Exploratory Data Analysis of UEFA Euro 2024 Players

Self-Initiated Work by

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Dataset

	Name	Position	Age	Club	Height	Foot	Caps	Goals	Market Value	Country
0	Marc-André ter Stegen	Goalkeeper	32	FC Barcelona	187	Right	40	0	28000000	Germany
1	Manuel Neuer	Goalkeeper	38	Bayern Munich	193	Right	119	0	4000000	Germany
2	Oliver Baumann	Goalkeeper	34	TSG 1899 Hoffenheim	187	Right	0	0	3000000	Germany
3	Nico Schlotterbeck	Centre-Back	24	Borussia Dortmund	191	Left	12	0	40000000	Germany
4	Jonathan Tah	Centre-Back	28	Bayer 04 Leverkusen	195	Right	25	0	30000000	Germany
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
622	Tomas Chory	Centre-Forward	29	FC Viktoria Plzen	199	Right	3	2	3200000	Czech Republic

Column Overview

No	Column Name	Non-Null Count	Data Type	Description
1	Name	623	object	Player's full name
2	Position	623	object	Playing position
3	Age	623	int64	Age of the player
4	Club	623	object	Current football club
5	Height	623	int64	Height in centimeters
6	Foot	620	object	Dominant foot (left/right)
7	Caps	623	int64	Number of international caps
8	Goals	623	int64	Number of goals scored
9	MarketValue	623	int64	Market value in euros
10	Country	623	object	Origin country (nationality)

Checking:
- No duplicate values.
- 3 missing values on column "Foot". Since the "Foot" feature is not included in the analysis, we retained its missing values to avoid unnecessary data loss.
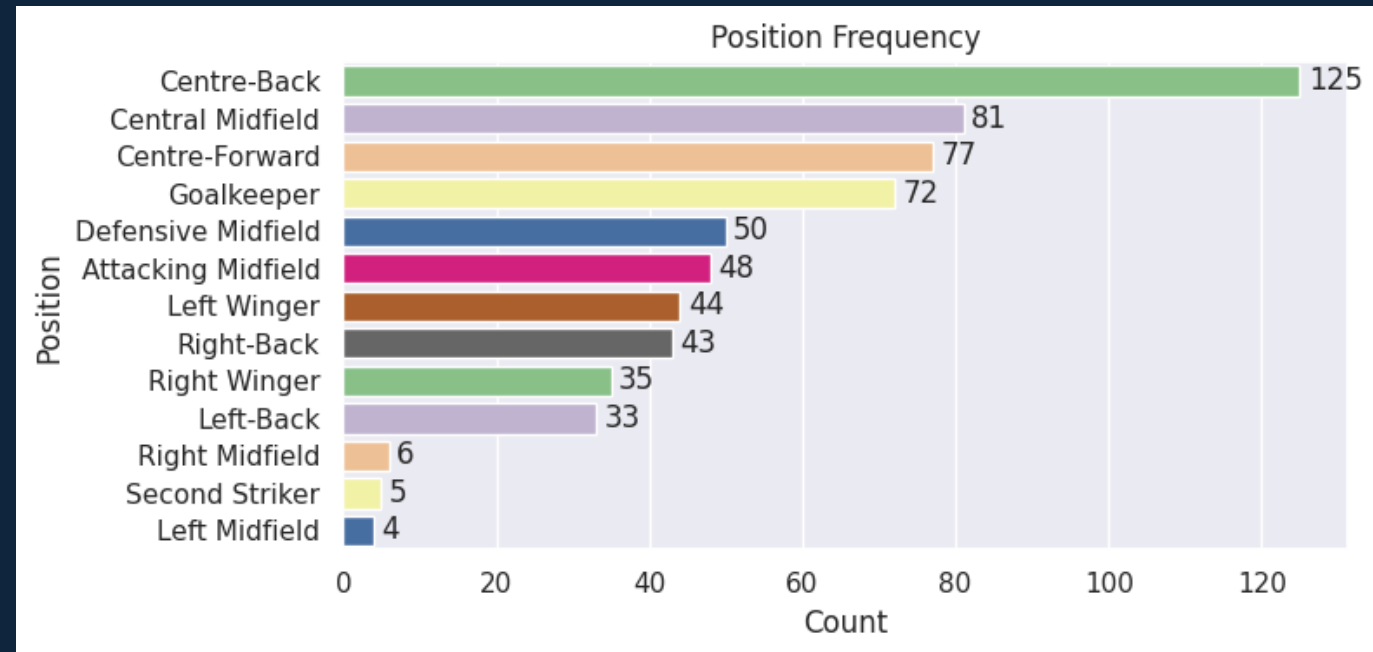
Univariate Analysis

Position Frequency
Age Distribution
Height Distribution

Position Frequency

The most common position in UEFA Euro 2024 is Centre-Back.

It does make sense because in modern football, a centre back is a versatile player. They are not just a defender, they are also responsible to breaking lines with passes and provide frequent movements.

Position Frequency

Position	Count
Centre-Back	125
Central Midfield	81
Centre-Forward	77
Goalkeeper	72
Defensive Midfield	50
Attacking Midfield	48
Left Winger	44
Right-Back	43
Right Winger	35
Left-Back	33
Right Midfield	6
Second Striker	5
Left Midfield	4

Age Distribution

The most common age group is around 26 years old. It suggest that mid-20 is the prime age range for football player at this level.

The young players under-20 is very rare, but present. Also, a few old players ages at 35+ are still playing.

Youngest

Name: Lamine Yamal
Country: Spain
Club: FC Barcelona
Age: 16

Oldest

Name: Pepe
Country: Portugal
Club: FC Porto
Age: 41

Photo source: transfermarkt.co.id
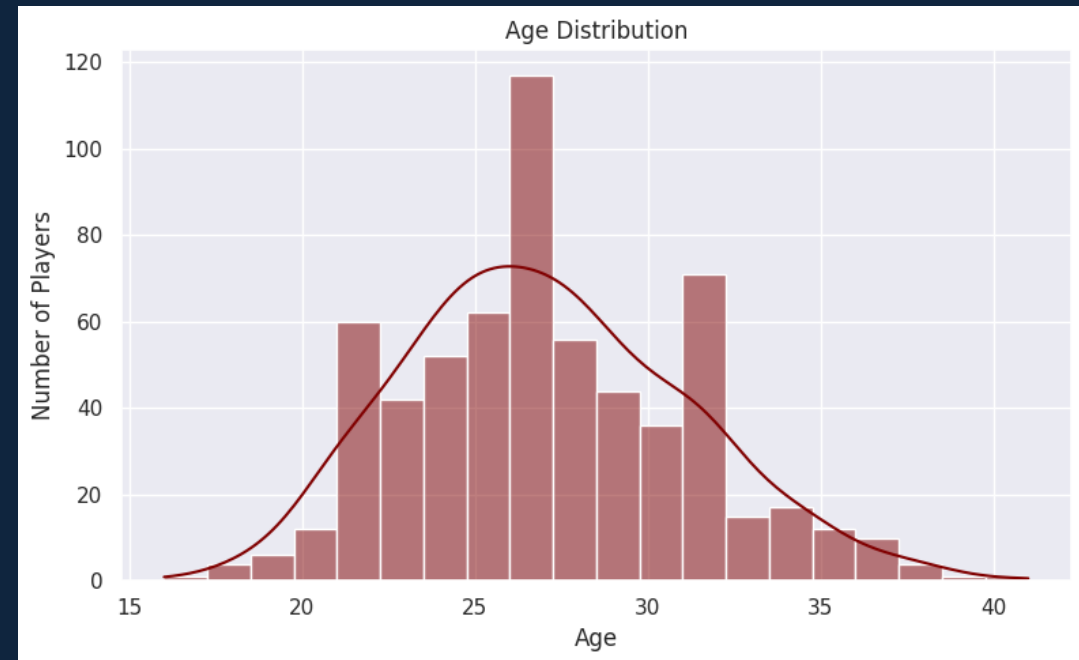
Top 10 Tallest Players

No	Name	Position
1	Vanja Milinković-Savić	Goalkeeper
2	Anatoliy Trubin	Goalkeeper
3	Tomas Chory	Centre-Forward
4	Marcin Bulka	Goalkeeper
5	Jannik Vestergaard	Centre-Back
6	Altay Bayındır	Goalkeeper
7	Giorgi Loria	Goalkeeper
8	Giorgi Mamardashvili	Goalkeeper
9	Ștefan Târnovanu	Goalkeeper
10	Koen Casteels	Goalkeeper

Height Distribution

- The highest concentration of players falls between 180 cm - 190 cm.

- A few players are over 195 cm, likely a goalkeeper or very tall defenders.

- Position may influence height, attackers and midfielders can vary more, while defenders and keepers tend to be taller.

- Among the top 10 tallest player, there are 8 goalkeeper.

Height Distribution

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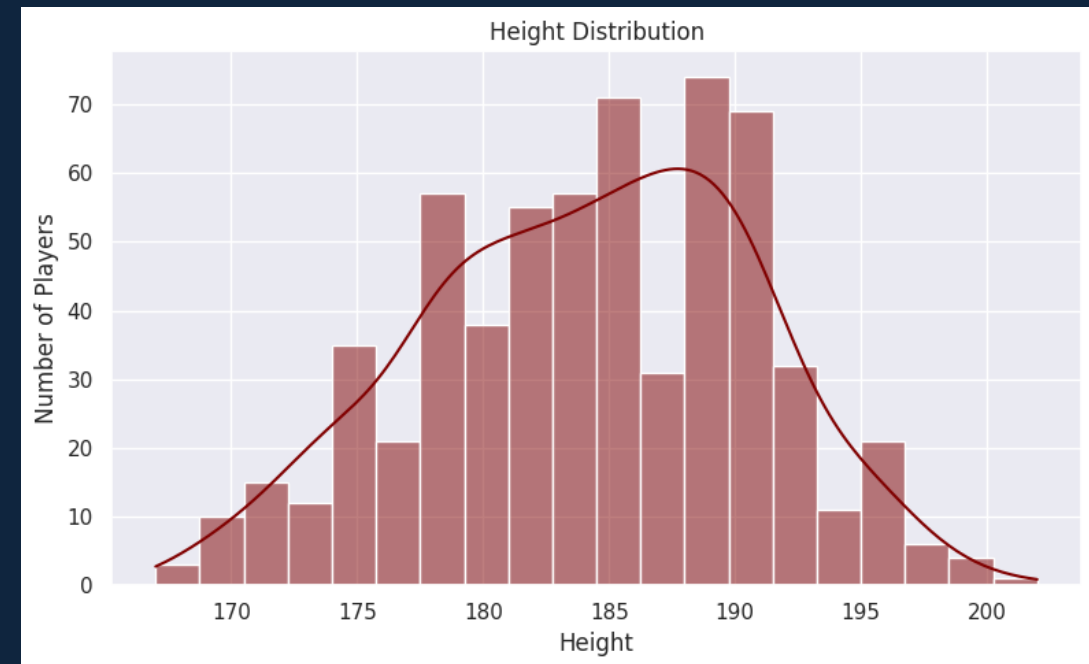
Bivariate Analysis

Age & Performance
Age & Market Value
Height & Position

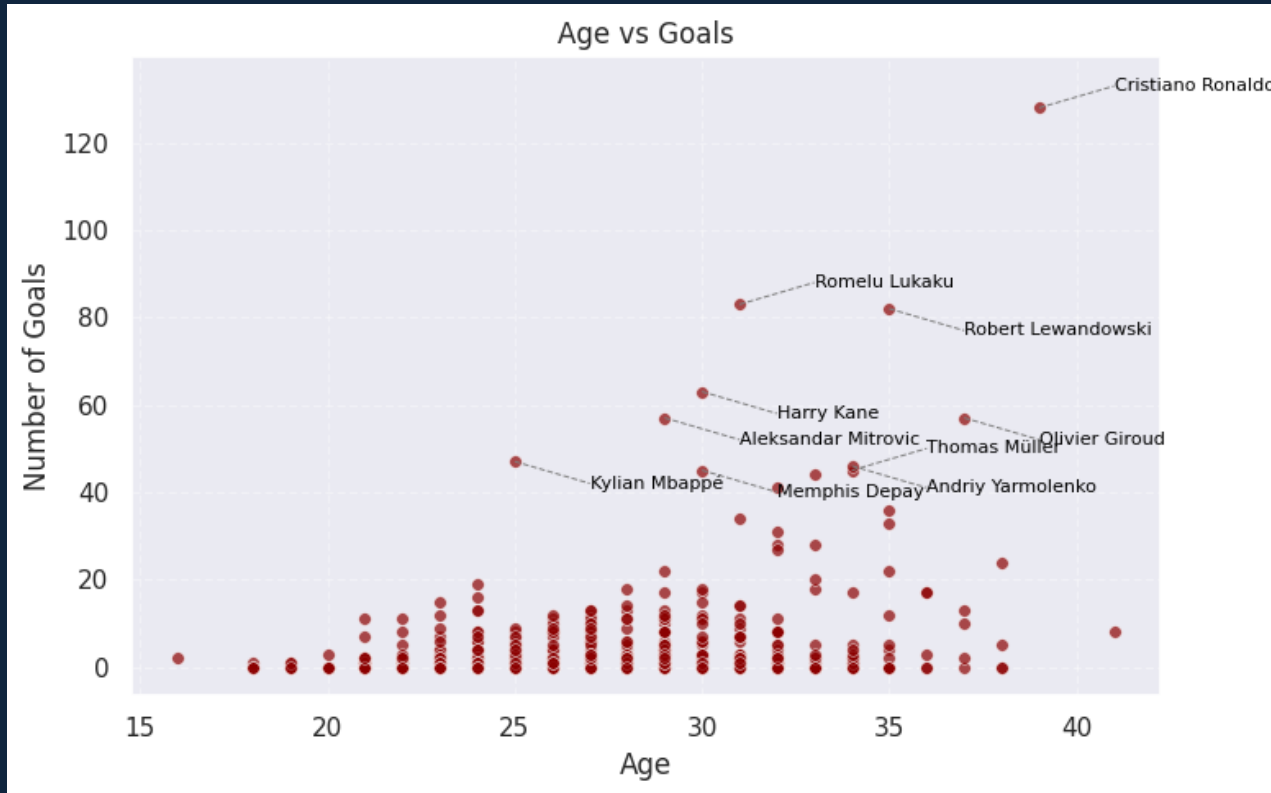# Age & Performance

Age vs Caps
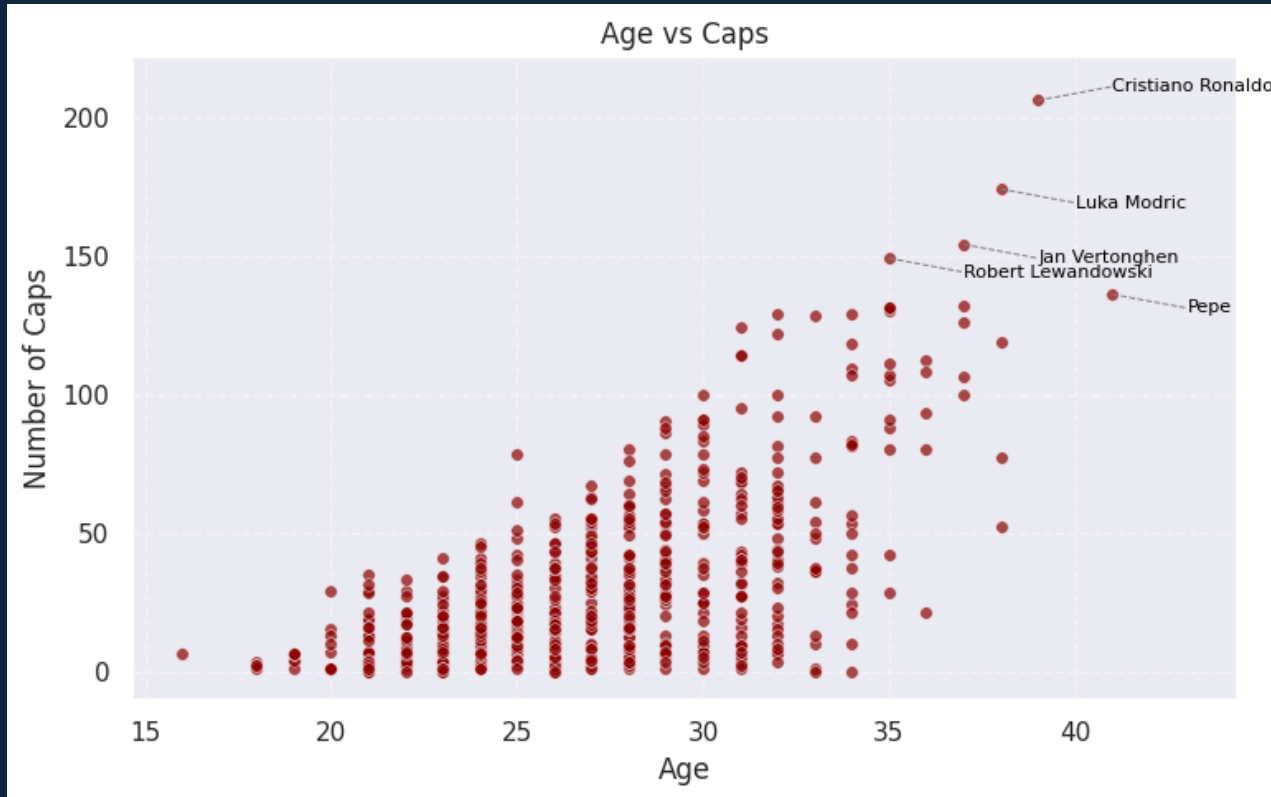
- Older players generally have more caps.

- The spread in the mid-20s shows not all young (prime) players get regular caps.

- Ronaldo, Modric, Vertonghen, Lewandowski, and Pepe are the long-serving players who have been consistently selected for the national team.
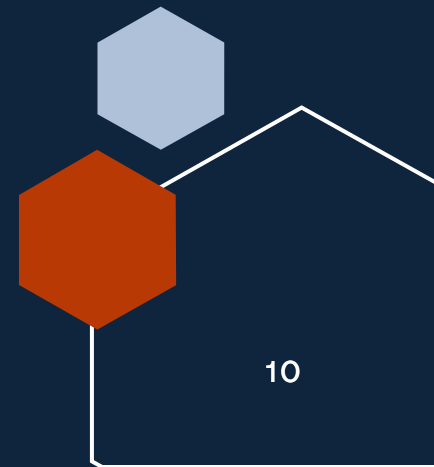
Age & Performance

Age vs Goals

- Most players, especially players under 28, have fewer than 20 goals. This indicate that scoring many goals internationally is rare and often limited to elite players.

- Age correlates moderately with goals, but when we go deeper, it is not just about age, position really matter. Among the top 10 goal scorers, 8 of them is a centre-forward (or a striker).
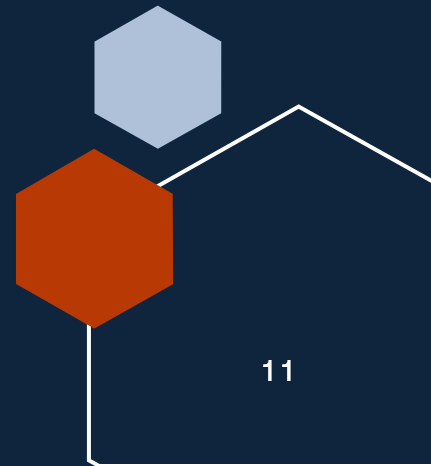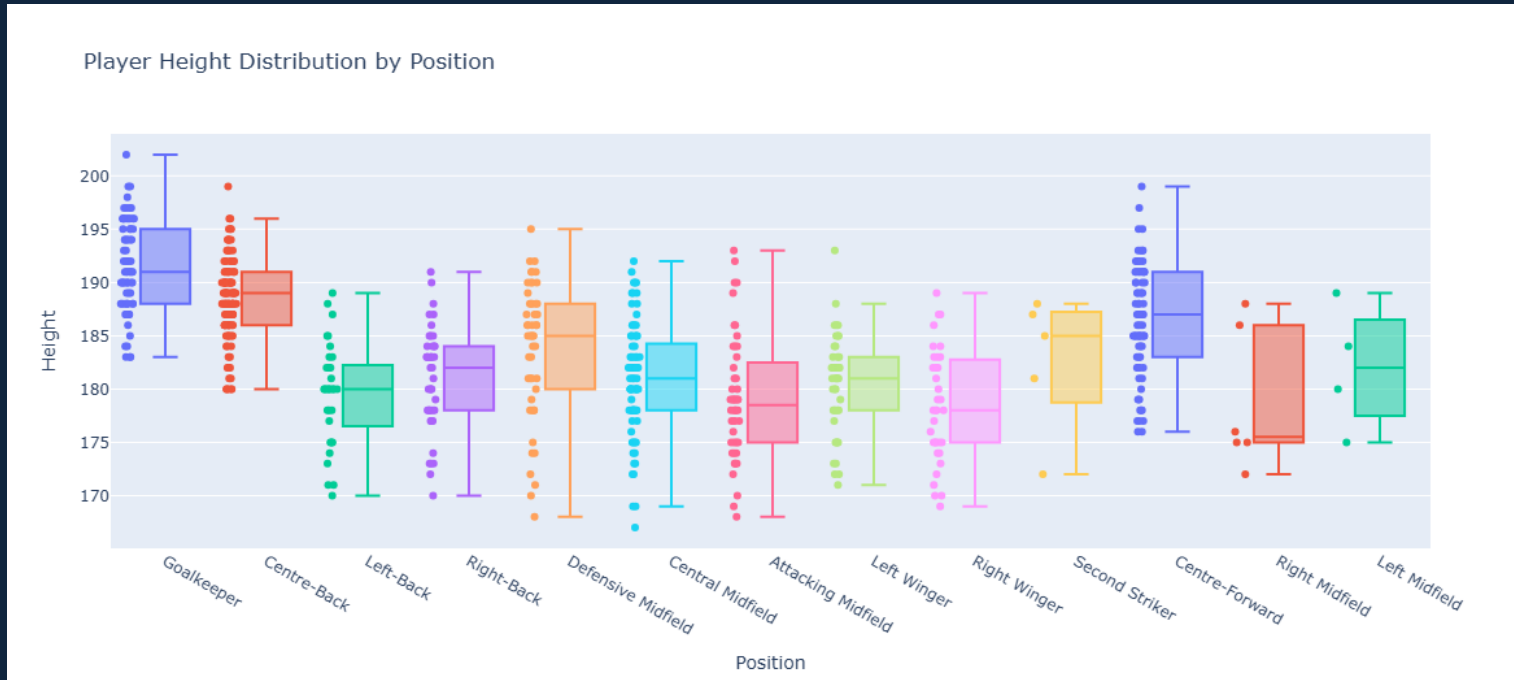
Age & Market Value
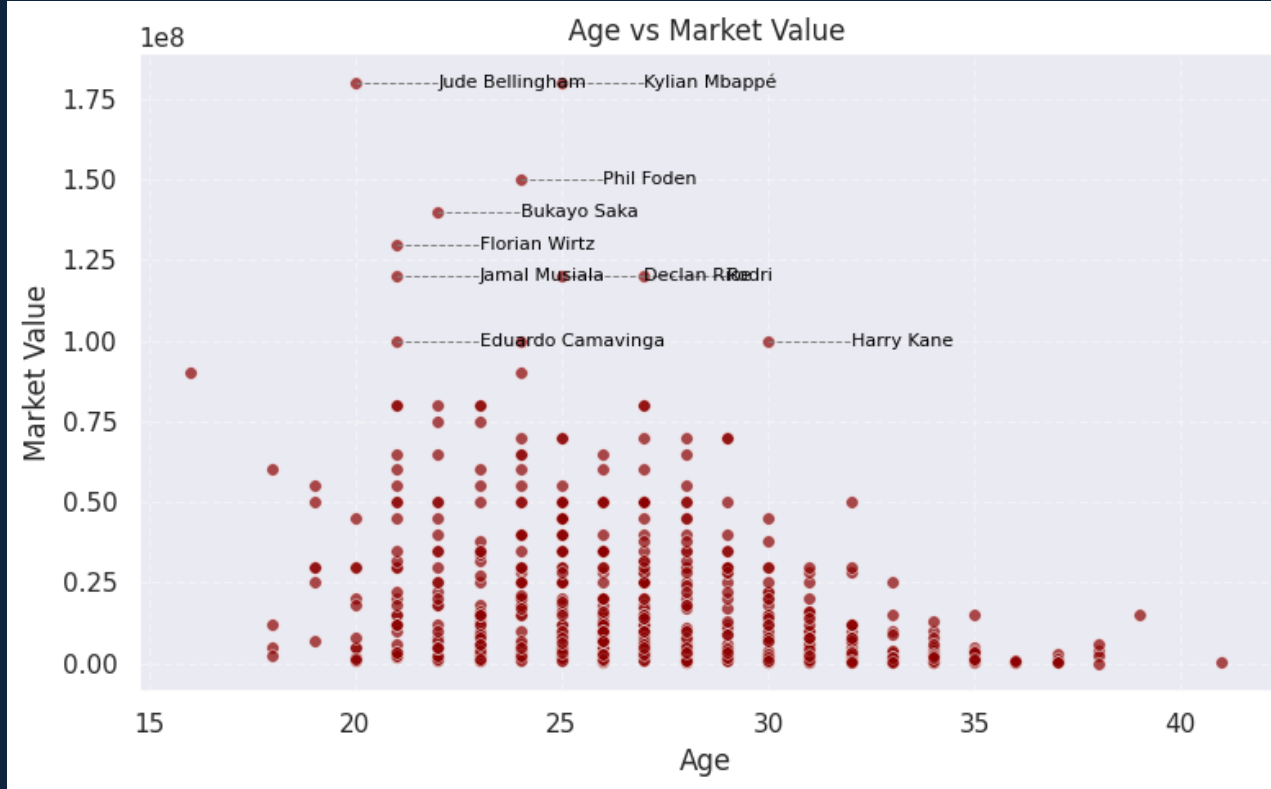
Younger players tend to have higher market values, with value generally declining as age increases.

Height & Position
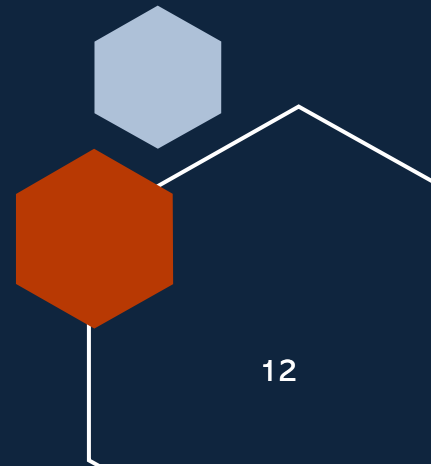
Player Height Distribution by Position

- Goalkeeper cleary the tallest player, with most of the players are over 190 cm.

- Centre-back and centre-forward show high median heights, ideal for physical battles.

- Height is position dependent, each role has its own physical profile based on tactical demands.
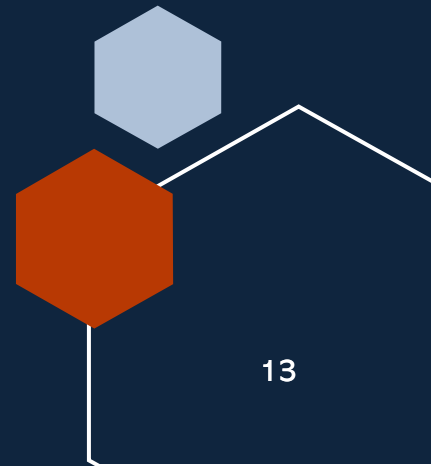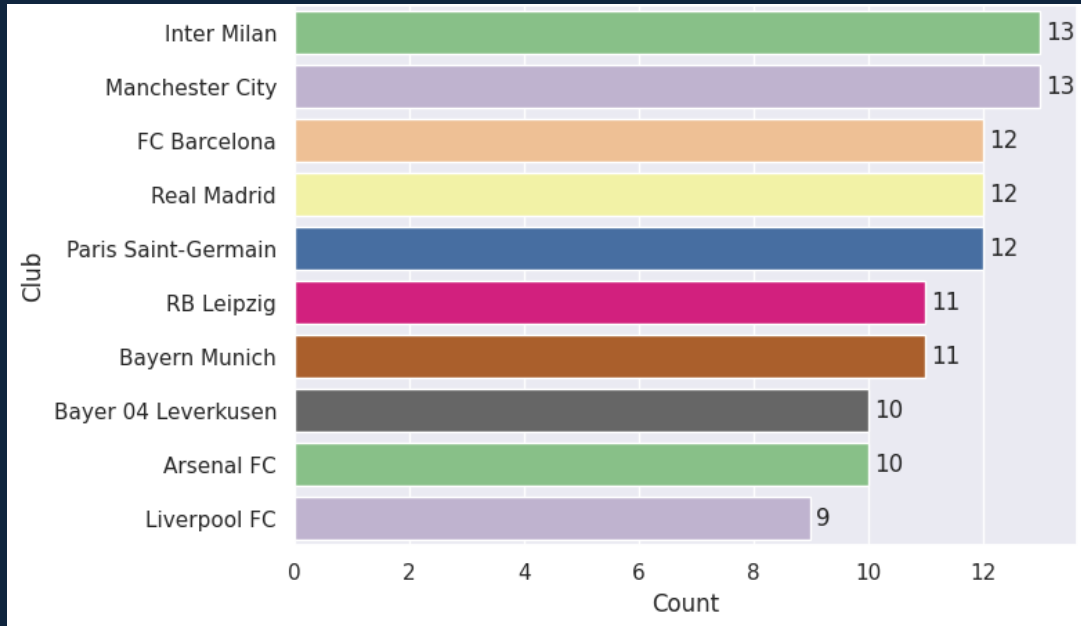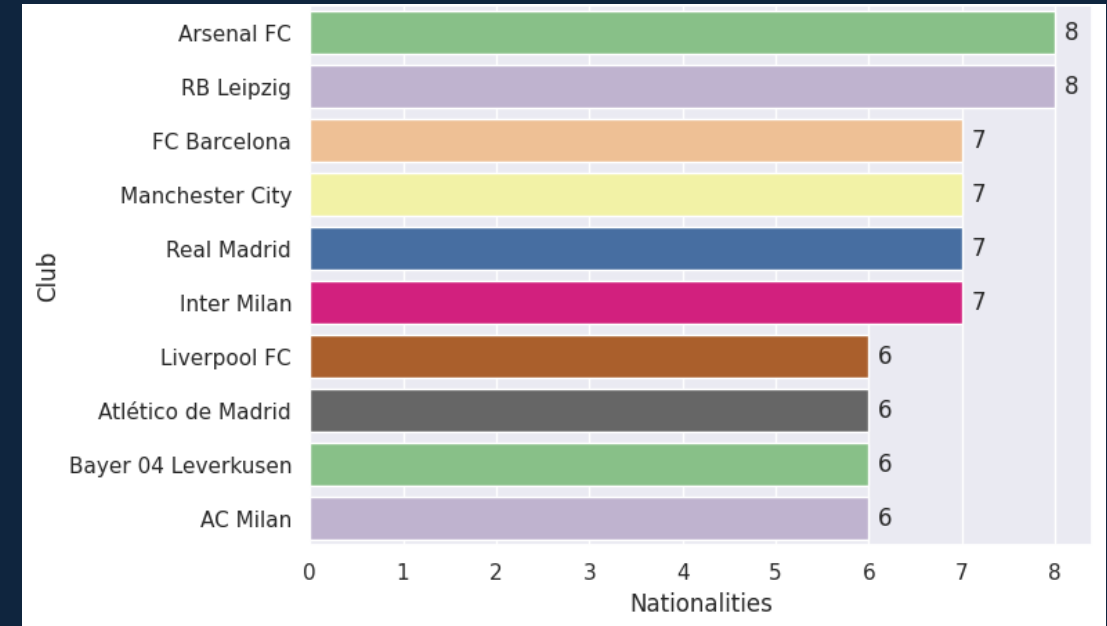
Clubs

Clubs with the Most Participating Players
Clubs with the Most Nationalities

Top 10 Clubs with the Most Participating Players

Top 10 Clubs with the Most Nationalities

- Inter Milan and Manchester City each contributed the most players to the tournament.

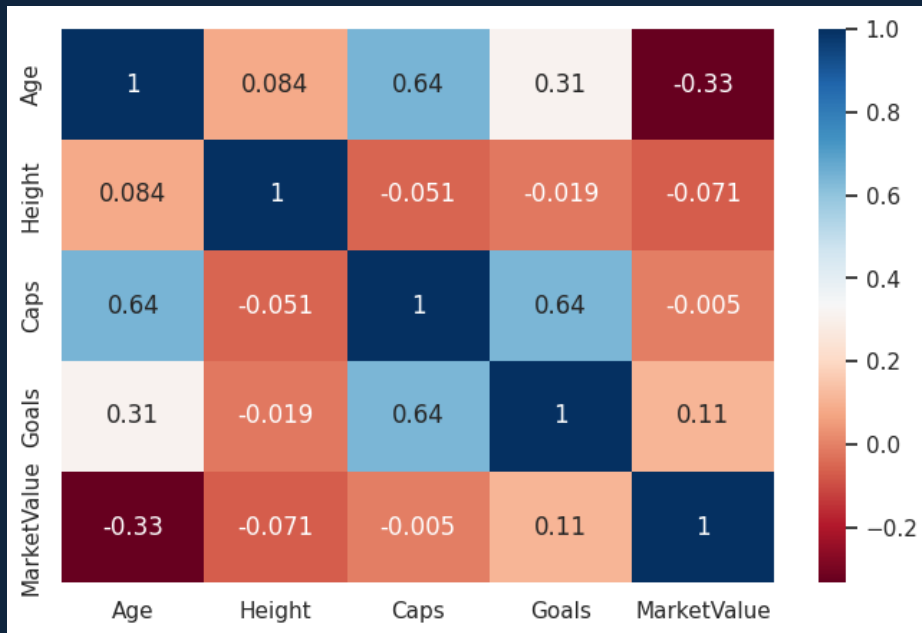- These clubs are major contributors to national teams, reflecting their strong squads.

- Arsenal FC and RB Leipzig had the most diverse squads, each with players from 8 different nationalities.

- Clubs with a high number of nationalities reflect strong international recruitment strategies.
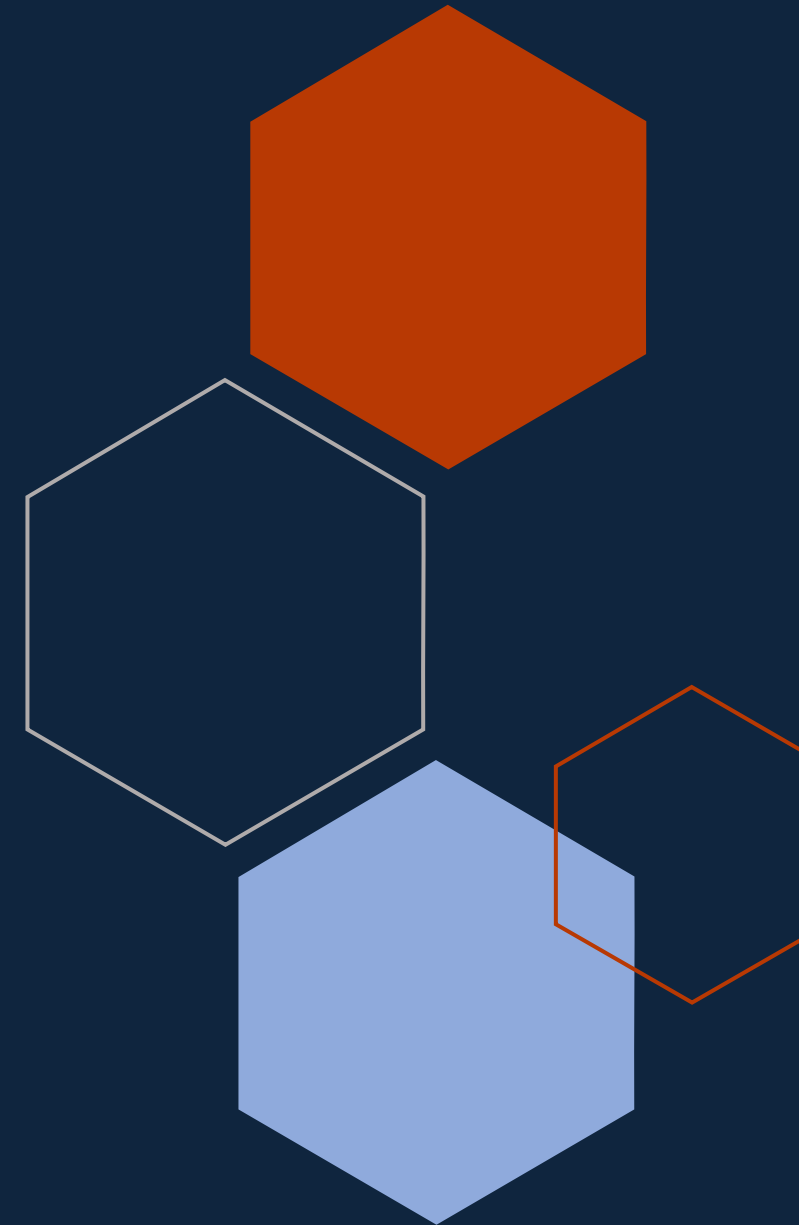
Correlation Map

for numeric columns

The correlation map shows that most of the feature do not have strong correlation.

The correlation that more stand out are **Goals vs Caps**, **Goals vs Age**, and **Caps vs Age**, with correlation values 0.64.

This indicates that players who are older or have more appearances tend to score more goals.

Thank You

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GitHub: https://github.com/anyelyra

Repository: https://github.com/anyelyra/eda-uefa-euro-2024-players