

▶ Predicting the Next Great Quarterback Using R

*Andrew Tammaro*¹

¹ University of Connecticut

Abbreviated Abstract: Drafting college quarterbacks often seems like a guessing game, with some picks becoming stars and others becoming busts. A large amount of emphasis is placed on who a quarterback is and who they play for as opposed to their statistics. In this work, a model is created to see how college statistics translate to success in the National Football League.

AAV Metric

team_offense_points = 100 * (team offensive points per drive) / (league average offensive points per drive),

where

offensive points per drive = $(7 * (\text{rushTD} + \text{passTD}) + 3 * \text{FG}) / (\text{rushTD} + \text{passTD} + \text{turnovers} + \text{punts} + \text{FGA})$

team_points_for_skill_positions = team_offense_points - team_points_for_o_line

team_points_for_passers = (team_points_for_skill_positions - team_points_for_rushers)

* .26. (see [part II](#) for an explanation of the .26.)

- Steps:
 - Combine college and professional quarterback statistics
 - Create a model using college statistics as variables being modeled onto average approximate value over the player's first five seasons

Calculations and Output

- Model Annual Approximate Value on
 - Completions, Attempts, Yards, Percentage, QB Rating Touchdowns, Interceptions, Interceptions, Yards per Game and TD-Interception Ratio

Residuals:

Min	1Q	Median	3Q	Max
-6.704	-2.985	1.357	2.261	5.502

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	-1.007e+02	1.186e+02	-0.849	0.409
Cmp	-2.261e-01	1.578e-01	-1.433	0.172
Att	9.149e-02	8.602e-02	1.064	0.304
Yds	6.705e-03	6.042e-03	1.110	0.285
Pct	2.759e+00	2.557e+00	1.079	0.298
Rate	-4.249e-01	8.690e-01	-0.489	0.632
TD	1.749e-01	2.817e-01	0.621	0.544
Int	-3.658e-01	3.564e-01	-1.026	0.321
YPG	-5.652e-03	2.820e-02	-0.200	0.844
TD.Ratio	-2.214e+00	2.327e+00	-0.951	0.357

Residual standard error: 4.459 on 15 degrees of freedom

Multiple R-squared: 0.2901, Adjusted R-squared: -0.1359

F-statistic: 0.681 on 9 and 15 DF, p-value: 0.7153

Decisions and Future

Player	School	aaV
Ty Storey	Western Kentucky	20.3081668
Jack Abraham	Southern Mississippi	15.3023742
Peyton Ramsey	Indiana	15.2961487
Jack Coan	Wisconsin	14.9509838
Kedon Slovis	Southern California	14.9034585
Tyler Huntley	Utah	14.0807564
Jorge Reyna	Fresno State	13.2655328
Josh Adkins	New Mexico State	12.1517299
Anthony Gordon	Washington State	12.1316405
Quinten Dormady	Central Michigan	11.7037404
Mike Glass III	Eastern Michigan	11.3414886

- Several of these players from the 2019 college season are not on the radar of NFL scouts
- These AAV are higher than the highest professional since 2000, Russell Wilson (16.4)
- Using analytics could lead to late-round picks that other teams may not be expecting
- Future ways to improve the model would be to include combine statistics