

**MGTA 452**

# 2025-26 NBA Awards Prediction Model

Damilare Shonuyi  
Jeongeun Park



# Objective

The goal of our project was to build prediction models(using different methods) for the 2025-26 NBA season.

The awards considered:

- Eastern Conference Championship
- Western Conference Championship
- NBA Championship
- Most Valuable Player
- Rookie of the Year
- Defensive Player of the Year
- Coach of the Year
- All-NBA First Team



NBA MVP



NBA  
Defensive  
Player of the  
Year



NBA Rookie of the  
Year



NBA  
Championship



Western Conference  
Championship/ Eastern  
Conference Championship



NBA Coach of the Year

# Most Valuable Player

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# Building Profile

## Last 5 MVP Winners

- **2024-25**
  - Shai Gilgeous-Alexander
- **2023-24**
  - Nikola Jokić
- **2022-23**
  - Joel Embiid
- **2021-22**
  - Nikola Jokić
- **2020-21**
  - Giannis Antetokounmpo

## Distinct Characteristics

- All recorded over 26 PPG
- On top-3 seeded team in their respective conference
- MVP's team won over 52 games

# Constructing Prediction Model

## Configuration

Defines a list of historical seasons from 2010 to 2025

Dictionary stored mapping each labeled season to its correct MVP winner

## Data Collection

### Data Cleaning, Aggregation

"NBA\_API" library used to retrieve clean statistical data

Function for capturing per game stats (PPG, RPG, APG, etc.)

Function for capturing team performance data (conference seeding)

## Season-Level

### Data Construction

Pipeline merges player stats and team stats

Identifies correct MVP winners for each season

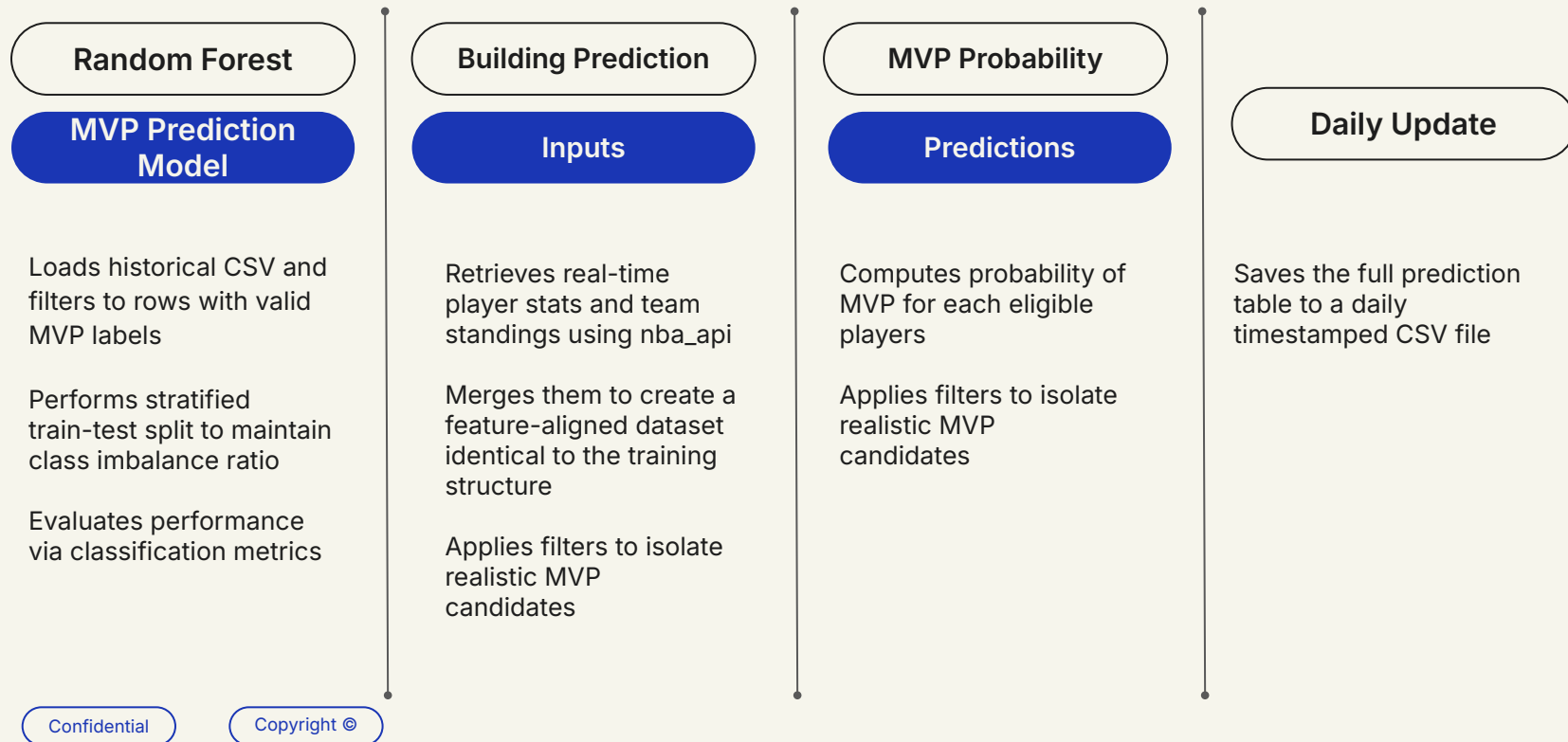
## Cleaning & Correcting

### Dataset

Dataframe is concentrated representing every player-season combination across 15 seasons

Recalculation of Conference Rankings based purely on win totals

# Constructing Prediction Model(2)



# Defensive Player of the Year

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# Building Profile

## Last 5 DPOY Winners

- **2024-25**
  - Evan Mobley
- **2023-24**
  - Rudy Gobert
- **2022-23**
  - Marcus Smart
- **2021-22**
  - Rudy Gobert
- **2020-21**
  - Giannis Antetokounmpo

## Distinct Characteristics

- Team Defense is ranked in the top 10
- Each player averaged over 28 MPG
- Combined steals and blocks is over 2
- Averaged over 3.5 RPG



# Constructing Prediction Model

## Configuration

Defines current NBA season to evaluate

Defines the model's feature set (bpg, spg, rpg, stocks, inverse defensive rank)

## Data Collection

### Data Cleaning, Aggregation

"NBA\_API" library used to retrieve clean statistical data

Function for capturing per game stats (BLK, STL, REB, MIN, GP)

Builds defensive ranking proxy using opponent PPG or win percentage

## Historical

### Data Construction

Builds curated dataset of DPOY winners and top defenders (2007–2025)

CSV created for daily reuse

## Model

### Training

Logistic regression with moderate regularization

Produces stable DPOY probability estimates

# Constructing Prediction Model(2)

Candidate

Filtering

Filters players based on historical DPOY traits

Reduces player pool to realistic DPOY contenders

DPOY Probability

Predictions

Applies trained logistic model to compute DPOY probability for each player

Sorts players by descending probability

Daily Update

Saves the full prediction table to a daily timestamped CSV file

# Rookie of the Year

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# Building Profile

## Last 5 ROY Winners

- **2024-25**
  - Stephon Castle
- **2023-24**
  - Victor Wembanyama
- **2022-23**
  - Paolo Banchero
- **2021-22**
  - Scottie Barnes
- **2020-21**
  - Lamelo Ball

## Distinct Characteristics

- 20 years old or younger
- PPG > 15
- Height >= 6' 7
- Team does not make the playoffs

# Constructing Prediction Model

## Configuration

Uses system date to determine whether the current season began this year

## Data Collection

Filter applied to isolate rookies

Retrieves per-game stats for every rookie

Returns data into dataframe

## Rookie Age

### Analysis

Sorts rookies from youngest to oldest

Provides scouting information about rookie class

## Feature

### Engineering

Usage proxy to reflect how involved the rookie is in their offense

Weighted box-score formula

# Constructing Prediction Model(2)

Feature

Matrix

Defines final input feature set for ROY scoring

Converts each rookie's feature row into a numerical vector

Scoring Model &

Ranking

Applies z-score normalization for per-feature columns

ROY score computed

Sorts rookies by descending probability

Displays top 10 rookies

Daily Update

Saves the full prediction table to a daily timestamped CSV file

# NBA Championship

## Eastern/Western Conference Championship



# Constructing Prediction Model

## Configuration

Define NBA team names, load champion/ finalist labels for previous seasons

## Fetch & Clean Team Stats

Retrieves base and advanced team statistics directly from NBA Stats API

Merges the datasets

## Historical

### Training Table

Collection of team stats from 2014-2024

Champion and conference finalists are identified

## Train Conference &

### NBA Champion Models

Applying logistic regression with class balancing to handle extreme class imbalance

Performing validation to ensure model is generalized across seasons



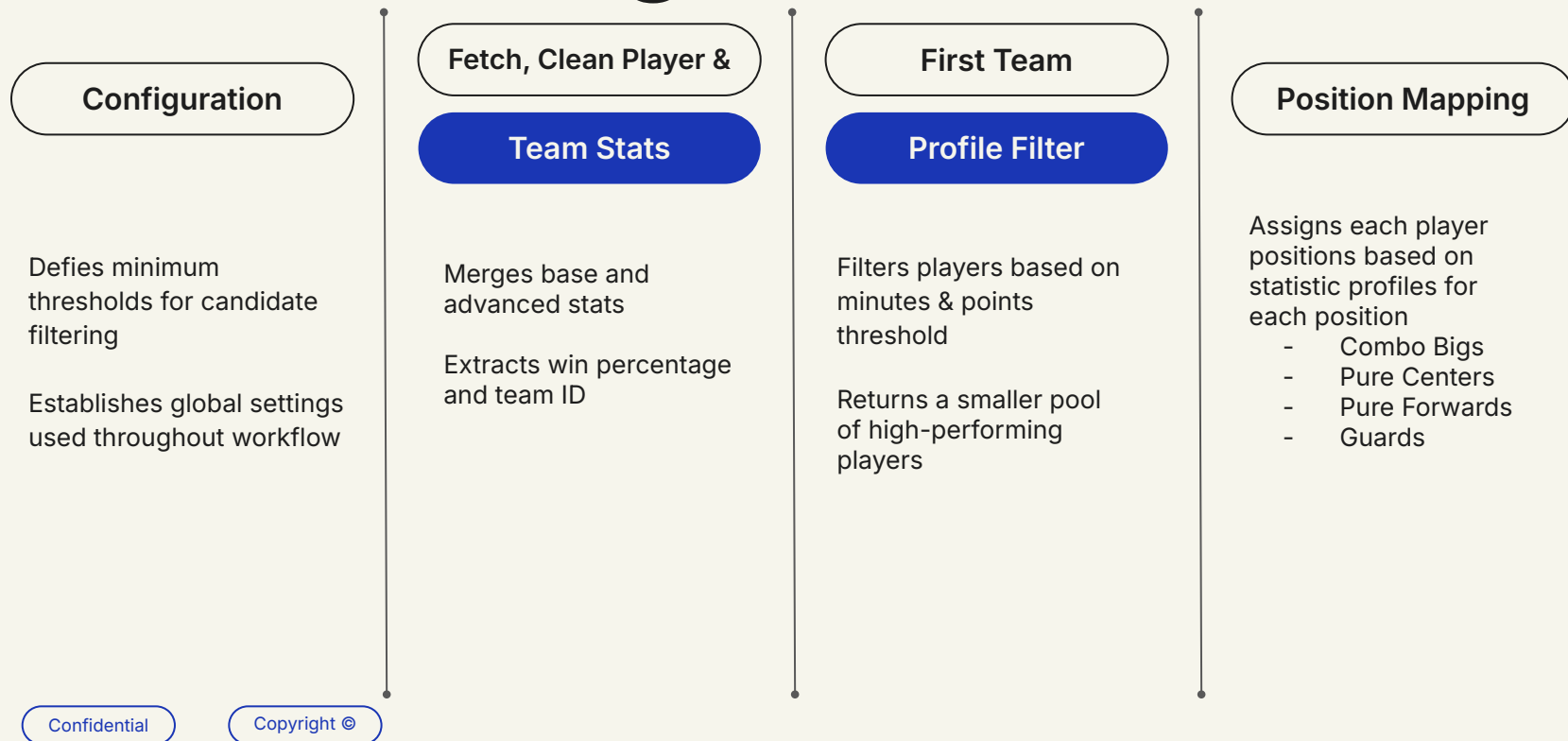
# Constructing Prediction Model(2)



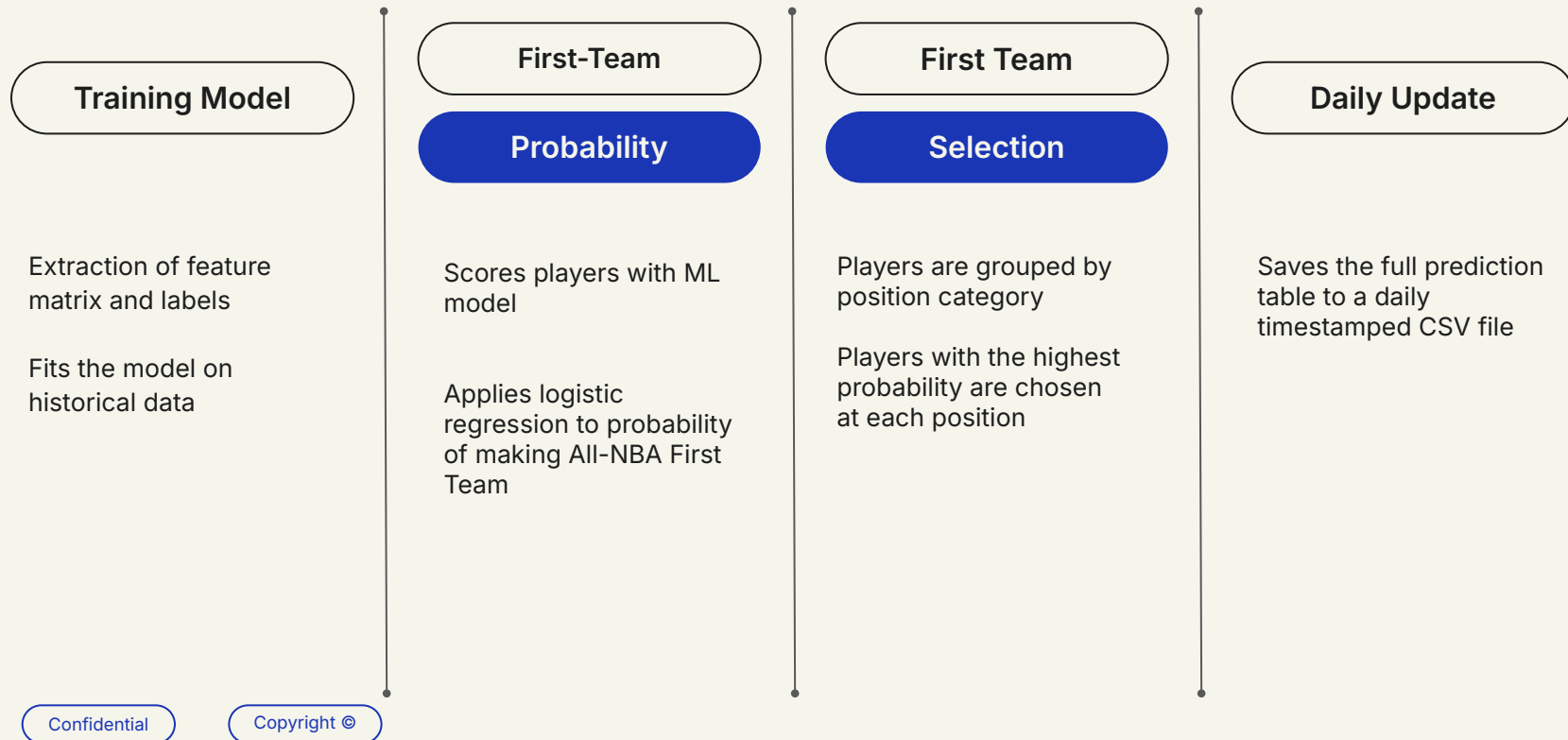
# All - NBA First Team



# Constructing Prediction Model



# Constructing Prediction Model(2)



# Coach of the Year



# Building Profile

## Last 5 COY Winners

- **2024-25**
  - Kenny Atkinson (CLE)
- **2023-24**
  - Mark Daigneault (OKC)
- **2022-23**
  - Mike Brown (SAC)
- **2021-22**
  - Monty Williams (PHX)
- **2020-21**
  - Tom Thibodeau (NYK)

## Distinct Characteristics

- Team Win Percentage is **above 0.65(top-tier win percentage)**
- Recorded a **Net Rating of +5 or higher**
- Improved Win Percentage by **at least +0.15** from last season
- Increased Net Rating by **over +2.5** year-over-year

# Constructing Prediction Model

## Configuration

Define team mappings  
and load historical COY  
labels.

## Fetch & Clean

### Team Stats

Retrieve base &  
advanced stats from  
NBA API

Merge datasets and  
standardize team  
identifiers

## Historical

### Training Table

Collect team stats from  
all COY seasons  
(2014–2024)

Compute Win% & Net  
Rating improvements

Label COY winners

# Constructing Prediction Model(2)

## Train COY model

Feature : W\_PCT, NET\_RATING,  
W\_PCT\_DIFF, NET\_RATING\_DIFF

Uses a StandardScaler + Logistic  
Regression pipeline.

Evaluates model accuracy using  
Leave-One-Season-Out  
cross-validation.

## Predict COY Probabilities

Fetch current & previous  
season stats

Calculate Win% and Net  
Rating differences

Apply COY model to  
generate probabilities

Rank teams by COY  
likelihood

## Daily Update

Saves the full prediction  
table to a daily  
timestamped CSV file



# 12/3/25 Predictions

# Most Valuable Player 2025-26



**Shai  
Gilgeous-Alexander**  
Oklahoma City Thunder

2025-26 Predicted Stats			
CONF RK	PPG	RPG	APG
1	32.6	4.9	6.6

RK	Name	CONF	CONF RK	PPG	RPG	APG	PROB
1	Shai Gilgeous-Alexander OKC	WEST	1	32.6	4.9	6.6	0.277988
2	Austin Reaves LAL	WEST	2	27.9	5.7	7	0.245977
3	Nikola Jokić SAS	WEST	2	29.6	12.8	11.1	0.238
4	Cade Cunningham PHI	EAST	1	28.1	6.1	9.3	0.197983
5	Luka Dončić TOR	WEST	2	35.2	8.9	9.2	0.076

## Defensive Player of Year (2025-26)



**Mikal  
Bridges**

New York Knicks

### 2025-26 Predicted Stats

REB	STL	BLK	STOCKS	TEAM RANK
4.6	2.1	1.2	3.30	1

RK	NAME	REB	STL	BLK	STOCKS	TEAM RK	PROB
1	Mikal Bridges NYK	4.6	2.1	1.2	3.30	1	0.681
2	OG Anunoby NYK	5.6	1.9	0.7	2.60	1	0.653
3	Victor Wembanyama SAS	12.9	1.1	3.6	4.70	6	0.392
4	Tyrese Maxey PHI	4.7	1.6	0.8	2.40	2	0.257
5	Scottie Barnes TOR	8.1	1.5	1.6	3.10	4	0.241

# Rookie of the Year (2025-26)



**Cooper  
Flagg**  
Dallas Mavericks

2025-26 Predicted Stats				
AGE	PTS	REB	AST	MIN
18	17.0	6.6	2.1	33.9

NAME	AGE	PTS	REB	AST	MIN	PROB
1 Cooper Flagg DAL	18	17.0	6.6	2.1	33.9	1.00
2 VJ Edgecombe PHI	20	15.1	5.8	4.1	36.4	0.94
3 Kon Knueppel CHA	20	18.3	5.7	3.0	33.5	0.89
4 Derik Queen NOP	20	11.9	6.1	3.4	23.6	0.82
5 Jeremiah Fears NOP	19	15.4	3.3	2.7	27.2	0.77

## Coach of the Year Stats (2025-26)



**J.B. Bickerstaff**

Detroit Pistons

### 2025-26 Predicted Stats

W_PCT	W_PCT_DIFF	NET_RATING	NET_RATING_DIFF
0.769	0.24	5.5	3.5

RK	Name	CONF	W_PCT	W_PCT_DIFF	NET_RATING	NET_RATING_DIFF	PROB
1	<b>Detroit Pistons</b> DET	East	<b>0.769</b>	<b>0.24</b>	<b>5.5</b>	<b>3.5</b>	<b>0.89</b>
2	Oklahoma City Thunder OKC	West	0.862	0.073	12.5	1.2	0.8512
3	Toronto Raptors TOR	East	0.692	0.324	5.8	10.1	0.8323
4	San Antonio Spurs SAS	West	0.667	0.234	4.3	7.2	0.5468
5	Atlanta Hawks ATL	East	0.63	0.17	2.2	3.4	0.2159

# NBA Championship






## Eastern/Western Conference Championship (2025-26)

### EAST (2025-26)

	TEAM	PROB
1	 <b>Detroit Pistons</b> DET	<b>0.083</b>
2	 <b>Toronto Raptors</b> TOR	0.075
3	 <b>Atlanta Hawks</b> ATL	0.026
4	 <b>Miami Heat</b> MIA	0.018
5	 <b>New York Knicks</b> NYK	0.010



### WEST (2025-26)

	TEAM	PROB
1	 <b>Oklahoma City Thunder</b> OKC	<b>0.557</b>
2	 <b>Denver Nuggets</b> DEN	0.061
3	 <b>Los Angeles Lakers</b> LAL	0.058
4	 <b>San Antonio Spurs</b> SAS	0.046
5	 <b>Minnesota Timberwolves</b> MIN	0.026

### NBA CHAMPIONS (2025-26)

	TEAM	PROB
1	 <b>Oklahoma City Thunder</b> OKC	<b>0.260</b>
2	 <b>Detroit Pistons</b> DET	0.241
3	 <b>Los Angeles Lakers</b> LAL	0.092
4	 <b>Toronto Raptors</b> TOR	0.084
5	 <b>Atlanta Hawks</b> ATL	0.075

# First Team All-NBA Prediction(2025-26)

PG



**Shai  
Gilgeous-Alexander**

Oklahoma City Thunder

REB	STL	BLK	TS%
32.5	4.8	6.6	0.674

SG



**Donovan  
Mitchell**

Cleveland Cavaliers

REB	STL	BLK	TS%
30.6	5.0	5.5	0.646

SF



**Jaylen  
Brown**

Boston Celtics

REB	STL	BLK	TS%
28.4	6.2	4.8	0.578

PF



**Luka  
Dončić**

Los Angeles Lakers

REB	STL	BLK	TS%
35.3	8.9	8.9	0.627

C



**Nikola  
Jokić**

Denver Nuggets

REB	STL	BLK	TS%
29.0	12.8	11.1	0.728

# Thank you

Damilare Shonuyi  
Jeongeun Park

