

# Unsupervised Machine Learning Model of Euroleague Players for Scouts

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# Purpose of the Project

- Making an optimum clustering of players. Besides, giving business insights to scouts and teams through an Unsupervised Machine Learning algorithm.
- Highlighting players who step up and step down by comparing the last 2 seasons' dataset



# STEPS

1. Data Mining
2. Data Preprocessing
3. Feature Engineering
4. Modelling
5. Business Insights



# Data Mining and Pre-processing



TURKISH AIRLINES EuroLeague

News Game Center Standings Teams Players Stats Videos Final Four More Log in

#	Player	Team	GP	GS ▾	Min	PTS	2PM	2PA	2P%	3PM	3PA	3P%	FTM	FTA	FT%	OR	DR	TR	AST	STL	TO	BLK	BLKA	FC	FD	PIR
1	T. DORSEY	OLY	38	38	24:10	12.8	2.4	4.7	51.7%	1.9	5.1	37.4%	2.2	2.8	78.1%	0.4	2	2.3	2	0.5	1.8	0.1	0.4	2	2.8	10.3
1	N. MIROTIC	BAR	38	38	24:25	16.9	3.6	5.4	65.5%	2	4.3	46.3%	3.9	4.4	87.6%	0.9	4.3	5.2	1.4	0.9	1.7	0.3	0.1	2.1	4.1	20.1
1	S. VEZENKOV	OLY	38	38	30:11	13.7	3.3	5	66.5%	1.6	4.3	37%	2.2	2.7	83.3%	1.5	4.4	5.9	1.5	1	0.8	0.2	0.1	1.5	2.6	17.8
4	M. FALL	OLY	37	37	22:56	8.2	3.3	4.7	70.3%	0	0	0%	1.5	2.5	61.3%	1.8	3.2	5.1	1.1	0.4	1.1	1	0.2	1.8	2.8	13.2
4	K. PAPANIKOLAOU	OLY	37	37	23:24	6.6	1.1	1.9	55.6%	1.2	3.8	33.1%	0.7	0.9	75.8%	0.5	2.5	3	1.6	0.9	1.1	0.2	0.1	2	1.1	6.6
4	T. WALKUP	OLY	37	37	22:21	6.3	1.5	2.7	53.5%	0.8	2.7	29.7%	0.9	1.2	73.9%	0.4	2	2.3	2.7	1.1	1.3	0.1	0.2	2.3	2.4	7.5
7	S. WILBEKIN	MTA	35	35	29:01	15.4	2.4	5.1	47.2%	2.6	6.9	37.9%	2.7	2.9	94.1%	0.3	1.9	2.1	4.1	1.5	2	0	0.4	1.6	3.1	15.1
8	D. MOTIEJUNAS	ASM	38	34	19:05	9.7	3.7	5.8	63.5%	0.5	1.4	32.7%	1	2.2	44.7%	1.6	3.1	4.6	0.7	0.5	1	0.3	0.2	2.2	2.7	10.8

Change view

View

✓ Traditional  
Advanced  
Miscellaneous  
Scoring

Single season

Season

2021-22

Statistics mode

Per Game

Number

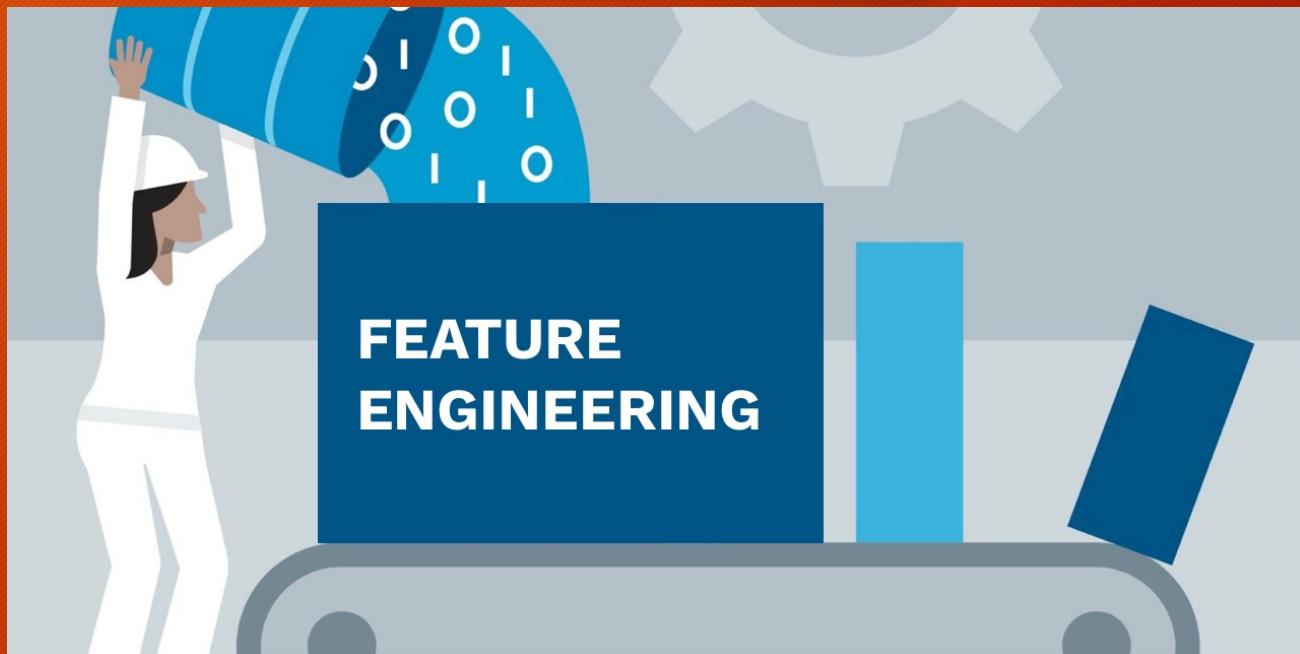
All Players

Clear filters

Apply filters

# Feature Engineering

- Team
- GmSc
- Stl%
- Reb%
- Score%
- Assist%
- Tov%
- 2P%
- 3P%
- Time
- PIR/Time
- FGA
- FGM
- FourFactors



# Modelling



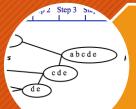
K-Means Clustering



Hierarchical Clustering



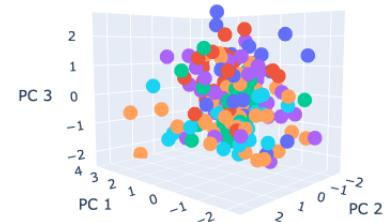
Mini Batch K Mean



Agglomerative Clustering

PCA

Total Explained Variance: 100.00%



color  
Best-Player  
Best-Forward  
Best-Center  
Average-Player  
Bench-Player  
Bad-Player

# Welcome to The Draft Night



# Miuul Warriors

Number 1: Lekavicius  
Number 2: Micic  
Number 3: M.Lo  
Number 4: Vezenkov  
Number 5: Koumandje



Head Coach:  
Vahit Keskin

Thank you for your attention 😊