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The beautiful/ money game

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MoD 2 FLATIRON PROJECT





**Using FIFA data from EA Sports,  
to build a model that can predict the  
Market value of Players**

I was able to build a model with  
an  $R^2 = 0.934$ , and Standardized  
RMSE = 0.28



# THE DATA

## What is Market Value in soccer?

This is how much a team has to pay another to another to get an opportunity to sign a contract with a player.

Each Row contains players information and attributes about the player

Focus was on the top 5 leagues in Europe

- ENGLAND, SPAIN, GERMANY, FRANCE , ITALY





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graph TD; A[GOT FIFA 19 DATA FROM KAGGLE] --> B[DATA CLEANING]; B --> C[EDA AND VISUALIZATION]; C --> D[FEATURE ENGINEERING AND TRANSFORMATIONS]; D --> E[LINEAR REGRESSION MODELLING];
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**GOT FIFA 19 DATA FROM KAGGLE**

**DATA CLEANING**

**EDA AND VISUALIZATION**

**FEATURE ENGINEERING AND TRANSFORMATIONS**

**LINEAR REGRESSION MODELLING**

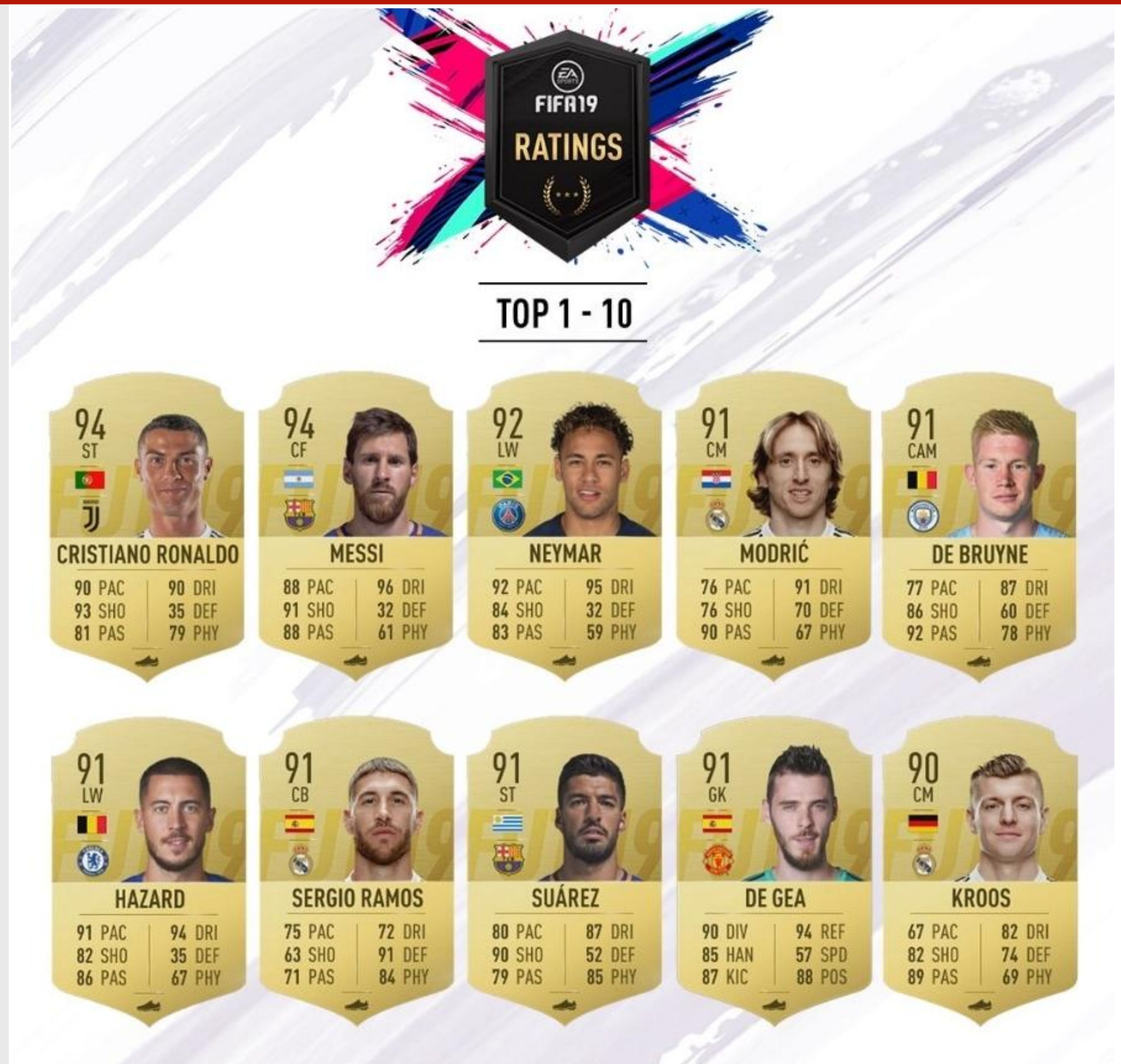


# Some Important Player Attributes to Consider when Evaluating player Value

- **Age** of the player
- **Wage**
- **Work Rate**
- **Nationality**, home based or Foreign
- **Position** of player on the field
- **Overall Rating** of the Player  
The average value of all the players in my dataset was :**€ 8,120,271**

**Max: €118,500,000**

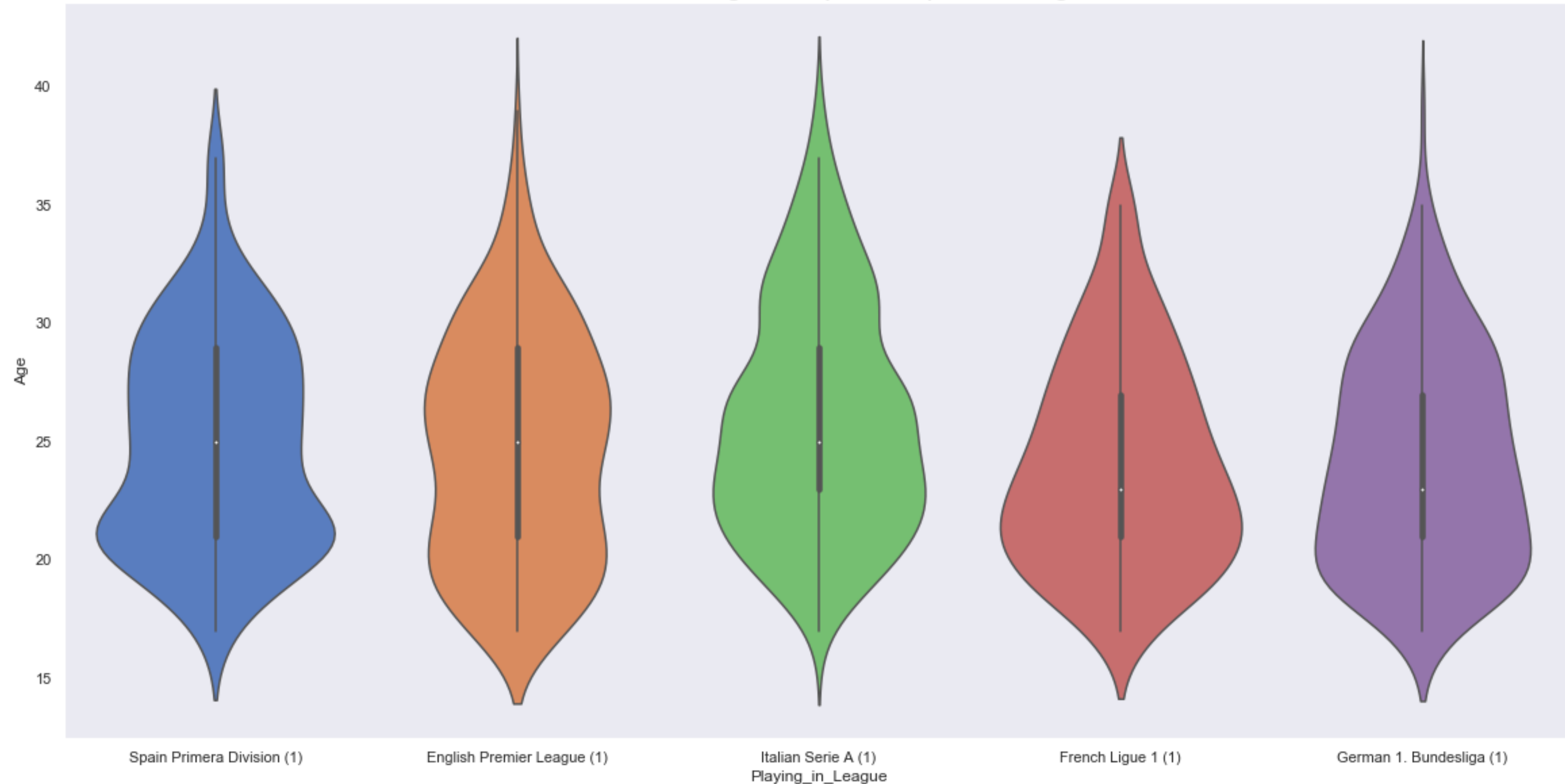
**Min: 0**



Top Rated Players in Fifa 19

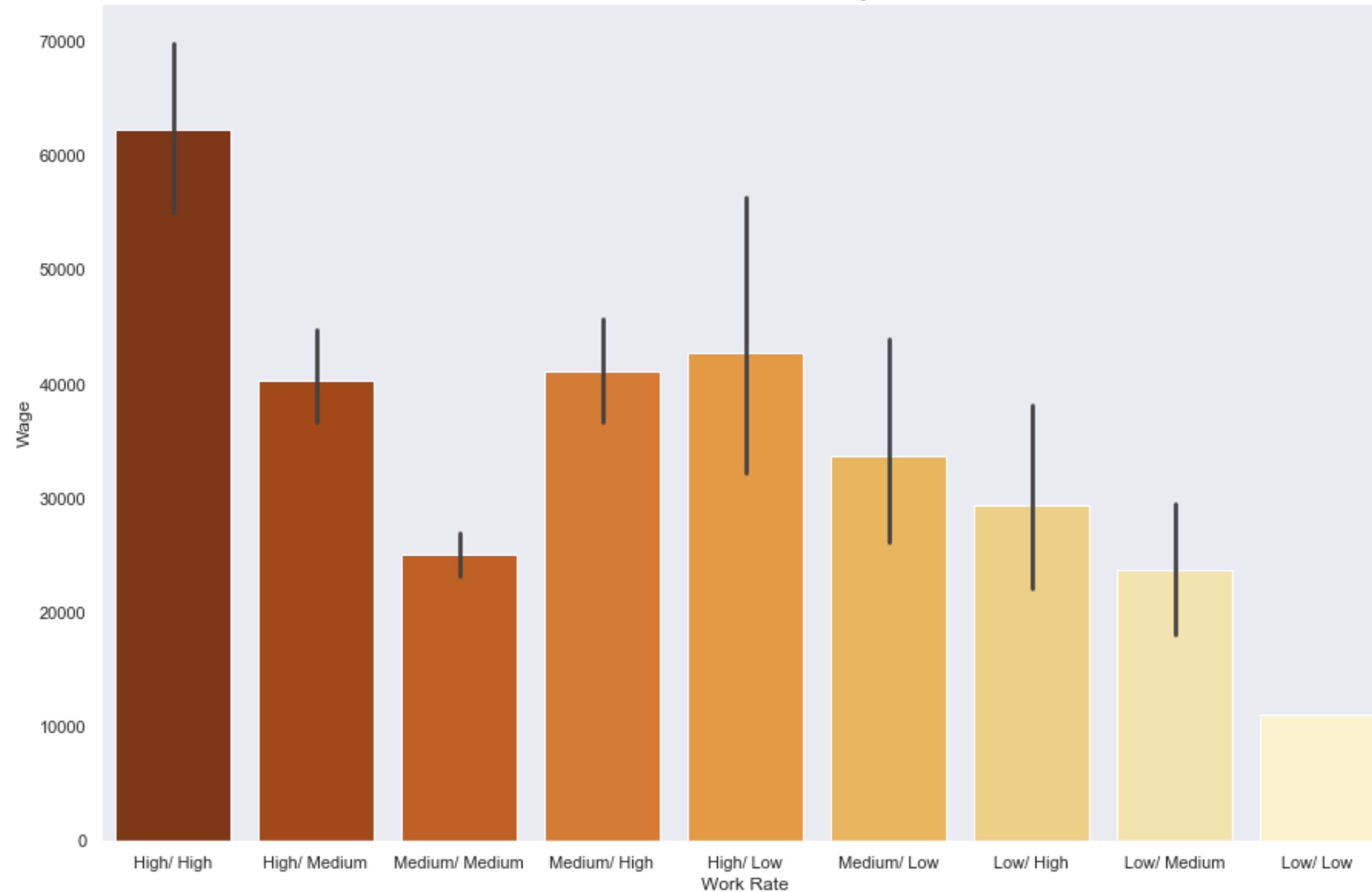


Distribution of age in Top 5 European Leagues



- \* Age is a big factor in soccer and a big determinate on how a player is valued. Its significant different across the leagues using **ANoVA** , I test that.
- \* Italian league are Know to favor experience over youth, and can be seen here in the spread of the Older Players.

Does hard Work Pay?



WAGE VS WORK RATE

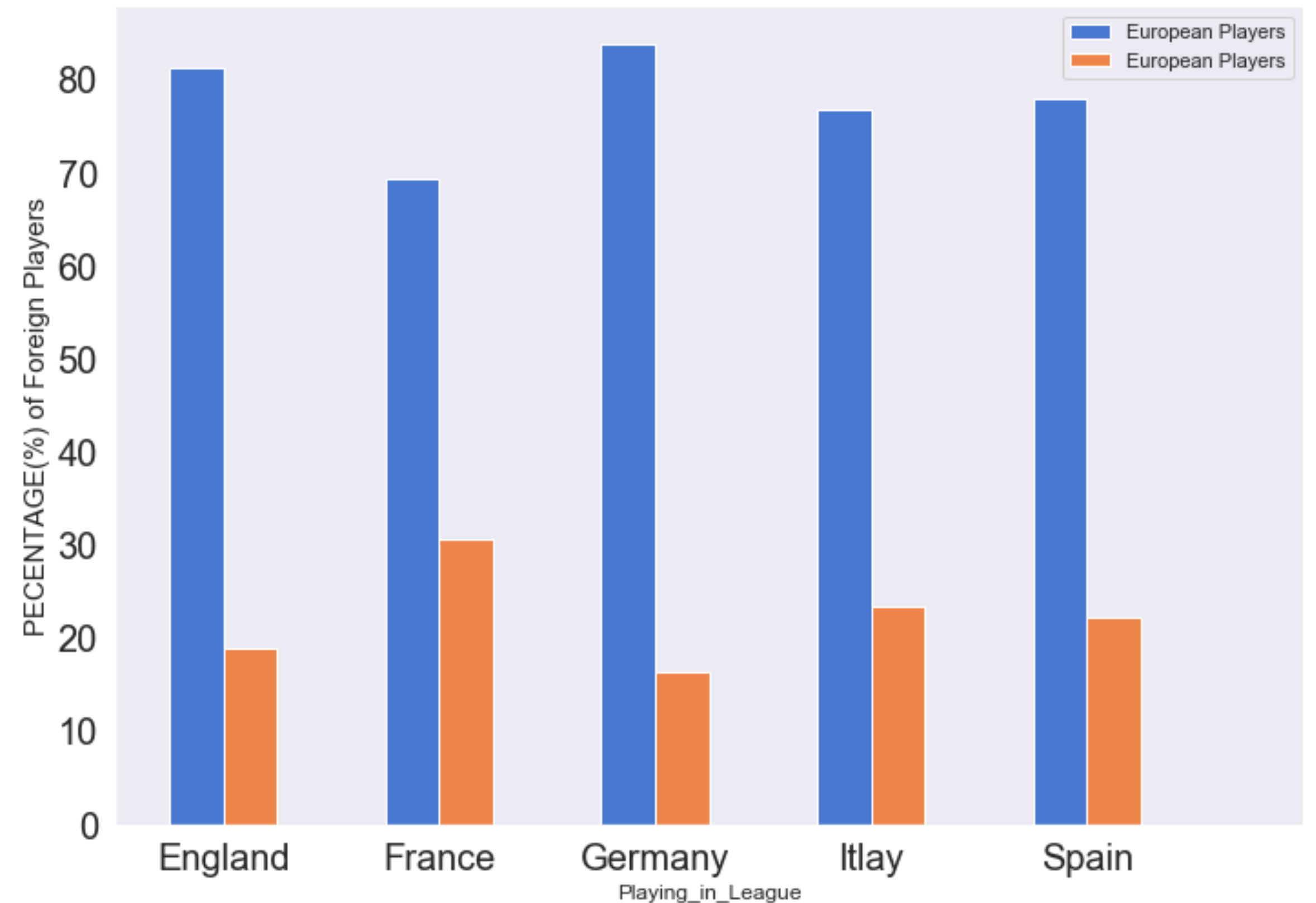
**Work Rate** in soccer can be described as how work you do for the team defensively and in the attack

## DOES HARD WORK PAY?

- ◆ In soccer the answer is YES!
- ◆ High/High
- ◆ It has the highest amongst the different workmates
- ◆ The average Weekly Wages for a player in the top Flight in European soccer is about €62,000 a week

## OUTSIDE HELP

- ✱ The European Leagues are dominated by Players in Europe, Especially the country where its played
- ✱ A good the superstars Playing in Europe a from a lot of the continents around the world .
- ✱ South America, Argentina and Brazil, is responsible for two of the biggest stars in world football, **Messi** and **Neymar Jr**
- ✱ In the top leagues Europe, **France** has the biggest proportion of Foreign players at 30.63% , Spain is the second at 23.3%

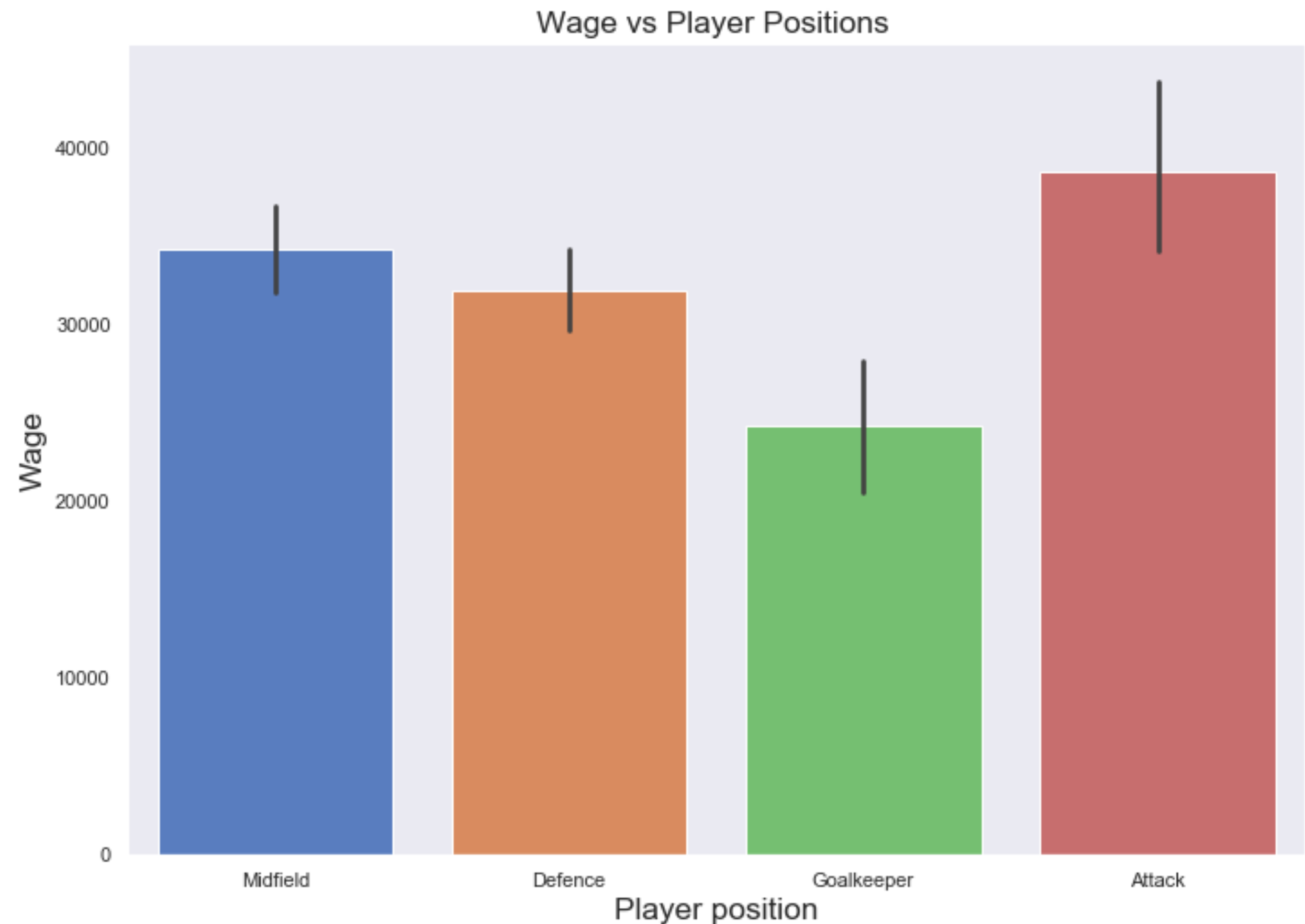


Concentration of Players From outside Europe



## Are all positions Equal?

- **No, Attackers** get payed more than any other position on the average, **€38,678**
- The position a player plays are determined by the physical and mental attributes they possess
- Attacking Players are required to be fast paced in order to move the ball quickly during the game.
- Pace and ball control are good determinants on how you are valued in a team





MODEL type	Number of Features	Train RMSE	Test RMSE	R squared
Linear	20	3128790	3235773	0.925
Lasso	11	1809984	3235773	0.9100
LASSO (outfielf)	10	1681619	3529549	0.9210
LASSO (goal keeper)	8	1606038	4187124	0.847

# LINEAR REGRESSION MODELING SUMMARY

Started off with 290 features (with dummy)

◆**My Most Valuable Features** included:

- Age, Potential, position(attack), Wage , Work Rate, foreign or not and What league they played in.
- ◆ Transforming the Potential and Overall to a linear relationship made my model quite accurate



# CONCLUSION

This is just FIFA 19 game data but if we are able to Accurately capture these attributes I was able to point out in conjunction with the current market standard I believe I would be able to predict Actually player Values in the real world



# Thank you