Projecting Potential ALL NBA players

Business Problem

15 best players are identified as All-NBA 1st, 2nd or 3rd Team.

Point Guards and Shooting Guards compete for the same two slots.

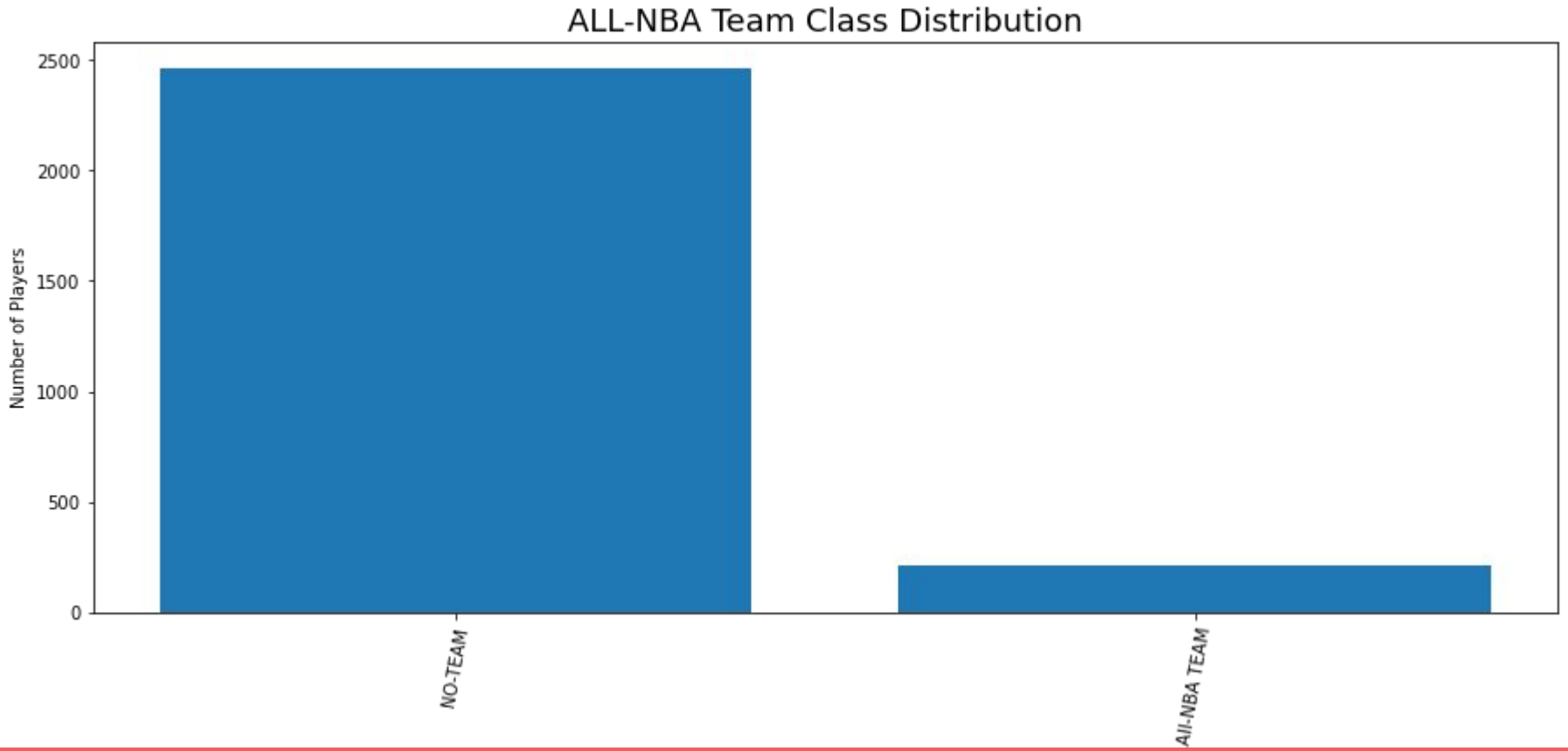
Small Forwards and Power Forwards also compete.

Identify whether a player has potential to be on any of these teams ('All-NBA)

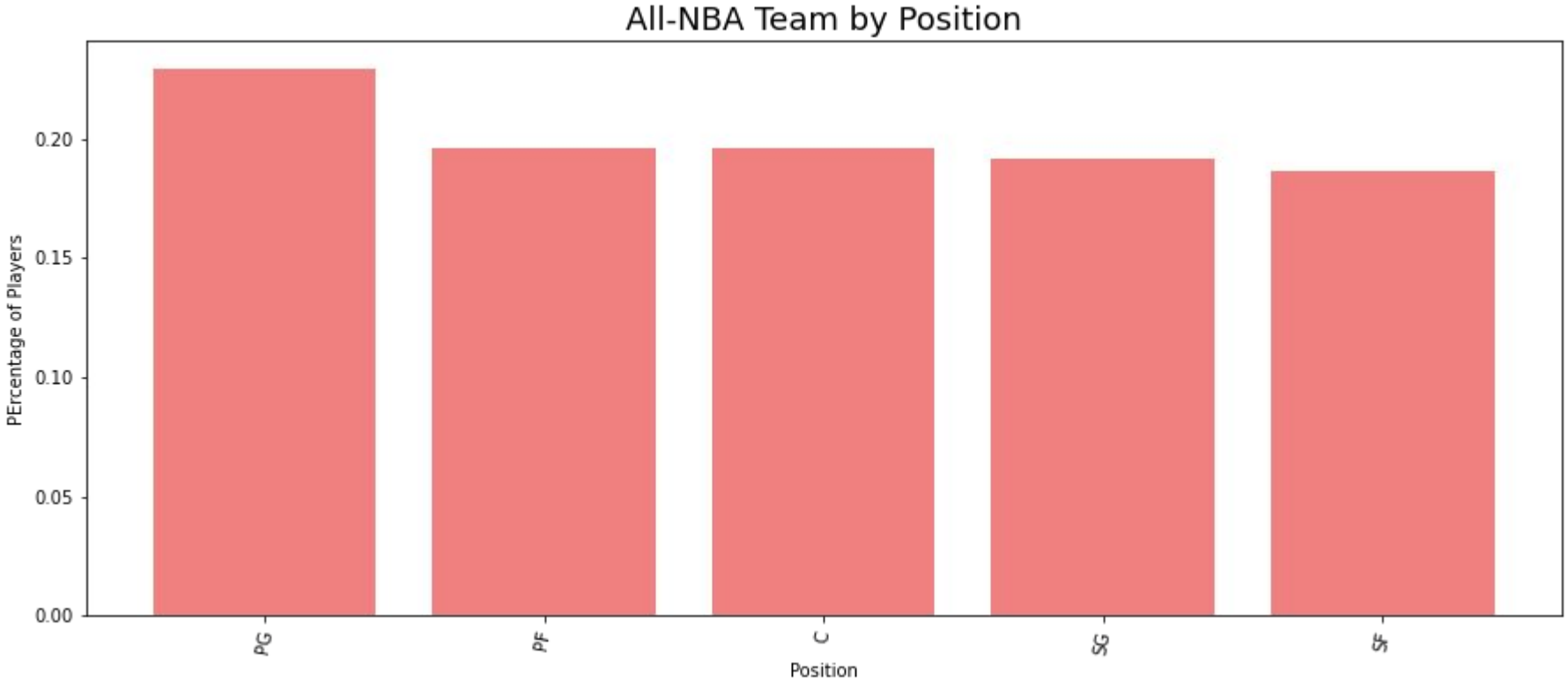
DATA

- NBA.com and BasketballReference.com
- Contains player records from 1946-2020.
- Much of the data pre 1986 is incomplete.
- Over 4000 players and over 40 features.(Points/Percentage/advanced)

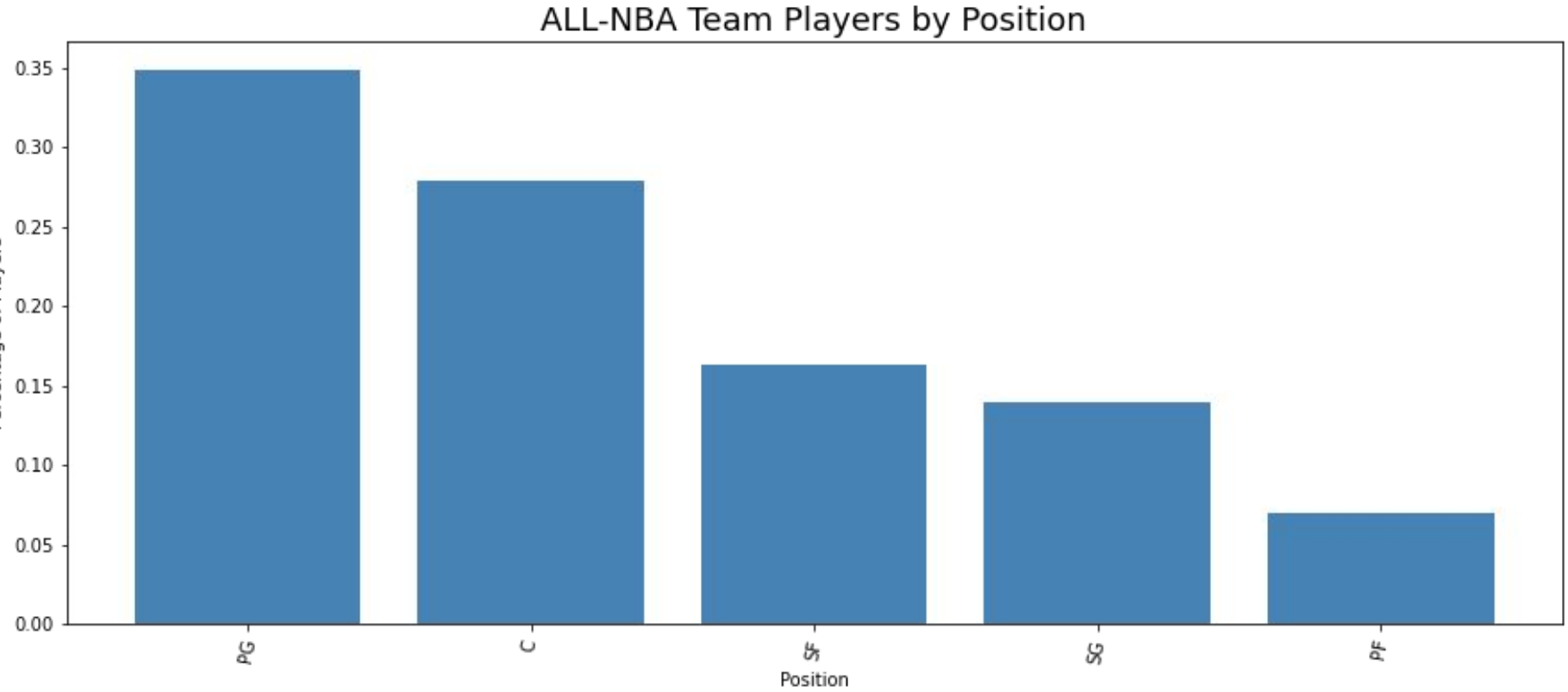
Data and Target



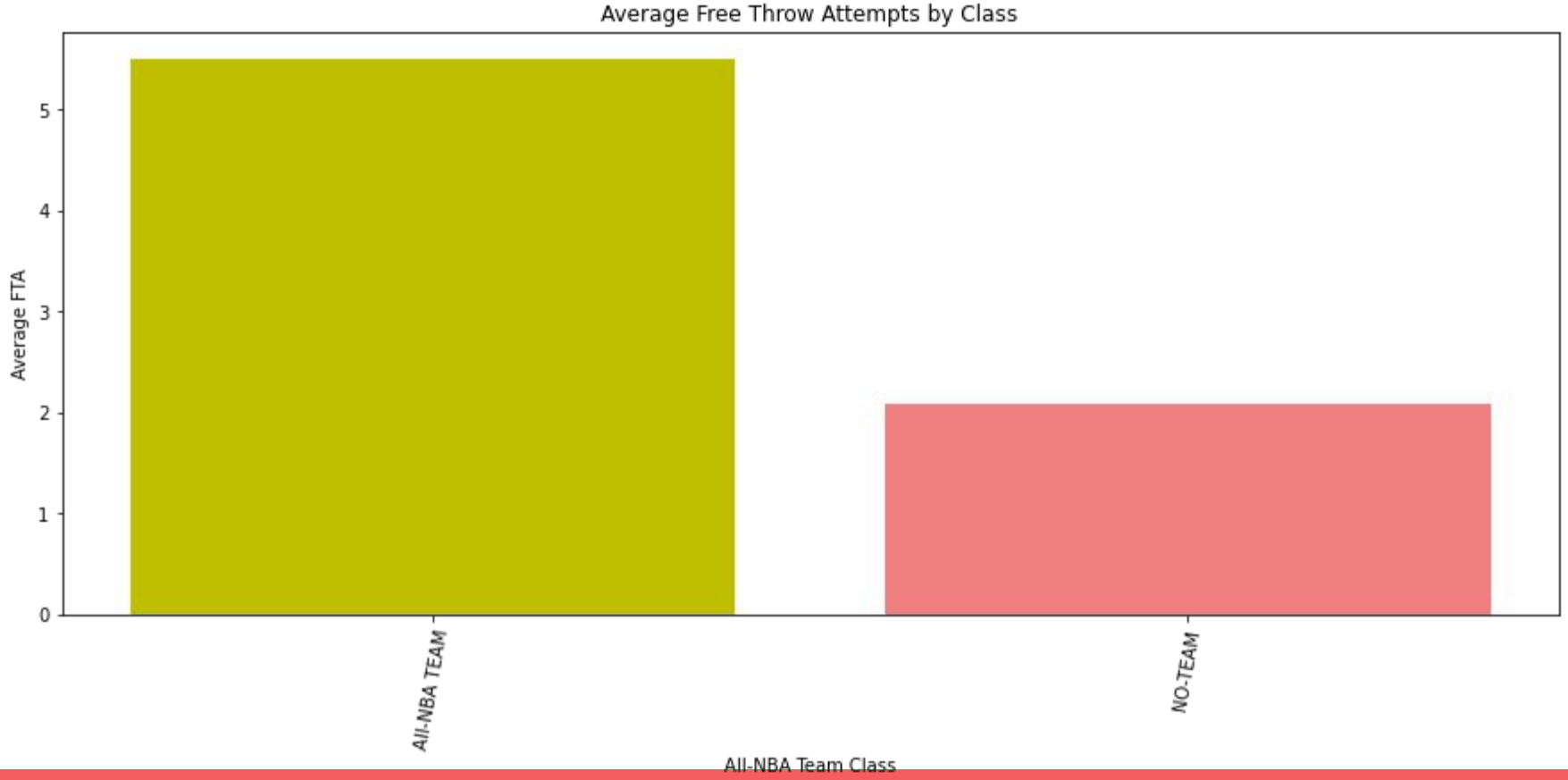
Changing Position Importance (Pre 2000)



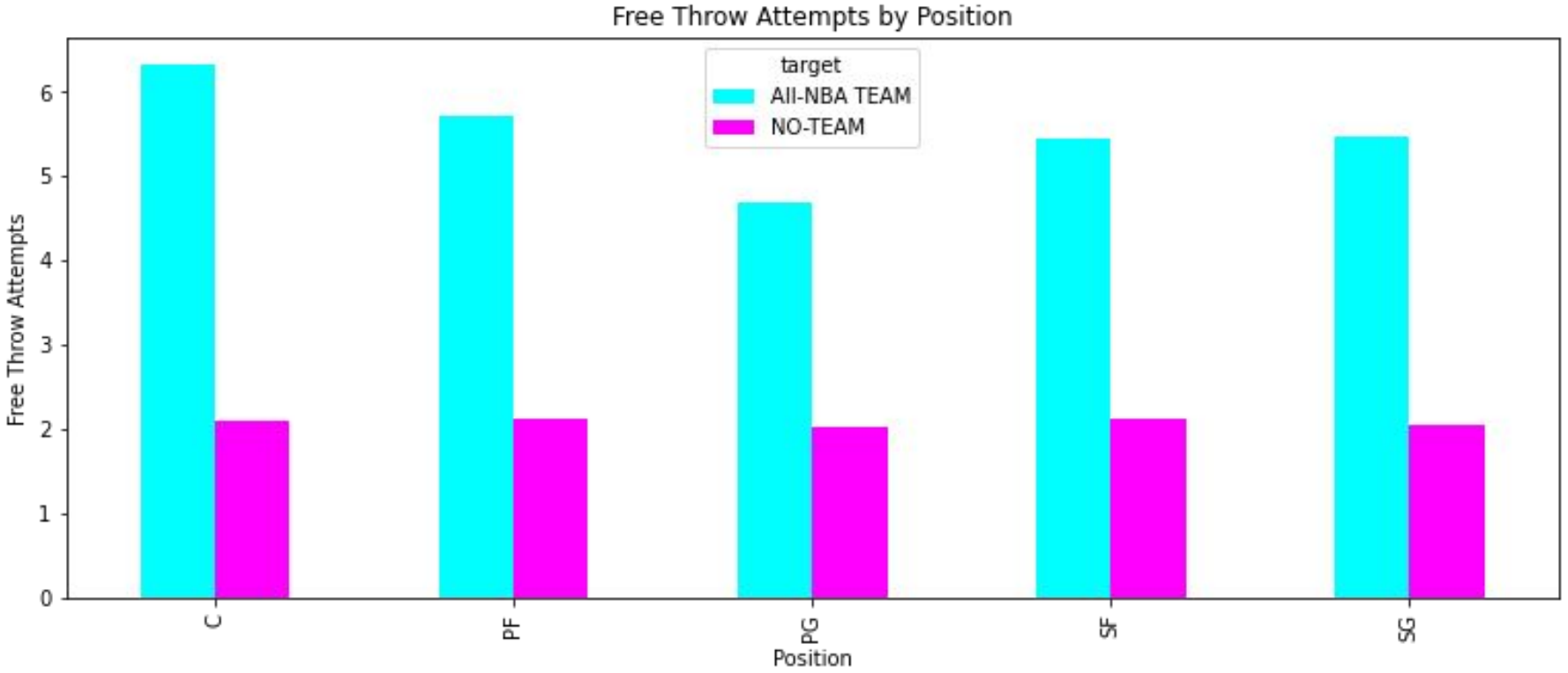
Post 2007


ALL-NBA Team Players by Position
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
PG
C
SF
SG
PF
Position

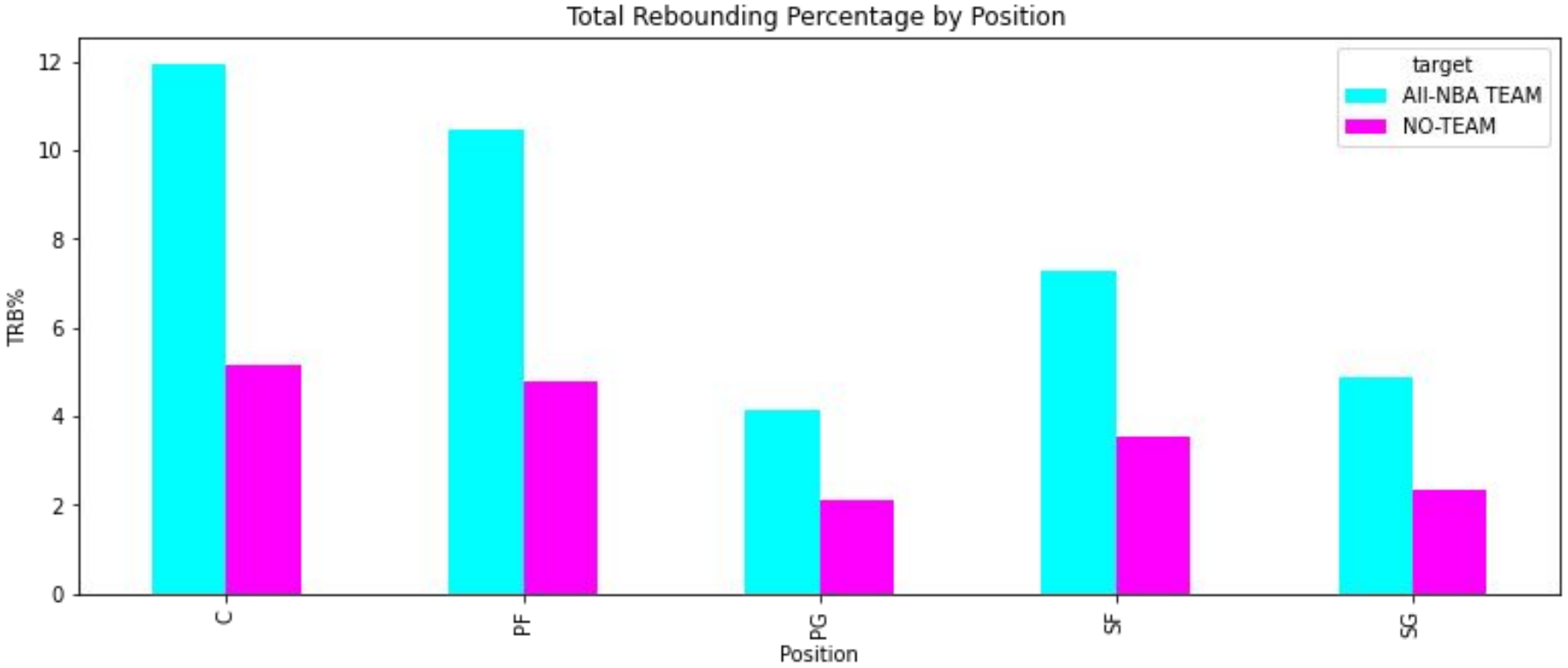
Free Throw Attempt as Measure of Success



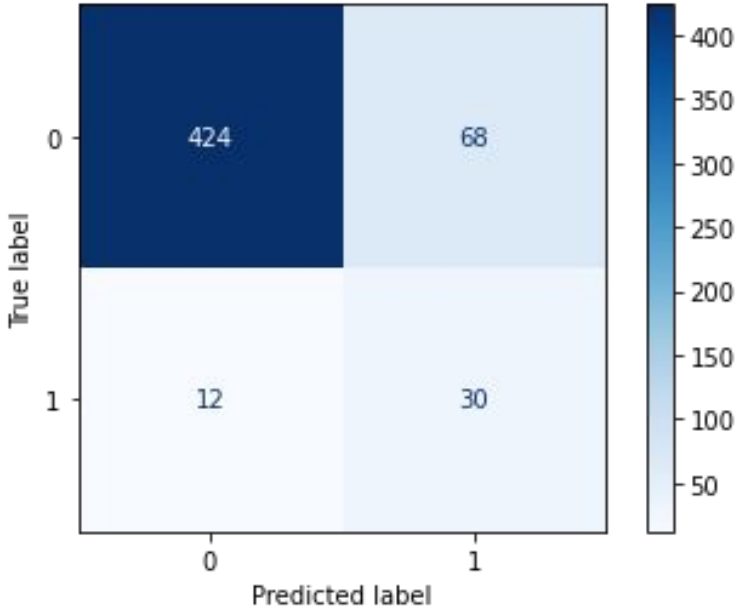
By Position


Free Throw Attempts by Position
target
All-NBA TEAM
NO-TEAM
Free Throw Attempts
0
1
2
3
4
5
6
C
PF
PG
SF
SG
Position

Total Rebounding Percentage By Position



Model Results



Model was a Gradient Boosting Classifier

Recall score: 74%

The ratio of correctly identified ALL-NBA players was 74%.

Unfortunately it struggles a little between separating the upper echelon of players at the border. .

Better at predicting players that will not become ALL-NBA players.

Recommendations

Focus on PG and SFS players going forward.

Focus on how players get there points namely the best players at getting to the Free Throw Line and drawing fouls across all positions.

Focus on players with good True Rebounding percentage across all positions but especially Centers and PF

Predicted Future All-NBA Players

Guards: De'Aaron Fox, Shai Gilgeous-Alexander, RJ Barrett, Luka Doncic, Devonte Graham, Deandre Hunter, Donovan Mitchell, Jayson Tatum, Collin Sexton, Trae Young

Forwards: John Collins, Jayson Tatum, Lauri Markkanen, Zion Williamson

Centers: None in the recent drafts classes