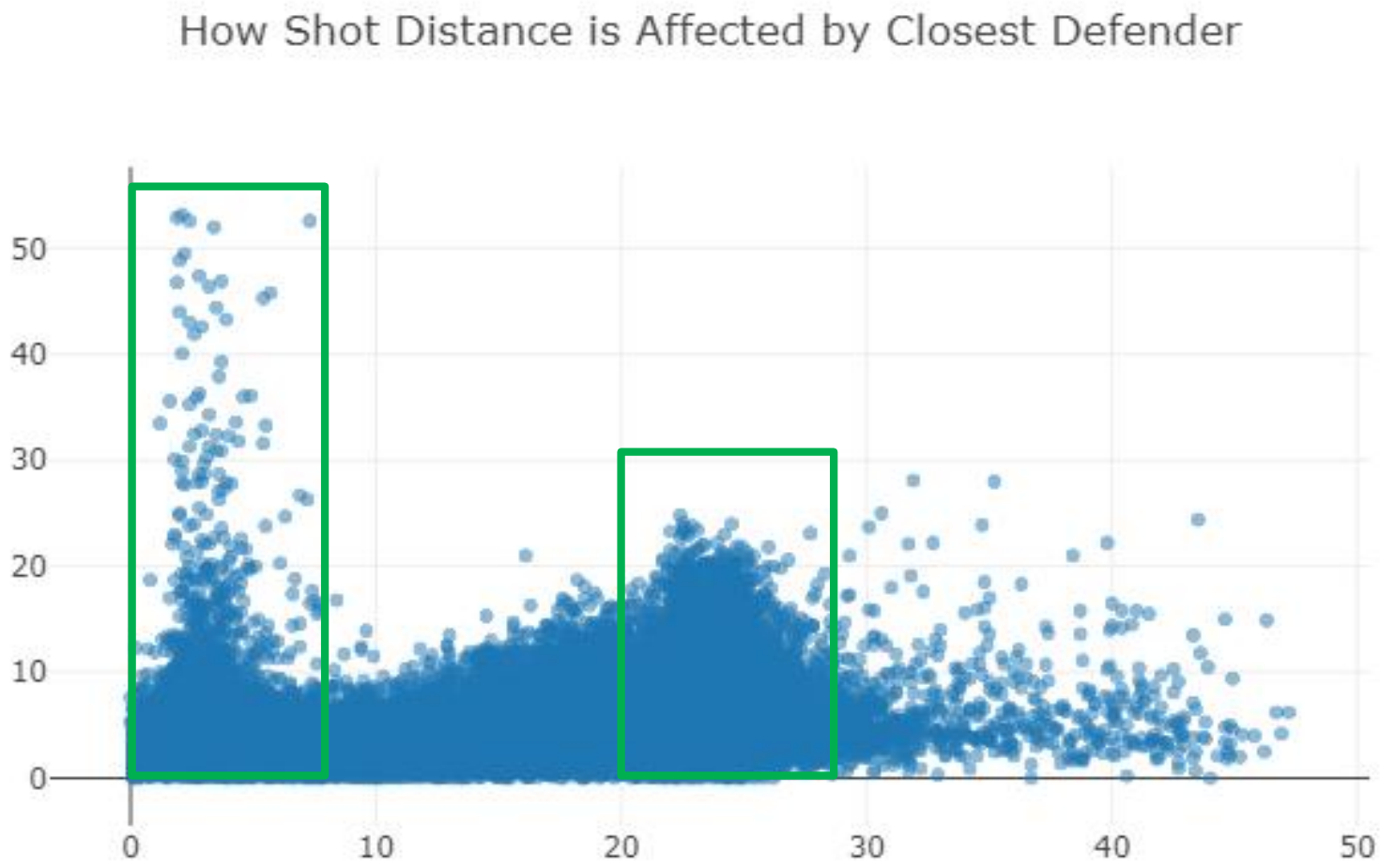
Best Mid-Range Shooters



Best Defenders



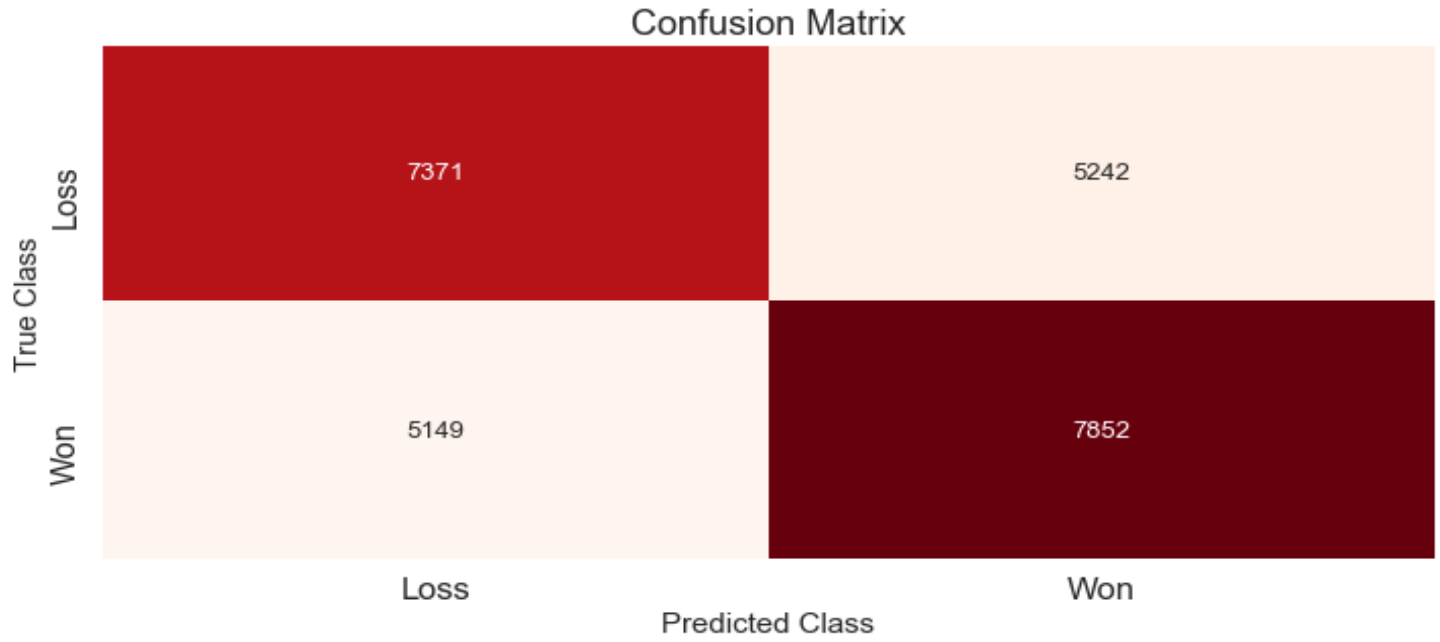
Evidence For The Prevalence Of The Close-Range And Long-Range Shots In The NBA



Classifier To Predict Game Outcome

```
------------------------------------------------------------
Optimized Gradient Boosting Classifier Model Using All Features
------------------------------------------------------------
              precision    recall  f1-score   support

           0       0.59      0.58      0.59     12613
           1       0.60      0.60      0.60     13001

    accuracy                           0.59     25614
   macro avg       0.59      0.59      0.59     25614
weighted avg       0.59      0.59      0.59     25614

------------------------------------------------------------
```

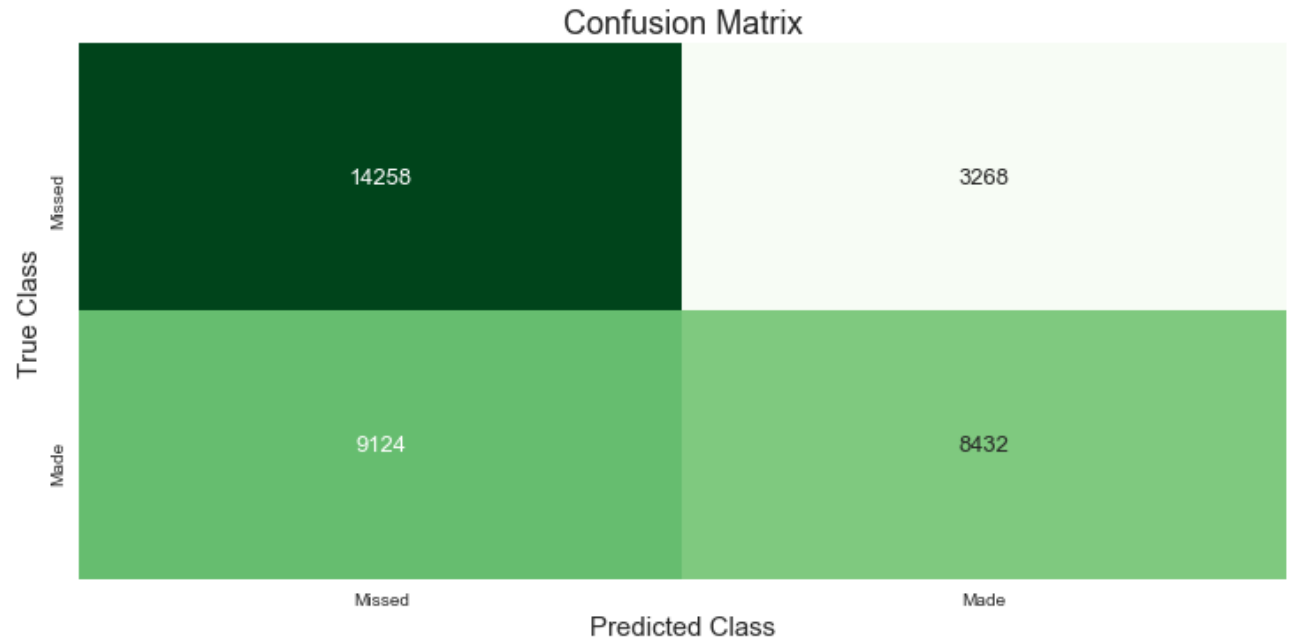
```
conf_matrix(y_test, y_pred_gbt2, cmap='Reds')
```



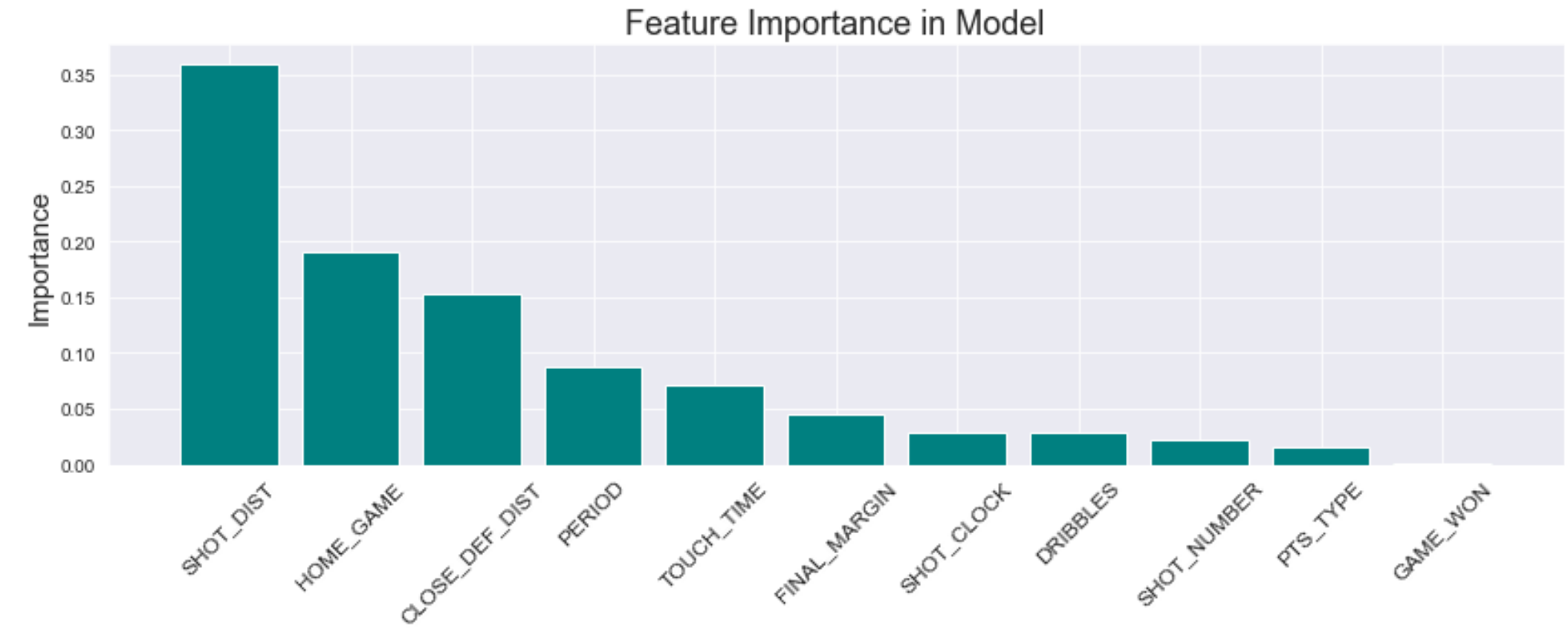
Gradient Boosting Classifier Classifying Made And Missed Shots

```
------------------------------------------------------------
GB Baseline Model All Features
------------------------------------------------------------
              precision    recall  f1-score   support

           0       0.61      0.81      0.70     17526
           1       0.72      0.48      0.58     17556

    accuracy                           0.65     35082
   macro avg       0.67      0.65      0.64     35082
weighted avg       0.67      0.65      0.64     35082

------------------------------------------------------------
```

```
conf_matrix(y_test, gb_pred, cmap='Greens')
```



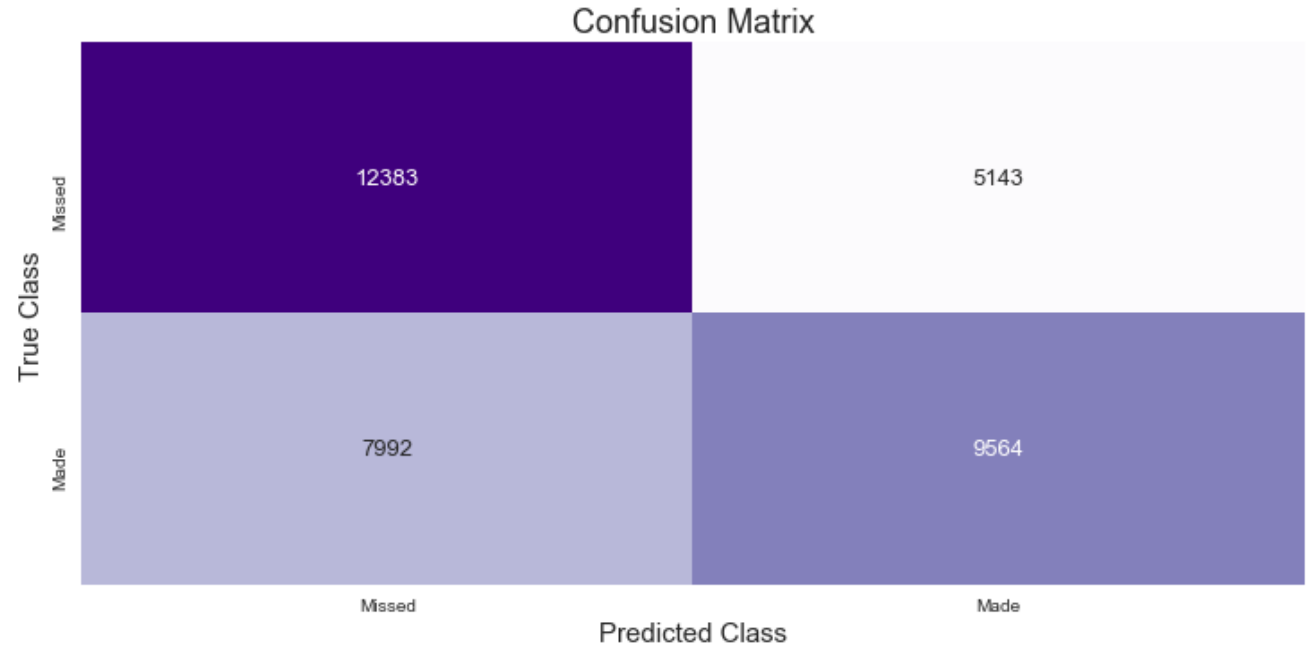
Most Important Features Gradient Boosting Model



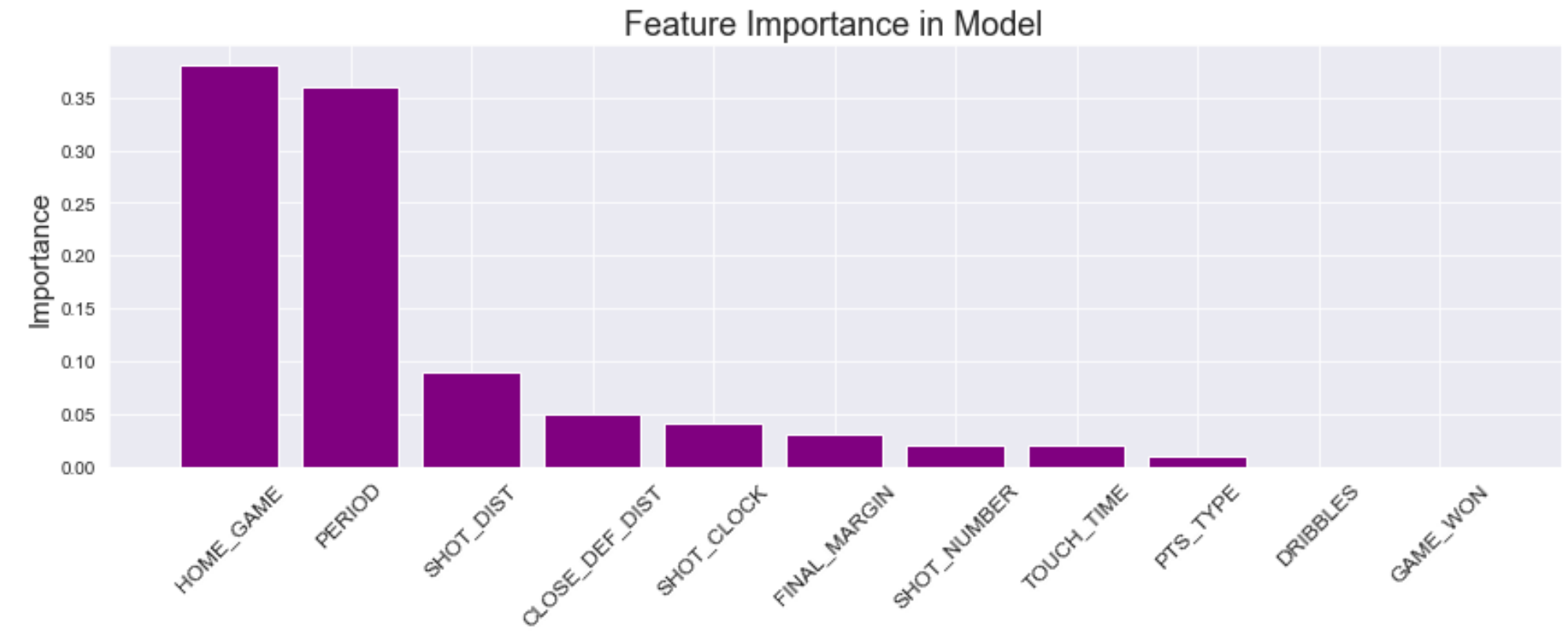
AdaBoost Classifier Classifying Shots Made And Missed

```
------------------------------------------------------------
AB Baseline Model All Features
------------------------------------------------------------
              precision    recall  f1-score   support

           0       0.61      0.71      0.65     17526
           1       0.65      0.54      0.59     17556

    accuracy                           0.63     35082
   macro avg       0.63      0.63      0.62     35082
weighted avg       0.63      0.63      0.62     35082

------------------------------------------------------------
```

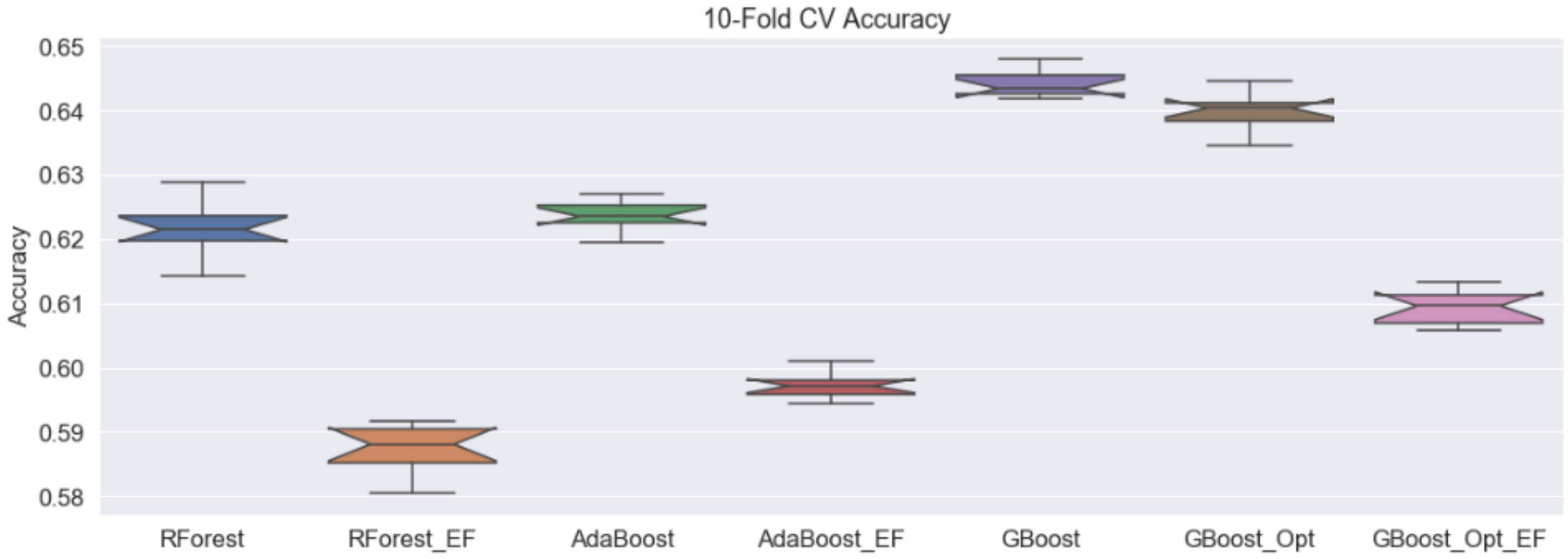
```
conf_matrix(y_test, ab_pred, cmap="Purples")
```



Most Important Features AdaBoost Model



10-Fold Cross Validated Accuracy All Models



CONCLUSIONS AND FUTURE DIRECTIONS

CONCLUSIONS ON SHOT SELECTION

DATA TO IMPROVE GAME WON CLASSIFICATION

WHAT IS OUR BEST MODEL


thank
you