

NBA Team Visualizations: A Ranking

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Motivation

Problem

- Standings based on win-loss records may not give a fan the full picture
- A more complete rating system using ELO data is needed to show the relative strengths of basketball teams.

Why?

- Useful for Athletes, Journalists, Coaches and Sports Bettors

Data

We **downloaded** our data from [fivethirtyeight](#), who calculated and compiled ELO data based on each of the games played. Key features of this dataset include

- NBA team and individual player statistics
- 21 different feature columns
- 63,157 rows (some are duplicate games)

Approaches

1. Linear Regression + Table Model

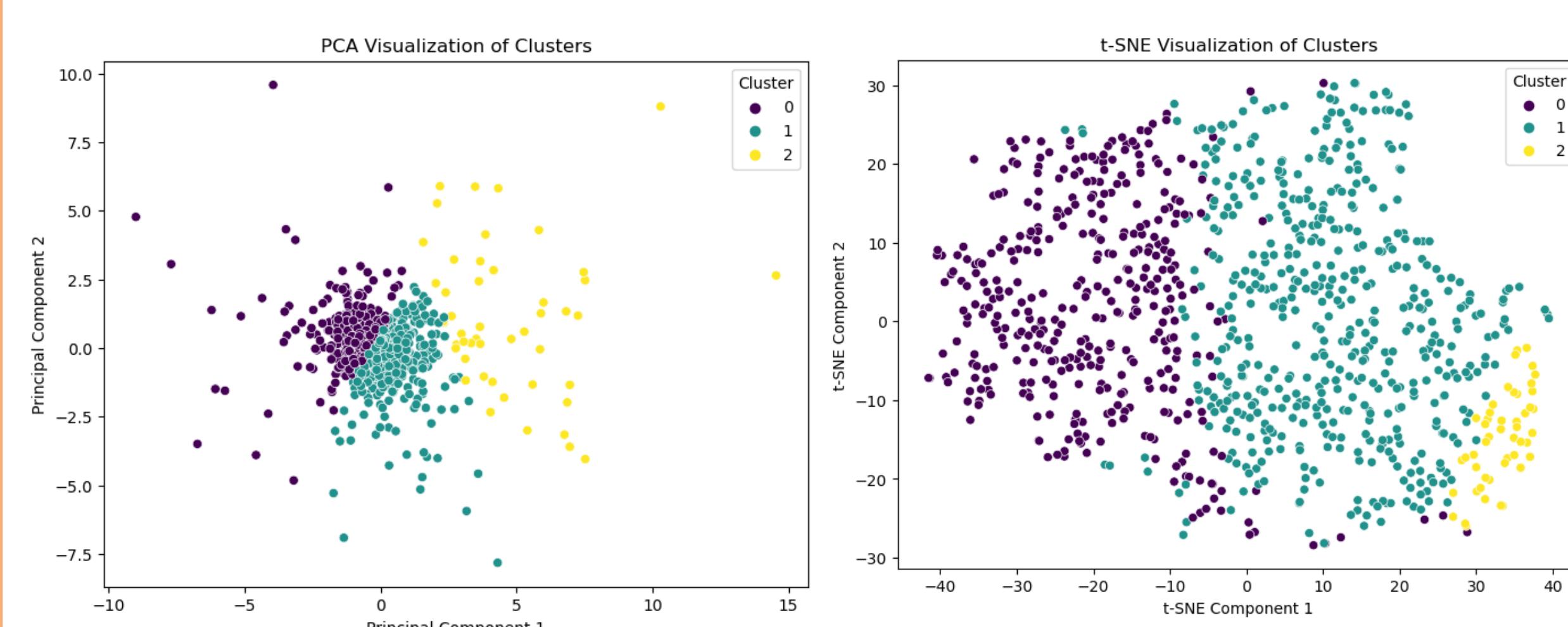
Utilizing linear regression and D3 to visualize game by game point differential predictions

Predicted Margin of Victory from ELO Data

Select My Teams	Select Opponent Teams	Opponent/My Team	TRH	NYK	CBS	DTP	WSC	BOS	PRO	DNN
TRH	NYK	NYK	-2	-8	8	-2	4	9	-1	-5
NYK	CBS	CBS	-10	-8	-8	-10	-4	1	-5	-11
CBS	DTP	DTP	0	2	10	-2	6	11	1	-1
DTP	WSC	WSC	-6	-4	4	-6	-5	5	-5	-7
WSC	BOS	BOS	-11	-9	-1	-11	-5	-5	-10	-12
BOS	PRO	PRO	-7	-5	5	-7	-1	5	-6	-8
PRO	PIT	PIT	-13	-11	-5	-13	-7	-2	-12	-14
PIT	STB	STB	-2	0	7	-2	4	9	-1	-3
STB	CLR	CLR	-6	-2	6	-4	2	7	-3	-5
CLR	PTW	PTW	-10	-8	-8	-10	-4	-4	-10	-12
PTW	BLB	BLB	-11	-9	-1	-11	-5	-5	-10	-12
BLB	INJ	INJ	-11	-9	-1	-11	-5	-5	-10	-12
INJ	FTW	FTW	-11	-9	-1	-11	-5	-5	-10	-12
FTW	MNL	MNL	-7	-5	5	-7	-1	5	-6	-8
MNL	ROC	ROC	-7	-5	5	-7	-1	5	-6	-8
ROC	TRI	TRI	-13	-11	-5	-13	-7	-2	-12	-14
TRI	DNN	DNN	-2	0	7	-2	4	9	-1	-3
DNN	INO	INO	-10	-8	-8	-10	-4	-4	-10	-12
INO	SHE	SHE	-11	-9	-1	-11	-5	-5	-10	-12
SHE	WAT	WAT	-11	-9	-1	-11	-5	-5	-10	-12
WAT	AND	AND	-11	-9	-1	-11	-5	-5	-10	-12
AND	SVR	SVR	-11	-9	-1	-11	-5	-5	-10	-12
SVR	MLH	MLH	-11	-9	-1	-11	-5	-5	-10	-12
MLH	STL	STL	-11	-9	-1	-11	-5	-5	-10	-12
STL	FTF	FTF	-11	-9	-1	-11	-5	-5	-10	-12

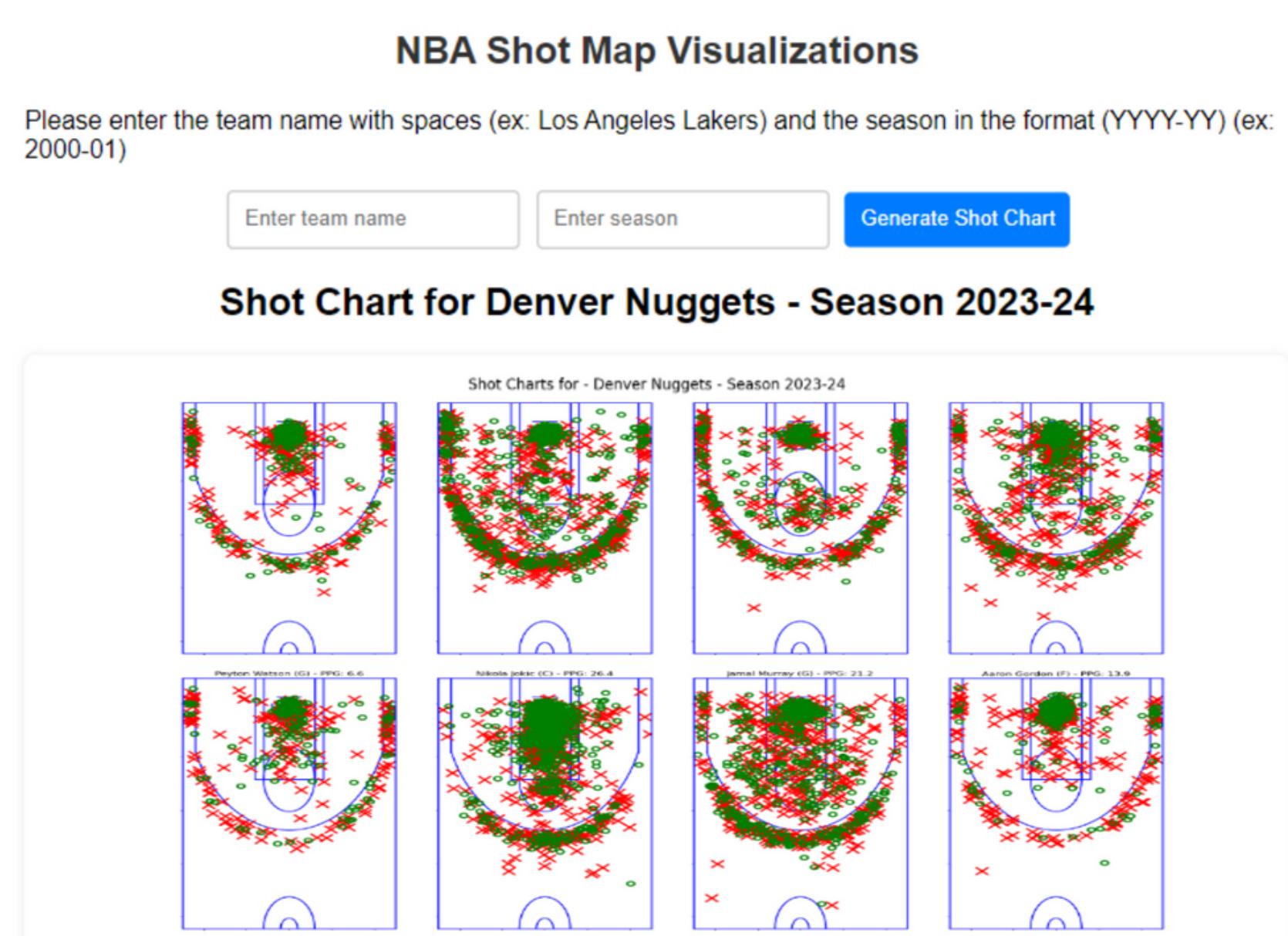
2. Player Clustering

Categorizing NBA players into distinct groups based on their performance metrics, particularly focusing on RAPTOR scores



3. Shot Map

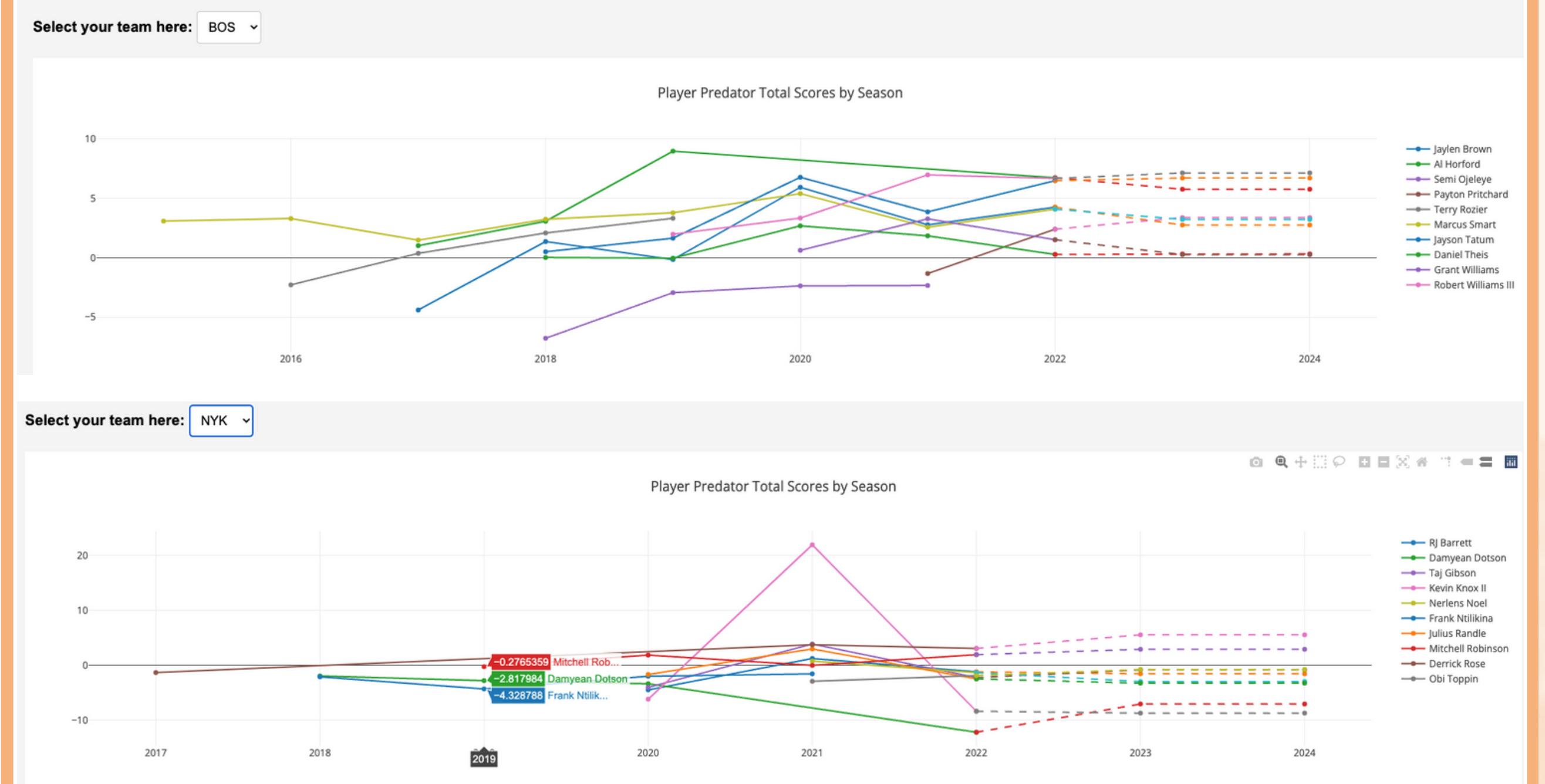
Visualizing where specific players and teams are taking and making shots during a chosen season



Results

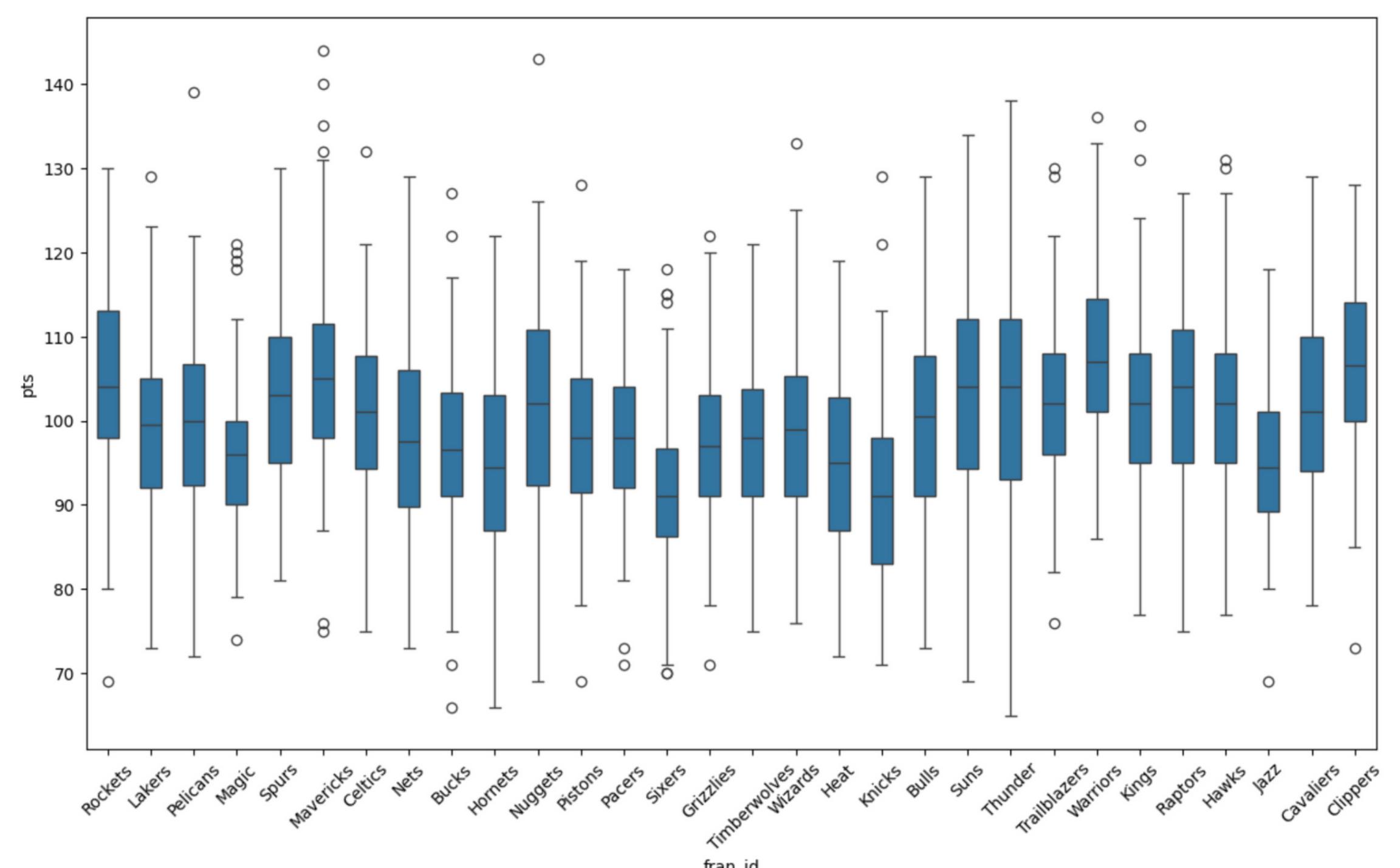
Predicting Outcome of Player Scores

Player score predictions for the season 2023 and 2024



Visualizing Statistics

Different visualizations of team and player statistics



Visualizing Statistics Continued

