



What Makes a Wide Receiver Great

Predicting Rookie Receiving Yards with Linear Regression

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Outline

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How to Model a
Successful Wideout

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Conclusions & Next Steps



Data

2000 - 2020 Data from [Pro Football Reference](#)

- 417 Wide Receivers
 - NFL Draft
 - NFL Combine Data
 - NFL Statistics
 - NCAA College Statistics



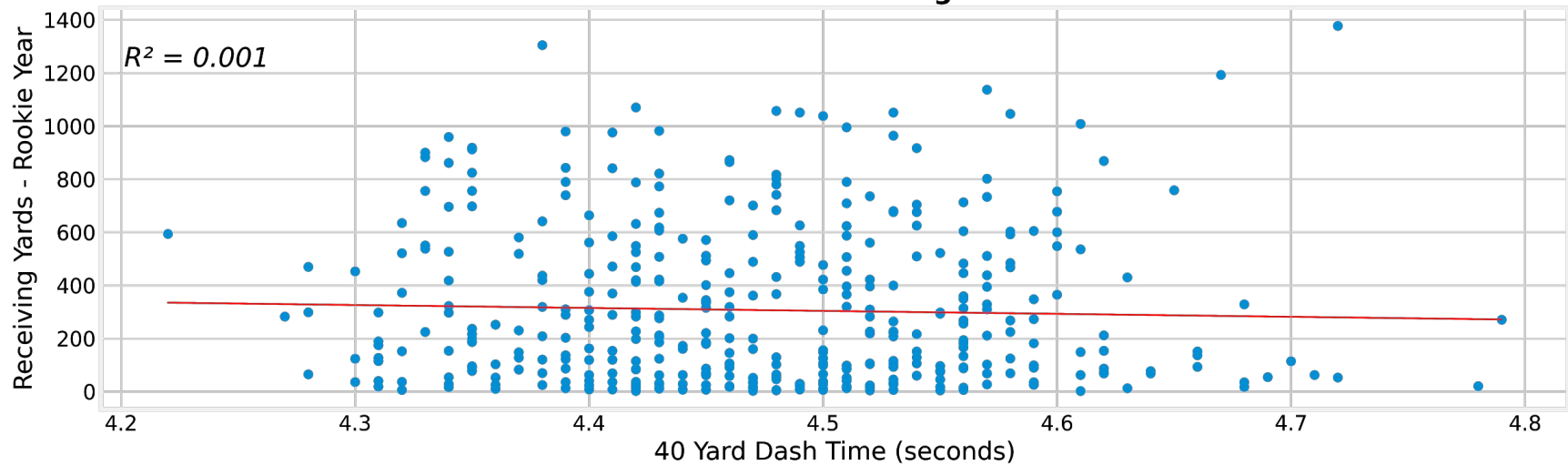
What Makes a Successful Wideout

- Athleticism / Combine Stats / Size ?
- Prior Success / College Stats ?
- College Team / Conference ?
- Draft Position ?
- NFL Team ?



The Combine is a Bad Predictor of Rookie Yards

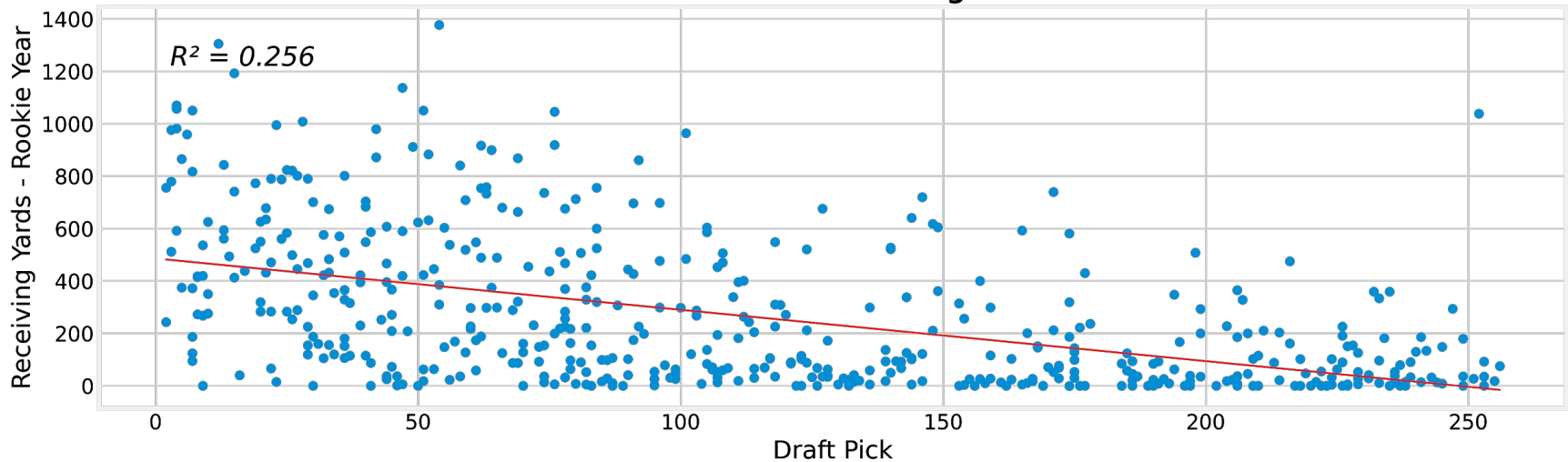
40 Time vs. Receiving Yards





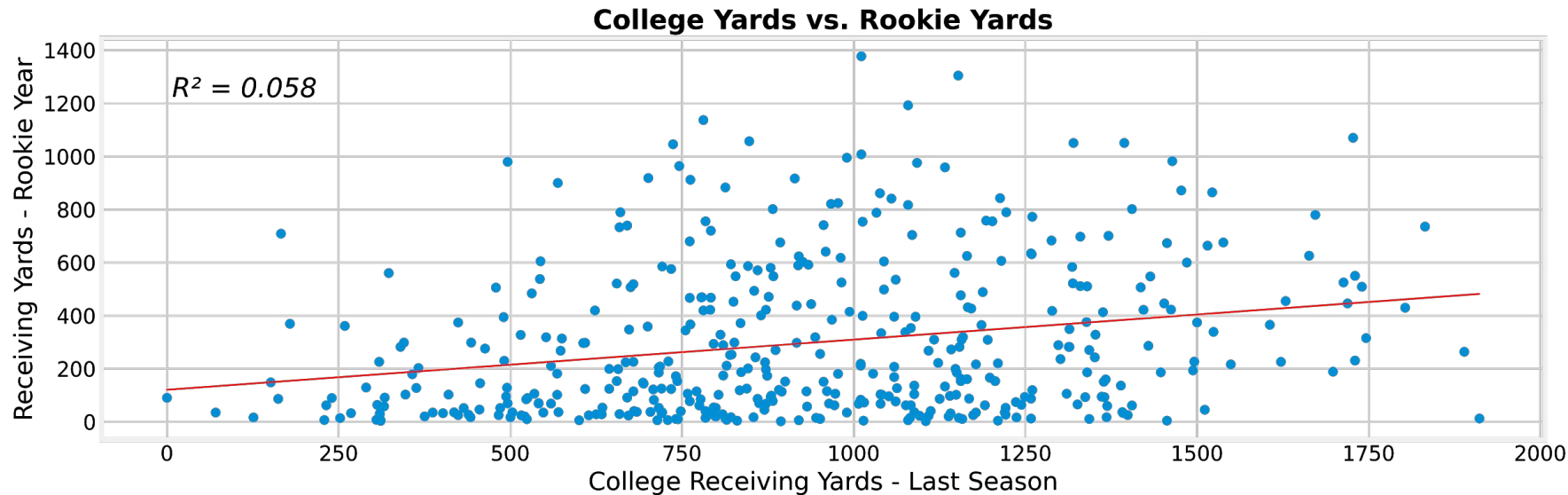
Draft Pick is the Best Predictor

Draft Pick vs. Receiving Yards



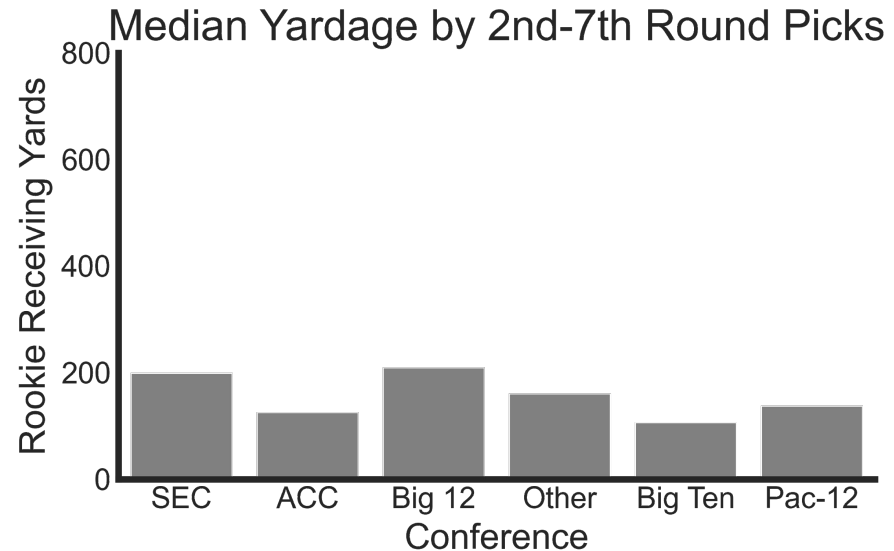
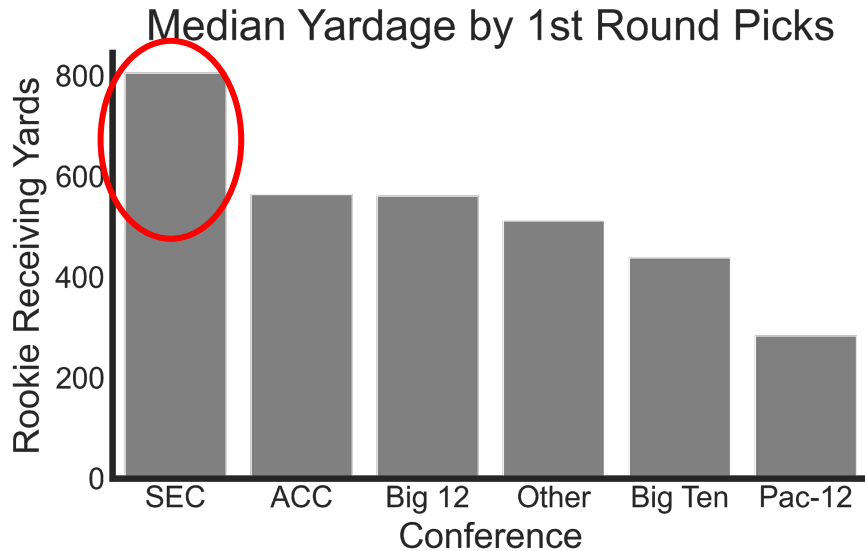


College Receiving Yards Show Some Correlation





SEC 1st Round Picks Do Exceptionally Well





Used in Model



- Draft Position
- College Yards
- Leaving College Early
- SEC & 1st Round Pick

Low or No Importance

- All Combine Stats
- NFL Team Passing Tendency
- Conferences outside of SEC





Predictions

- Average Error: ~177 Yards
- Okay on low-mid seasons
- Misses on many great seasons

Player	Pick	College Yards	Left Early	Predict	Actual	Error
Kendall Newsom	222	796	0	54	55	1
Sidney Rice	44	1090	1	399	396	3
Michael Thomas	47	781	1	372	1137	765
Anquan Boldin	54	1011	0	253	1377	1123



Future Work

- Collect Other Intangible Stats
- Adjust “Success” to Look at More Than Just Rookie Year



Questions?



Appendix - Model

OLS Regression Results						
Dep. Variable:	rookie_rec_yards	R-squared:	0.332			
Model:	OLS	Adj. R-squared:	0.324			
Method:	Least Squares	F-statistic:	40.83			
Date:	Thu, 16 Jul 2020	Prob (F-statistic):	9.19e-28			
Time:	22:35:42	Log-Likelihood:	-682.84			
No. Observations:	333	AIC:	1376.			
Df Residuals:	328	BIC:	1395.			
Df Model:	4					
Covariance Type:	nonrobust					
	coef	std err	t	P> t	[0.025	0.975]
const	6.3353	0.382	16.588	0.000	5.584	7.087
pick	-0.0140	0.002	-8.706	0.000	-0.017	-0.011
col_rec_yds	0.0007	0.000	2.450	0.015	0.000	0.001
left_early	0.8375	0.240	3.485	0.001	0.365	1.310
SEC_Rd1	1.1982	0.599	2.001	0.046	0.020	2.376
Omnibus:	5.833	Durbin-Watson:	2.116			
Prob(Omnibus):	0.054	Jarque-Bera (JB):	4.120			
Skew:	-0.129	Prob(JB):	0.127			
Kurtosis:	2.520	Cond. No.	5.83e+03			

Appendix - Yards by Leaving Early

