

Predicting Total Yards of Scrimmage of Rookie Running Backs

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Intro

- Rookie Success as measured by total combined rushing and receiving yards rookie season
- Inspiration for project:
 - How efficient is the combine at predicting running back success?



Data

- 333 NFL Running Backs from 2000 to 2019 draft
- Combine statistics
 - Speed & Agility Factors
 - Strength & Force factors
- Height, Weight
- Draft Pick Number
- Model: 2000-2018
- Test: 2019



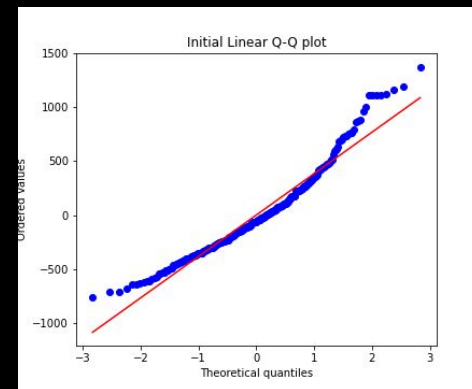
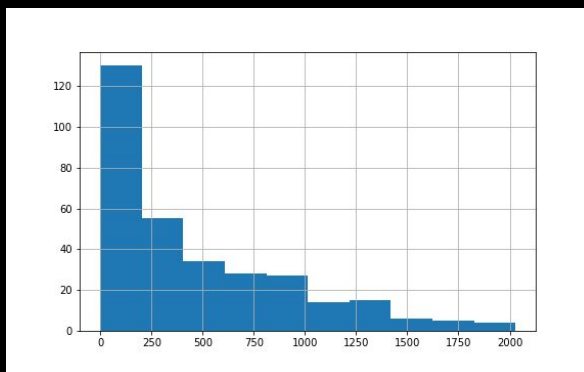
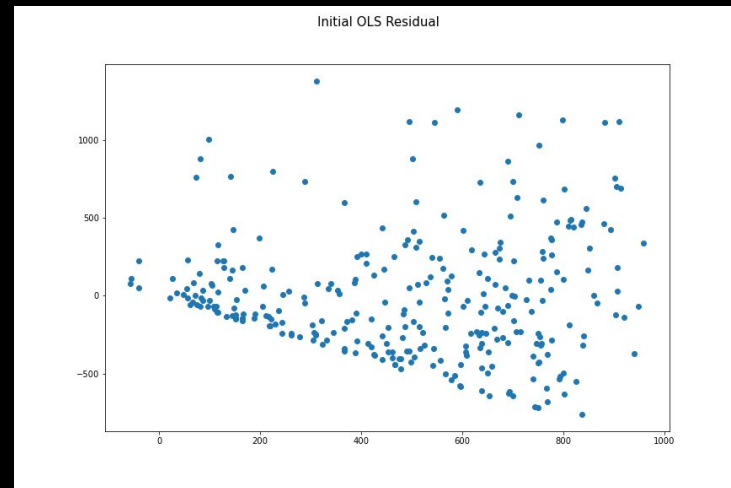
Initial Findings

$R^2 = 0.325$

Adjusted $R^2 = 0.303$

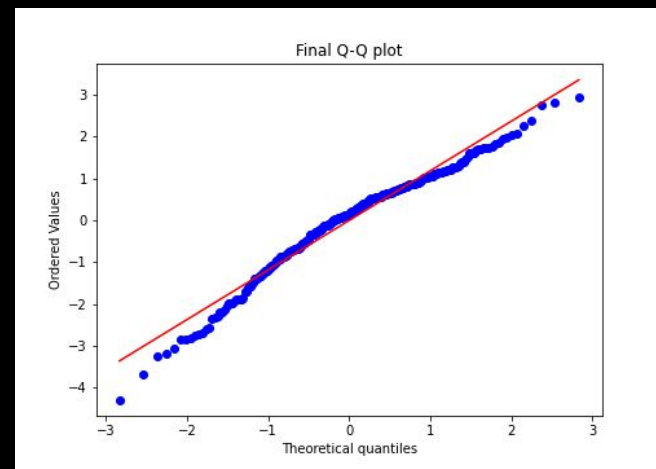
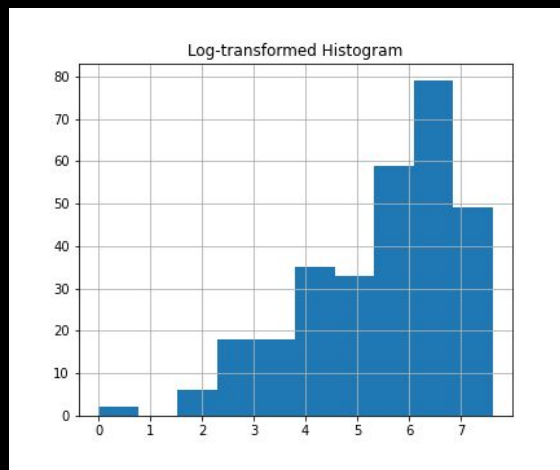
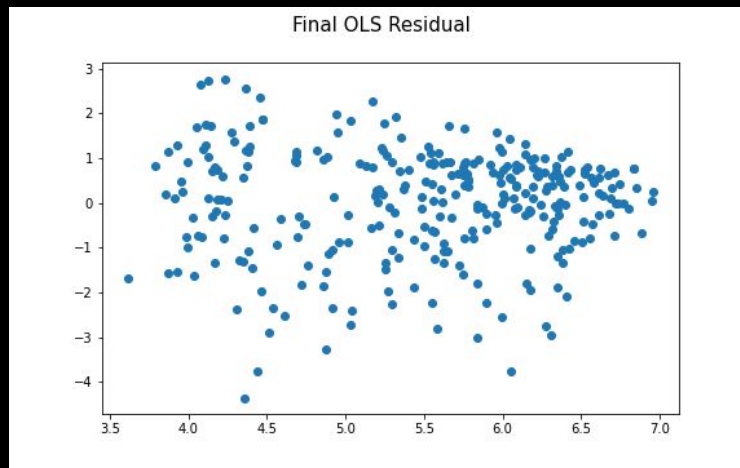
Many features had very high p-values

Multicollinear features



Final Model

- Tuning:
 - Log transformed target variable
 - Dropped multicollinear features
- Feature Engineering
 - Weight:height ratio
- $R^2 = 0.341$



Takeaways

	Year Drafted	Weight: Height Ratio	40 yard	3 cone	Broad Jump	Bench Reps	Shuttle	Draft Pick number	B0
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$\log(\hat{y}) = 5.3441$

$\hat{Y} = 209$ yards

$Y_{\text{actual}} = 1278$ total yards

Residual = 1069

Questions?

