THE ALL-STAR EFFECT

By: Tanner Pitts

WHO IS AN ALL-STAR?

- The starting lineup for each squad is selected by a combination of fan, player, and media voting
- Head coaches choose the reserves, making in the end a 12-man roster for each team

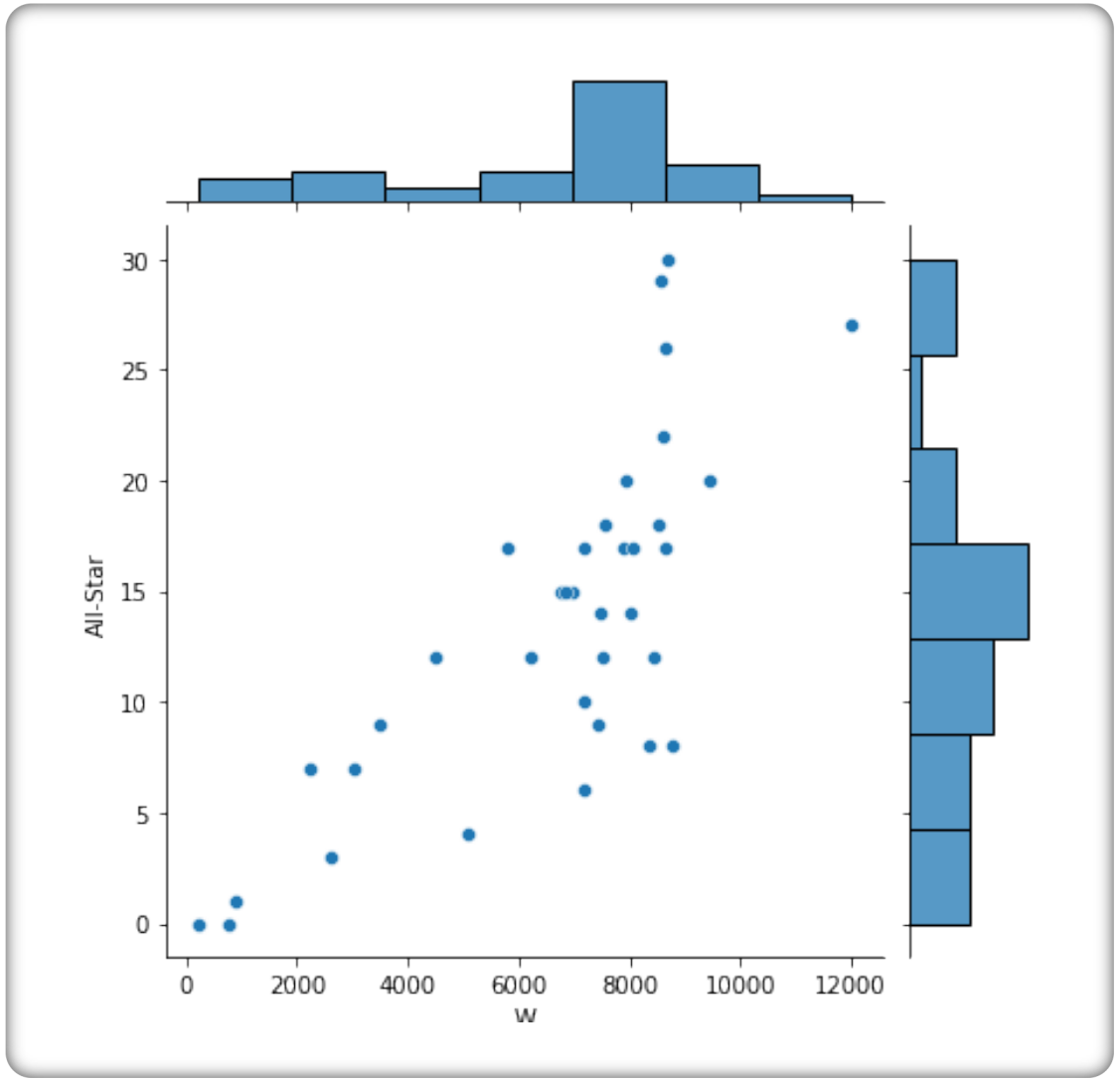
THE DATA

Variable	Units	Definition
GP	Continuous	Number of games played per season
MIN	Continuous	Number of minutes played per season
PTS	Continuous	Number of points scored per season
FTA	Continuous	Number of free throw attempts per season
+/-	Continuous	Plus minus ratio for the season
All-Star	Boolean (0,1)	All-Star or not that season

Observations: 9000+

DO ALL-STAR'S MAKE TEAMS BETTER

Team	Wins	All-Star
SAS	12020	27
DAL	9452	20
UTA	8779	8
BOS	8703	30
LAL	8662	26
IND	8657	17
HOU	8595	22
MIA	8574	29
GSW	8526	18
POR	8424	12



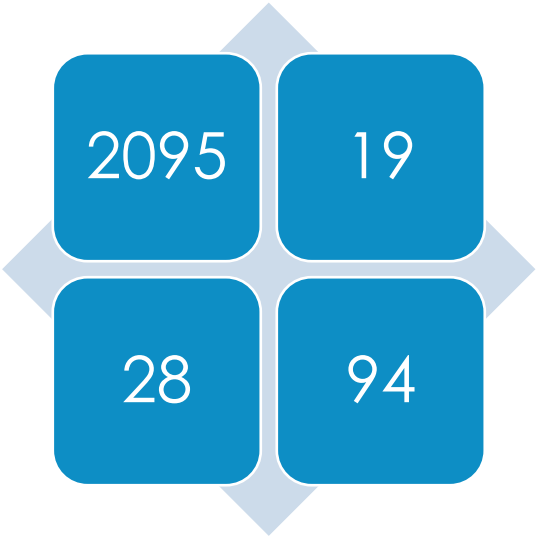
THE CLASSIFICATION MODEL

Logistical Regression:

- Pros:
  - Interpretive Outputs
  - Simple model
  - Quick Classification
- Cons:
  - Linearity Assumption
  - Independence of Variables

Accuracy Score: 0.98

The Free-Throw coefficient: .006



FREE-THROW DATA

- Non-All-Star
  - Count: 8453.00
  - Mean: 106.05
  - Std: 105.77
  - Min: 0.00
  - Max: 738.00
- All-Stars
  - Count: 488
  - Mean: 437.58
  - Std: 178.60
  - Min: 0.00
  - Max: 972.00

THE REGRESSION

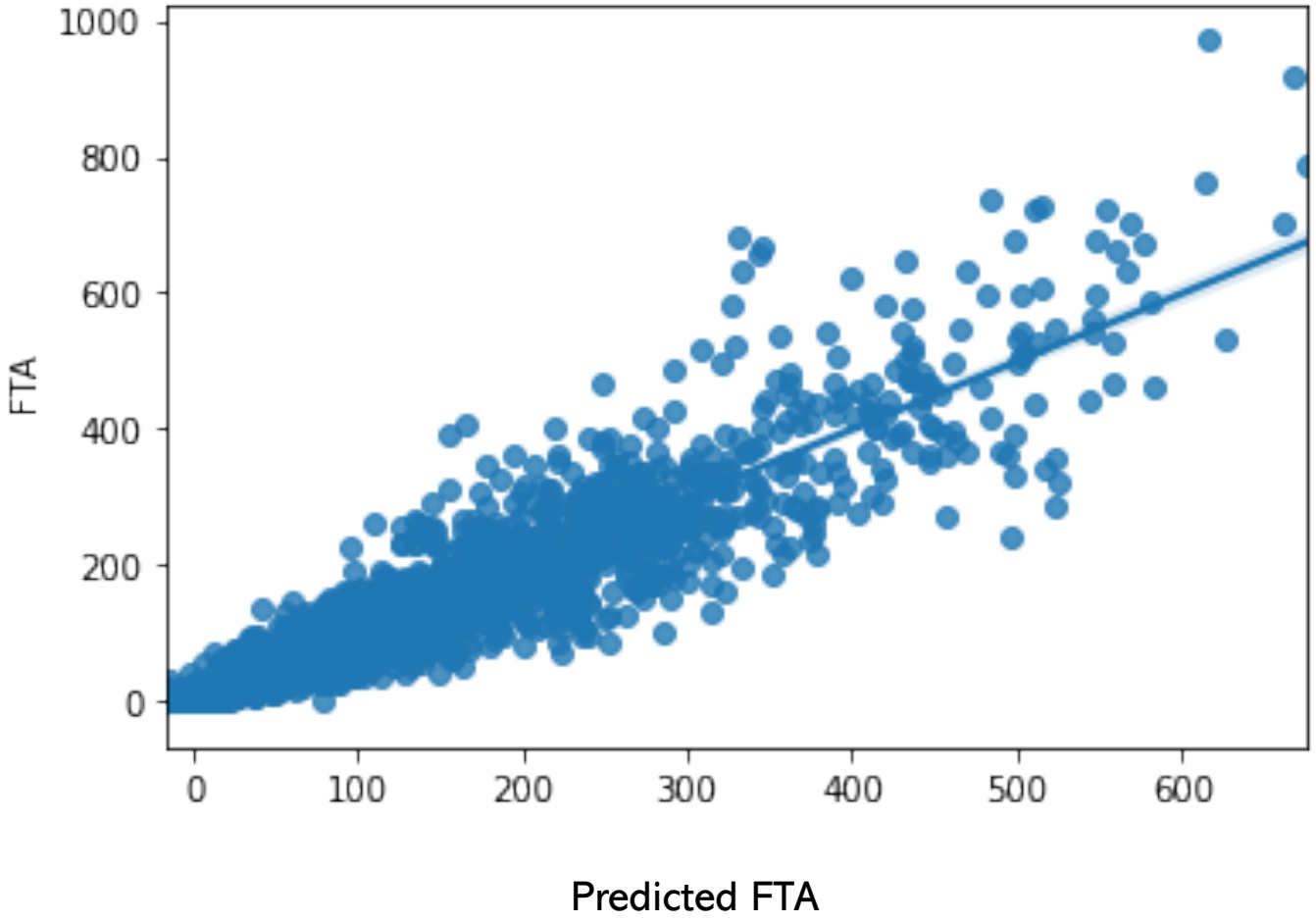
Linear Regression:

- Pros:
  - Interpretive Outputs
  - Simple model
- Cons:
  - Linearity Assumption
  - Independence of Variables

The Output:

- Train: 0.87
- Test: 0.86

- All-Star Coefficient:
  - 76.16



CONCLUSION

What we learned:

- All-Stars do win games
- All-Stars shoot more free throws.
- Other notable variables: (AGE, FT%, FG%, 3PM)

Concerns:

- Correlation between variables
- Other potential variables
- Limited Data