



# NBA Draft Classification for 2022 Class

Brian Choi & Michael Orlando



# Business Problem

## **ATTENTION Management and Stakeholders of the New York Knicks**

Your team is historically inefficient in drafting. The last rookie to be drafted and re-signed with the Knicks was in 1994. We intend to solve this problem.



# Business Objective

Our model's purpose is to classify the upcoming 2022 rookie class into draft rounds 1 & 2 in order to optimize the Knicks' draft strategy.

# ROADMAP

Data Source



Model Optimization



Model Predictions



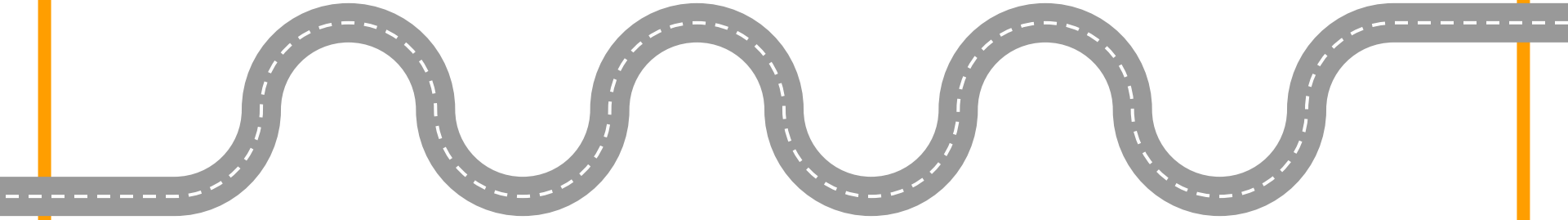
Exploratory  
Data Analysis



Model Testing



Suggestions &  
Takeaways

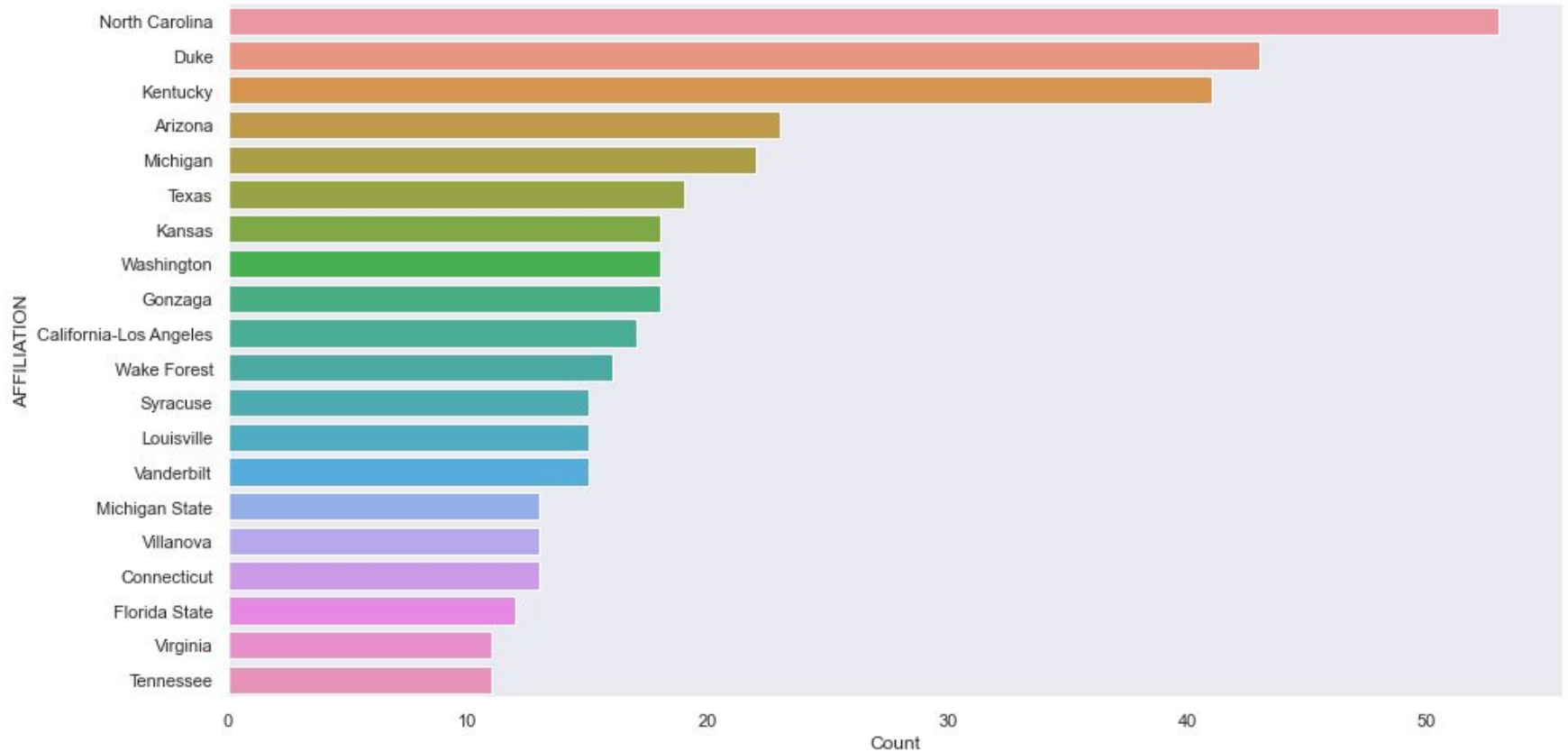


## College Basketball 2009-2021 + NBA Advanced Stats from Kaggle

1. Detailed statistics of each college player from 2009 to 2021
2. Draft 1 & 2 picked players from 2009 to 2021
3. Detailed statistics of each college player from 2022

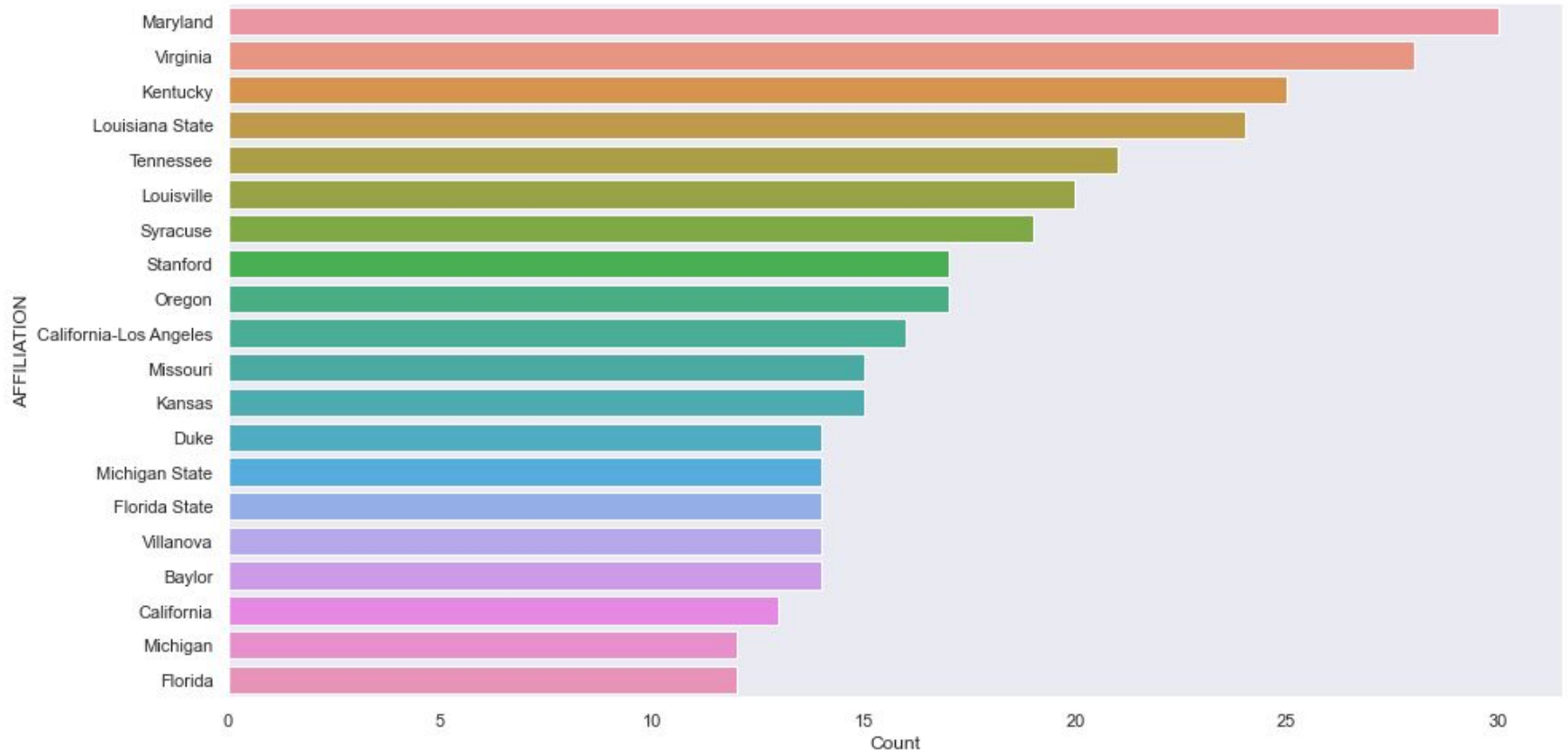
## EXPLORATORY DATA ANALYSIS

### First Round Frequency by Team



## EXPLORATORY DATA ANALYSIS

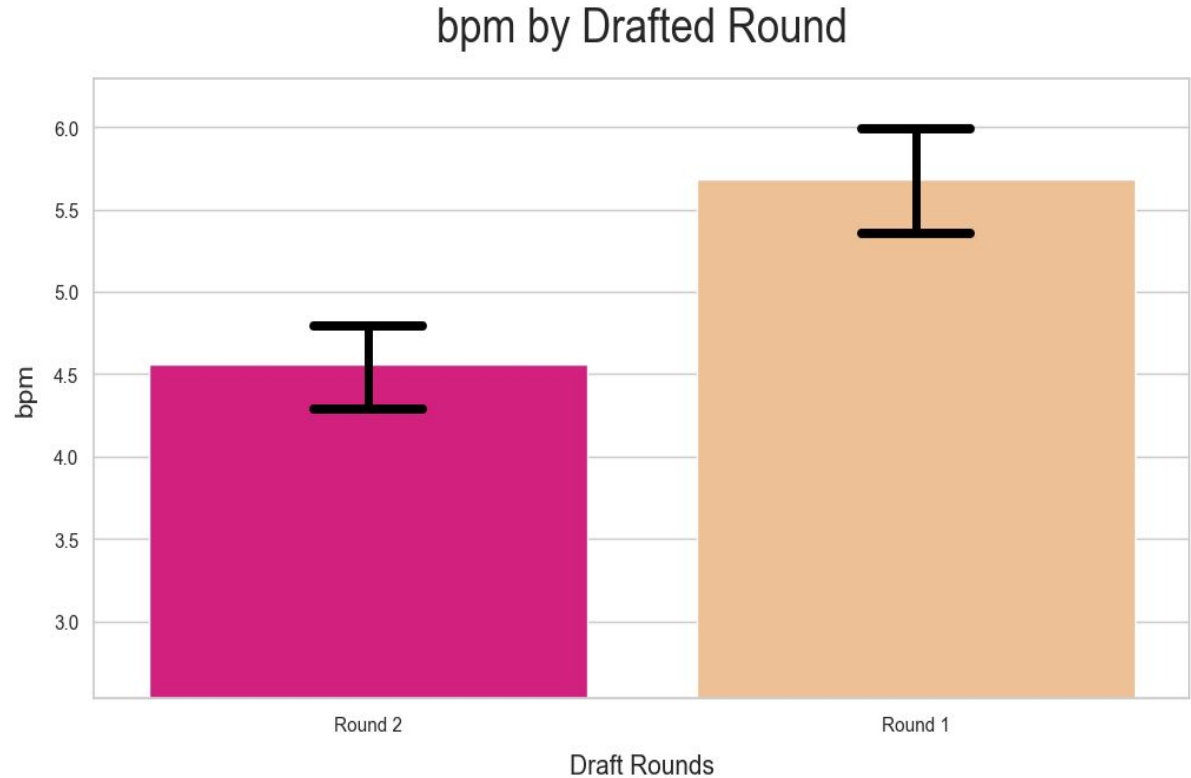
### Second Round Frequency by Team



## EXPLORATORY DATA ANALYSIS NUMERICAL

### \*BPM (Box Plus-Minus)

Player's contribution to the team estimation in points above average per 100 possessions played





### Top 3 All-Time BPM Leaders

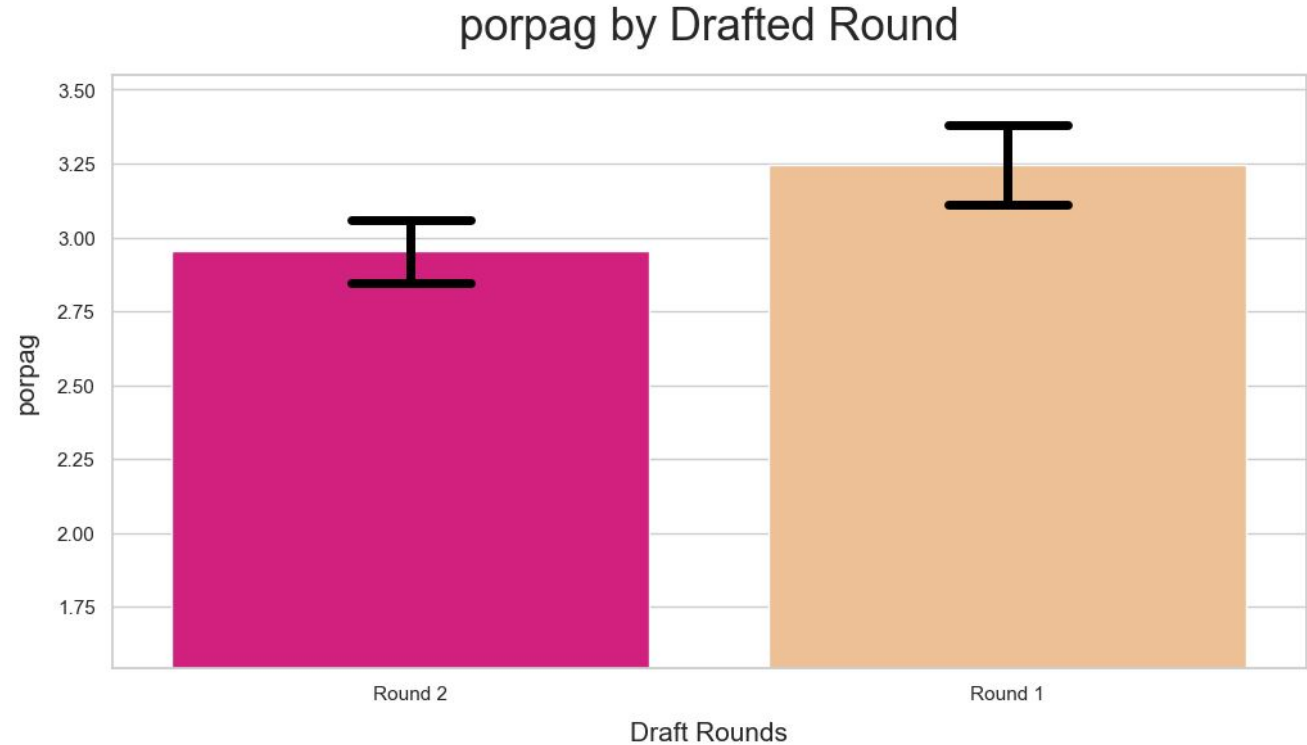
- ❑ Michael Jordan: 9.21
- ❑ Nikola Jokic: 8.90
- ❑ LeBron James: 8.86



## EXPLORATORY DATA ANALYSIS NUMERICAL

### \*PORPAG

Measures player's  
performance  
compared to a  
'replacement player'



## *Total Predictors : 14*

### **Numerical Indicators**

- ▣ Recruiter Rank
- ▣ DBPM (defensive box plus minus)
- ▣ OBPM (offensive box plus minus)
- ▣ BPM
- ▣ Stops
- ▣ DPORPAG
- ▣ PORPAG
- ▣ Free Throw Rate
- ▣ Steals per game
- ▣ Free Throw Attempts
- ▣ Offensive Rebounds Per Game

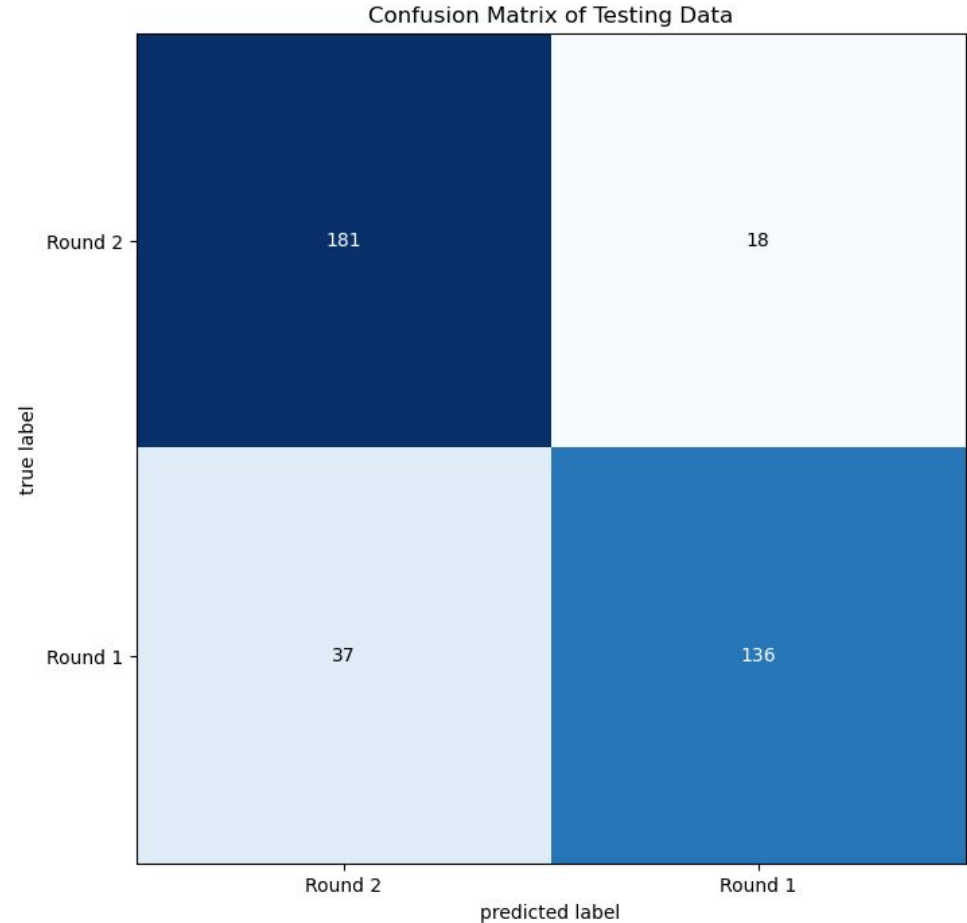
### **Categorical Indicators**

- ▣ Undergraduate Status
- ▣ College Team
- ▣ NCAA Conference



# Metrics

- 85% Accuracy on Testing Data
- 88% Precision on Testing Data



## Round 1 Predictions

- ▣ Mark Williams (Duke)
- ▣ Walker Kessler (Auburn)
- ▣ Caleb Love (North Carolina)

## Round 2 Predictions

- ▣ Ochai Agbaji (Kanas)
- ▣ Benedict Mathurin (Arizona)
- ▣ Tari Eason (LSU)

## SUGGESTIONS

- ▣ Similarities and differences between our projection vs. media analysts
- ▣ Avoid players that media predict in round 1 vs. our predict in round 2
- ▣ Target players that our model predict in round 1

## TAKEAWAYS



### **NBA Performances**

Compare players' performance in NBA vs College to predict whether college performance predicts NBA performance



### **Player Positions**

Analyze player positions impact on performances and change in positions if any



### **Round Selected and Pick Number**

Further classify the round and the order of picks.  
Ex: Player one is predicted first round pick three



**THANK YOU**