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NFL Draft Algorithms Overview

Background and Purpose: According to a 2015 article from Bleacher Report, which analyzed a 25-year sample of formerly drafted players, only 37.6% of first-round picks made a pro-bowl at some point in their career. Furthermore, only 36% of top-10 selections made a pro-bowl in this same period. Utilizing these statistics as the baseline for my models, my algorithms seek to perform predictive analysis on future draft prospects by evaluating formerly drafted players' career results – as defined by making a pro-bowl.

Methodology: Over three years, I have collected NFL Combine data, player measurables, and key aspects from draft profiles to form a database of over 1,800 players across twelve positions (see figure 1). This database consists of players from the past ten years, 2010-2019, which was used to build my models. Through regression techniques, I manually developed algorithms for each of these twelve positions under the premise that previous player success trends can predict future tendencies in the outcomes of drafted players. Each model accounts for ten to twelve distinct data points to account for differences between player types.

Outcome: Following the building and testing of these models, they have been shown to predict a player's success with 60.1% accuracy independently. The number of players in this category approximately equals the number of players drafted in the first round annually. However, accounting for the conditional probability of a player being both a first-round pick by my system in addition to being a consensus first-round pick, the models can predict a player making the pro-bowl in their career with 81.2% accuracy (see figure 2). The amount of these players correlates with a top-15 pick in the draft. Additionally, these percentages seem to be upheld

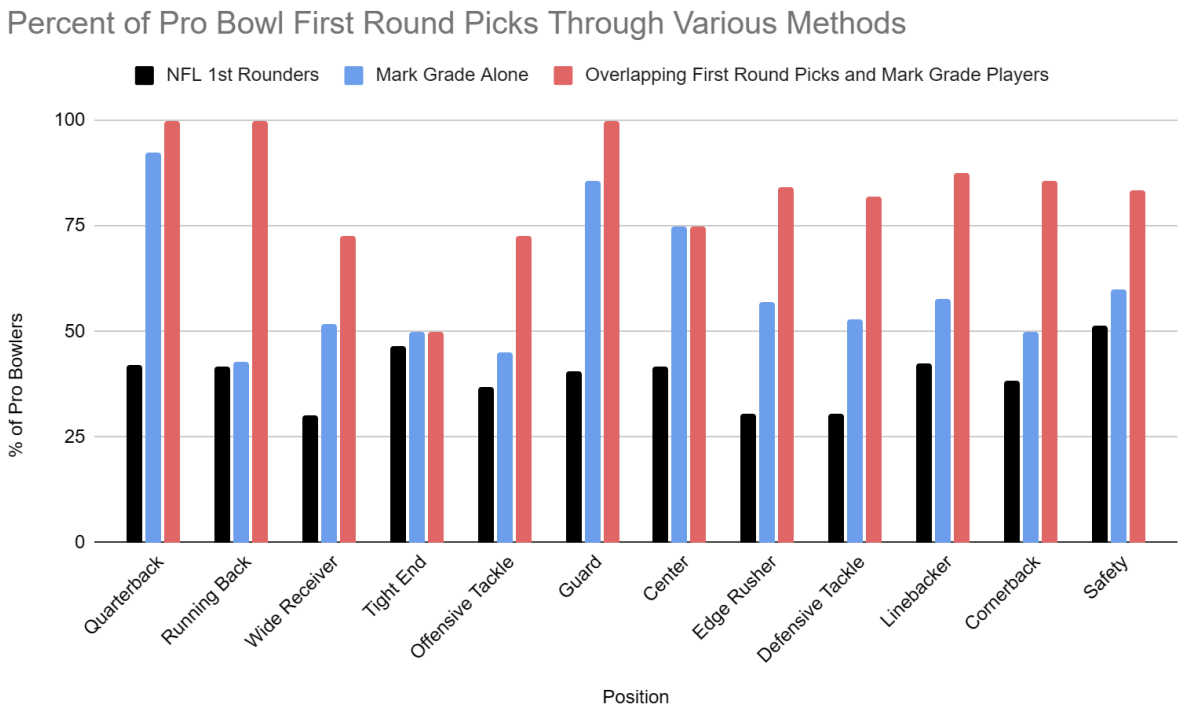
while evaluating the 2020 and 2021 draft classes that were not in the original database used for designing the models.

Figure 1: Snapshot of certain players from my quarterback database, demonstrating some of the data collected on each player.

Player	Draft Class	1st Round	40 Time	Height	Hand Size	Arm Length	Vertical	Broad Jump	3-Cone Drill	20 Yard Shuttle	Strength	Weakness	Grade
Josh Allen	2018	1	4.75	6'5	10.13	33.25	33.5	119	6.9	4.4	Strength	Accuracy	99.35
Russell Wilson	2012		4.55	5'11	10.25	31	34	118	6.97	4.09	Accuracy	Size	95.5
Patrick Mahomes	2017	1	4.8	6'3	9.25	33.25	30	114	6.88	4.08	Strength	Decision Making	95.05
Deshaun Watson	2017	1	4.66	6'2	9.75	33	32.5	119	6.95	4.31	Leadership	Accuracy	90.1
Teddy Bridgewater	2014	1	4.78	6'2	9.25	33	30	113	7.17	4.2	Leadership	Size	87.5
Daniel Jones	2019	1	4.81	6'6	9.75	32.5	33.5	120	7	4.41	IQ	Decision Making	85.9
Josh Rosen	2018	1	4.92	6'4	9.88	31.75	31	111	7.09	4.28	IQ	Athleticism	79.45
Christian Hackenberg	2016		4.78	6'4	9	32	31	114	7.04	4.33	Size	Arm	77.8
Nathan Peterman	2017		4.82	6'2	9.88	32.38	31	110	7.14	4.31	Size	Arm	74.18
David Fales	2014		4.99	6'2	9.25	31.75	28	103	7.55	4.5	IQ	Size	73.85
Brandon Doughty	2016		5.22	6'3	9.13	32	27	103	7.49	4.52	IQ	Arm	61.7

Color	**Meaning**
Blue	First Round Grade & First Round Projection
Green	First Round Grade
Yellow	Second-Third Round Grade
Orange	Fourth-Fifth Round Grade
Red	Sixth-Seventh Round Grade
Gray	Undrafted Grade
Bold	Made a Pro Bowl

Figure 2: Graph showing the percentage of pro bowlers using different predictive methods



Link to Bleacher Report Article Referenced: [Which Positions Are the Safest, Riskiest at the Top of the NFL Draft? | Bleacher Report | Latest News, Videos and Highlights]