



# Can Home Runs Predict Wins?



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# Introduction

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Current MLB trends are to try to hit more home runs, as part of the launch-angle revolution.

Research Question:

Does hitting more home runs lead to more wins?

# Data

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Standings Data

Baseball-reference.com

Team Statistics

Stattleship API

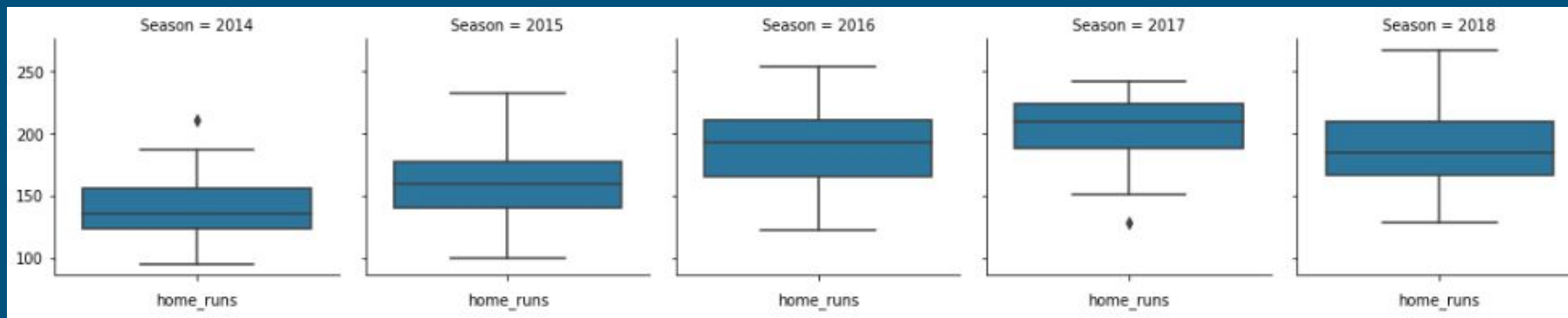


# Data Description

Five seasons worth of data - 150 rows

Season	2014	2015	2016	2017	2018
Tm					
Arizona Diamondbacks	118	154	190	220	176
Atlanta Braves	123	100	122	165	175
Baltimore Orioles	211	217	253	232	188
Boston Red Sox	123	161	208	168	208
Chicago Cubs	157	171	199	223	167

# EDA



Correlation between HR and wins: 0.31

# The Model

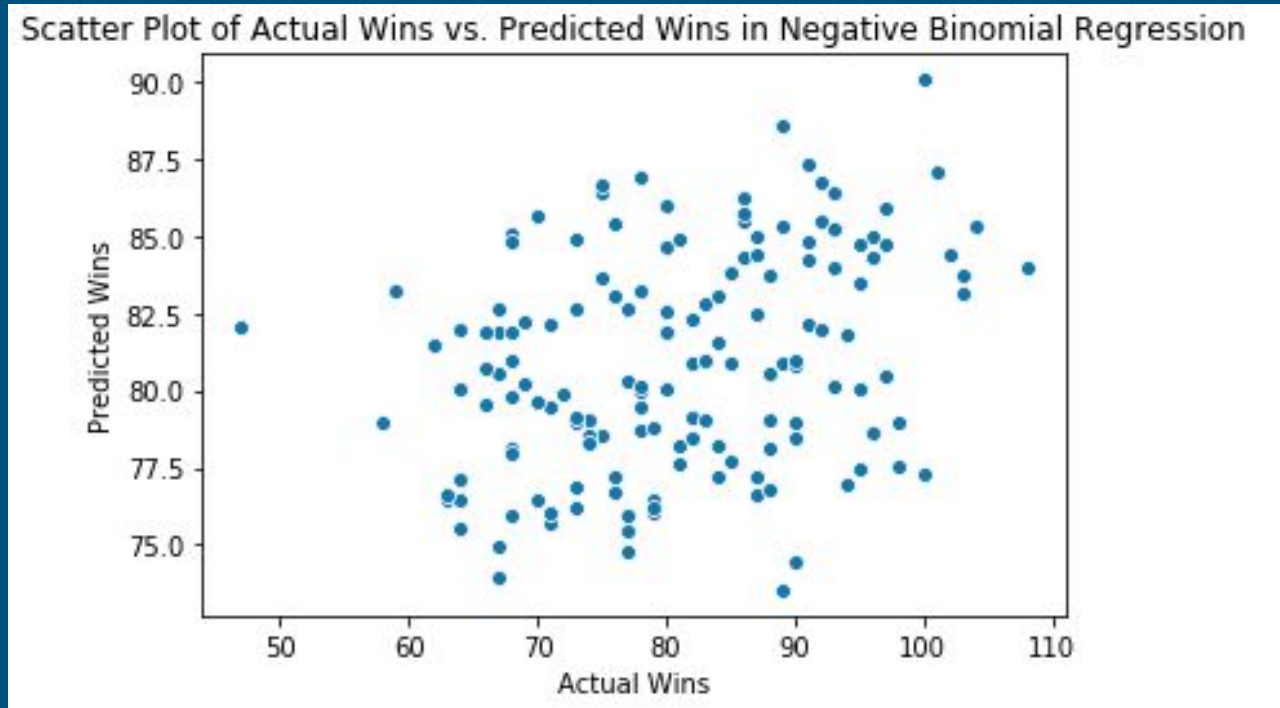
## Generalized Linear Model Regression Results

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Dep. Variable:          W      No. Observations:          150
Model:                GLM      Df Residuals:              148
Model Family:      NegativeBinomial      Df Model:              1
Link Function:          log      Scale:              1.0000
Method:            IRLS      Log-Likelihood:          -570.00
Date:              Sun, 05 May 2019      Deviance:              155.48
Time:              11:01:11      Pearson chi2:              153.
No. Iterations:      3      Covariance Type:          nonrobust
=====
```

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              coef      std err          z      P>|z|      [0.025      0.975]
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Intercept      4.1860      0.053      79.246      0.000      4.082      4.290
home_runs      0.0012      0.000      4.034      0.000      0.001      0.002
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```

# The Model

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# Conclusion

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Home runs are not a great predictor of wins.

There is a small positive correlation between HR and wins, but there are many other factors that lead to more wins.

Unfortunately, can't build the model in Python.