

NFL Draft Prospect Performance Prediction
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Level of Interest: 10/ 10

Description

I want to see if a model can be created that can predict the output of offensive skill positions in their NFL career based on college performance as well as NFL combine assessments like 40 yard dash, bench press reps, vertical jump, etc.

Data

I want to use the same evaluation features that NFL scouts would use to determine the skill and athletic ability of college athletes. I'm limiting this to offensive skill positions for simplicity because they have the most and most consistent data available for passing yards/ game, rushing yards/ game, or receiving yards/ game. To account for injuries, I'm going to use college averages per game and use NFL passing, rushing, and receiving yards/ game as my targets, instead of totals. I'm also going to use important position-specific statistics like interceptions, fumbles, receptions, and passing, rushing, and receiving touchdowns. Other features that would be important for prospect evaluation include 40 yard dash time, total number of reps of 225 pounds, vertical jump, and broad jump. Because position is important, I plan on using a one-hop method as some of my features to distinguish between quarterbacks, running backs, and receivers. For simplicity, I'm only going to use those three positions. Note that all of the values will be adjusted to be within the range of 0 to 1.

Player	P QB	P RB	P WR	College Passing yds/ game	College Rushing yds/ game	College Receivi ng yds/ game	40 yard dash time	etc	NFL Passing yds/ game	etc.
Bryce Young	1	0	0	.246	.005	0	.455168	...
Puka Nacua	0	0	1	0	.011	.055	.457	...	0	...
Bijan Robinson	0	1	0	0	.110	.026	.446	...	0	...

Gathering the Data

Sports statistics for college and NFL players can be found for free online from multiple sources including sports-reference.com and espn.com. We'll need to write a web scraper to go through these websites to find the specific values, and potentially do basic mathematical computation to find per game stats. We can use a web scraper like Selenium Web Driver.