



DRAFT DAY

A Look at NFL Draft Prospects



MOCK DRAFT

- The Problem

- The Data

- Modeling

- Conclusions



THE PROBLEM

- How can the New York Jets successfully predict first round draft picks
- The draft is the top way to improve a team
- First round picks are the most valuable picks





THE DATA

- Draft information and college stats
web scraped from sportsreference.com
- Additional data taken from the
`nfl_data_py` package
- Rounds 1-7 for every draft since 2013





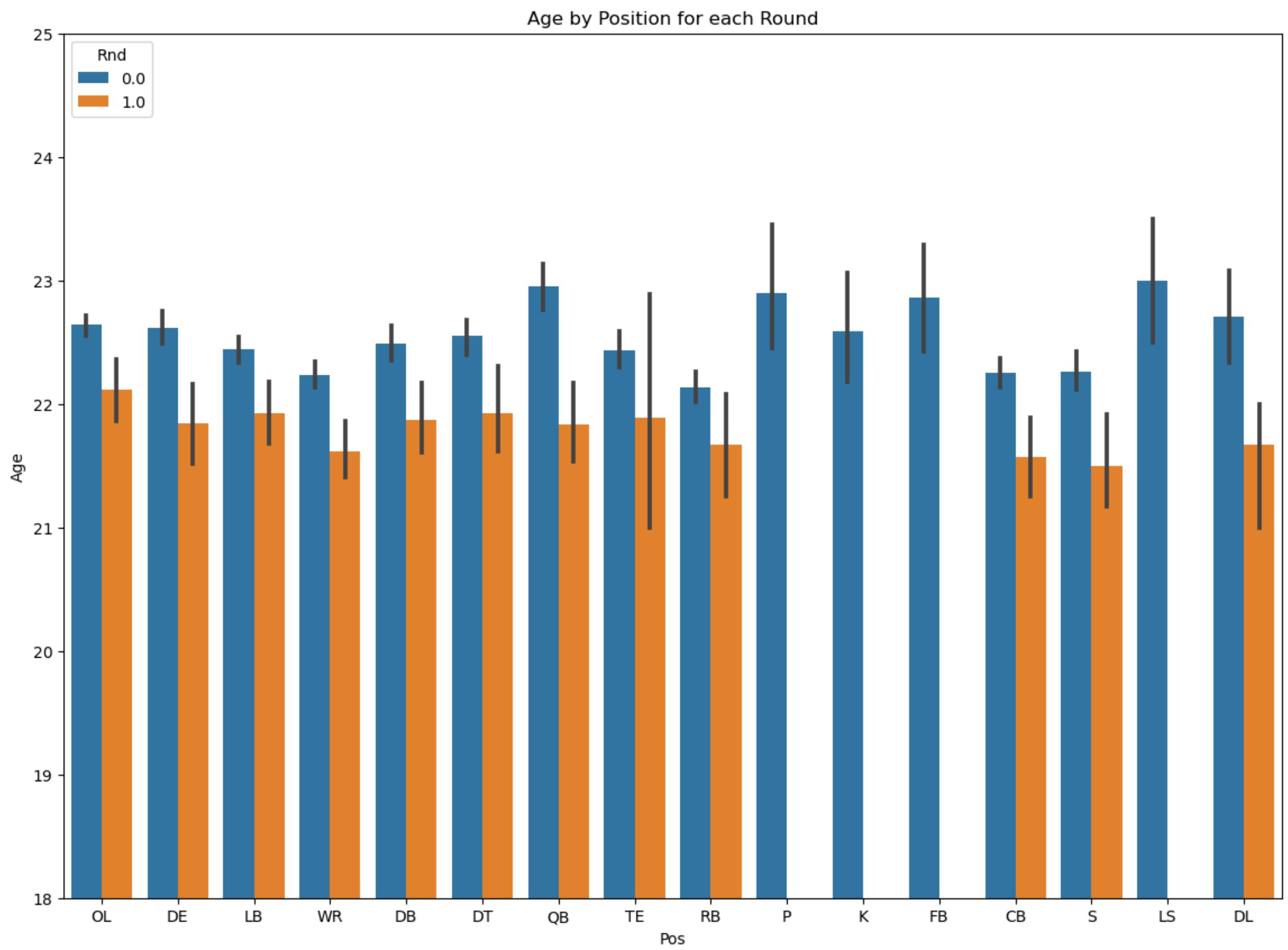
SUMMARY

- Premium positions are the most frequently drafted in the first round
- All 5 of the top conferences are power 5 conferences
- 12.5%

Position	Position Ratio
QB*	26.5%
OL*	14.8%
DE*	13.9%
DT	13.6%
CB*	13.3%

Conference	Conference Ratio
SEC*	19.0%
Independent*	16.7%
ACC*	16.0%
PAC 12*	14.9%
Big 10*	13.2%

- Age unique impact on numerical data





SUMMARY CONT

- Many of the numerical columns produced strange findings
- Some can be explained. Others may be a result of not enough data
- Rate Stats vs Cumulative Stats

	Age	pass_cmp	pass_att	pass_cmp_pct	pass_yds	pass_yds_per_att	adj_pass_yds_per_att	pass_td	pass_int	pass_rating	weight
Rnd											
0.0	23.0	647.0	1021.0	62.45	8339.5	7.90	8.20	63.0	23.0	144.45	221.0
1.0	22.0	609.5	901.5	66.30	8082.5	8.55	8.85	61.5	21.5	157.35	222.0



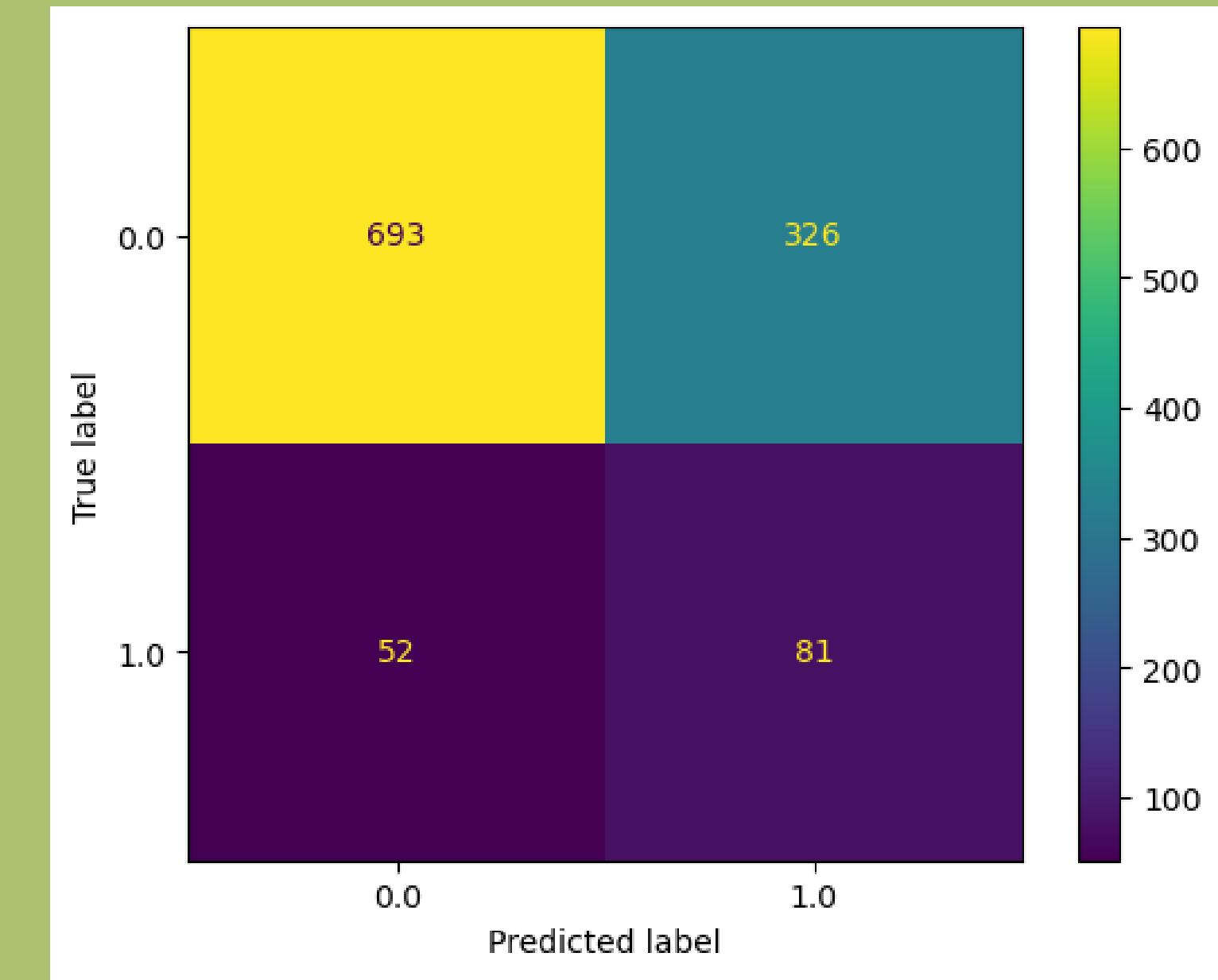
MODELS

	Logistic Regression	Random Forest	Decision Tree	XGBoost	KNN	Gaussian NB
Recall	.61	.44	.42	.59	.50	.87
Accuracy	.67	.78	.81	.70	.63	.37
Precision	.20	.25	.28	.22	.15	.14



BEST MODEL

- **Best Model: Logistic Regression**
- **Parameters:**
 - C: 1
 - Fit Intercept: True
 - RandomOverSampler





TOP FEATURES

Column	Coefficient
Tackles_total	1.63
Rec_yards_per_rec	1.40
Fum_rec	1.30
SEC	1.25
def_int_td	1.09
RB	-0.76



CONCLUSIONS

- Premium positions, top conferences, and age are the biggest driving factors
- While age is significant in predicting round 1 players, it complicates some numerical data
- Rate stats better than cumulative stats
- Get more numerical data
 - Final season
 - Advanced stats
 - Non Primary Stats
 - More bio information
- Add scouting report information and other non numeric data
- Build in extra time to web scrape





ON THE CLOCK

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