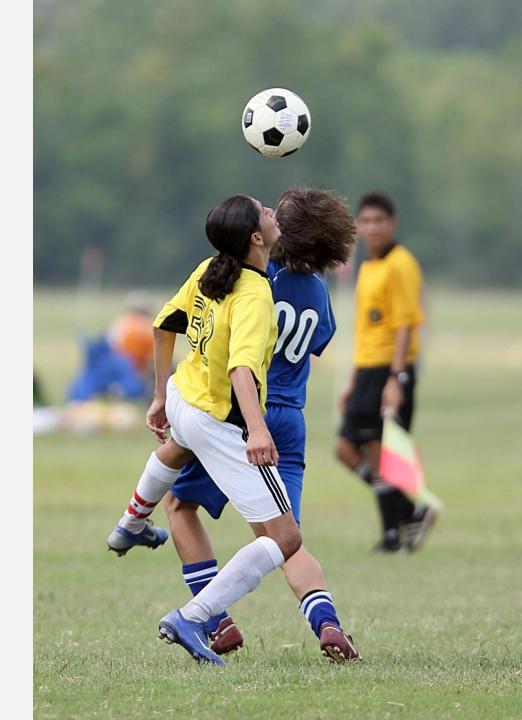


### DATA ANALYTICS BOOTCAMP 2023 PROJECT I GROUP 2

## **TEAM MEMBERS**

- Cassie Guo Question I
- Sandhalie Fernando Question 2
- Sandy Berahim Question 3
- Graham Meadon Question 4



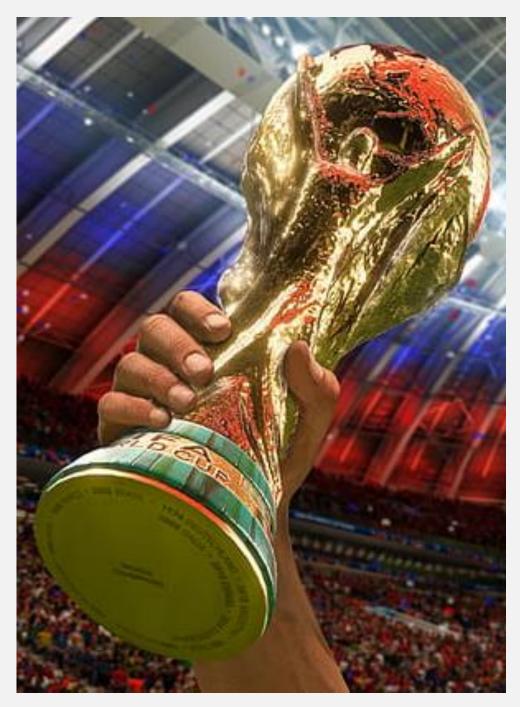
## PROJECT DESCRIPTION

Soccer is a global sport that has billions of followers around the world. The European soccer clubs are considered some of the best in the world and attract the best players in the world to their leagues every year.

The purpose of our analysis is to provide insights on these clubs and their players to identify if there are any trends that aspiring clubs can adopt if they want to compete at the elite level.

Our analysis will also focus on two of the most influential players of the modern era, Lionel Messi and Cristiano Ronaldo, to see if we can determine who really is the "GOAT".



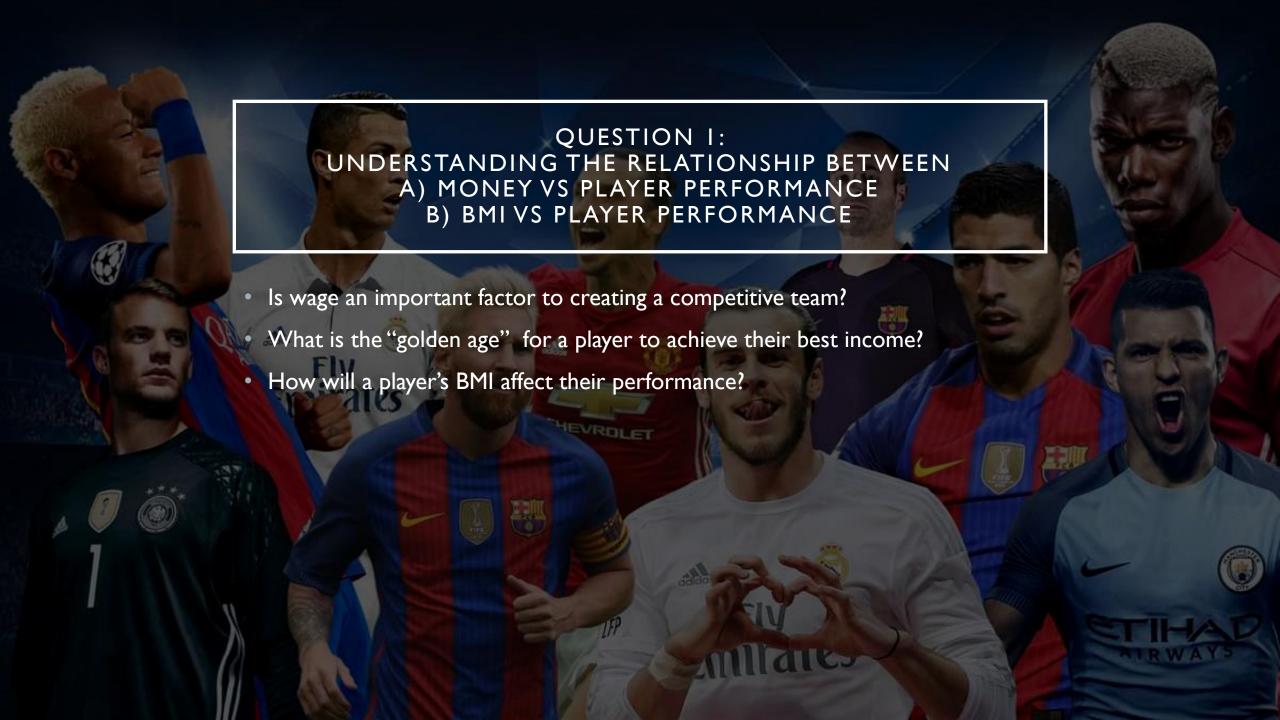


### PROJECT DATA

The main data source we used was obtained from the SoFifa site which we accessed from Kaggle.

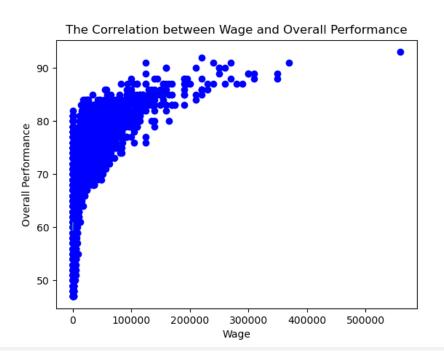
The data is very comprehensive and includes information on:

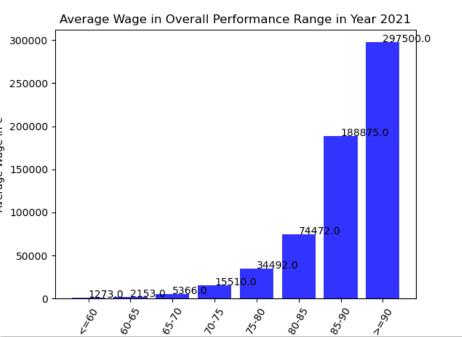
- Player demographics e.g. weight, height, age, nationality
- Basic player information e.g. club name, league and league ranking, player position, foot preference, skills
- Specific season player information e.g. overall/potential performance, value and wages in Euro, when their contract ends
- Key player metrics e.g. pace, shooting, passing, dribbling, physicality
- **Key player attributes** e.g. attacking, skill, movement, power, mentality, defending Each member of our team selected a specific cut of the data to answer their respective questions.



# QUESTION I.A: DOES WAGE IMPACT OVERALL PERFORMANCE (2021)?

- The analysis compares players' Wage against their Overall Performance. These two variables have a positive correlation as it has been observed that as Wage increases, so does Overall Performance.
- Once Overall Performance is 85 points or more players' Wages increase dramatically.



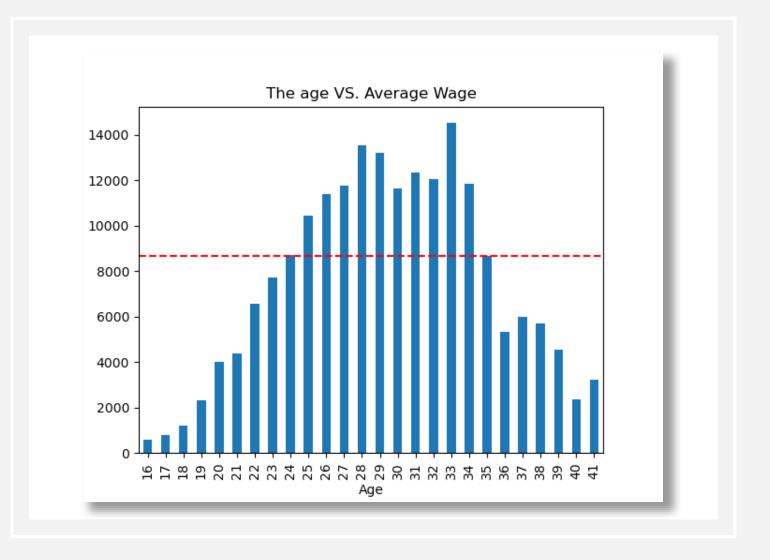


## QUESTION I.B:

WHAT IS THE "GOLDEN AGE" FOR A PLAYER TO ACHIEVE THEIR BEST INCOME (2021)?

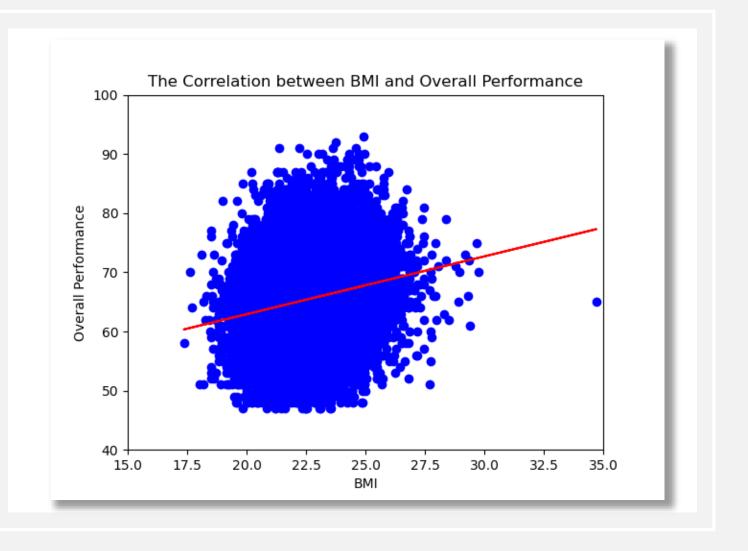
 Average wage of all players in Year 2021 is: €8,675.67 p/w.

Golden age: 24-35 years old



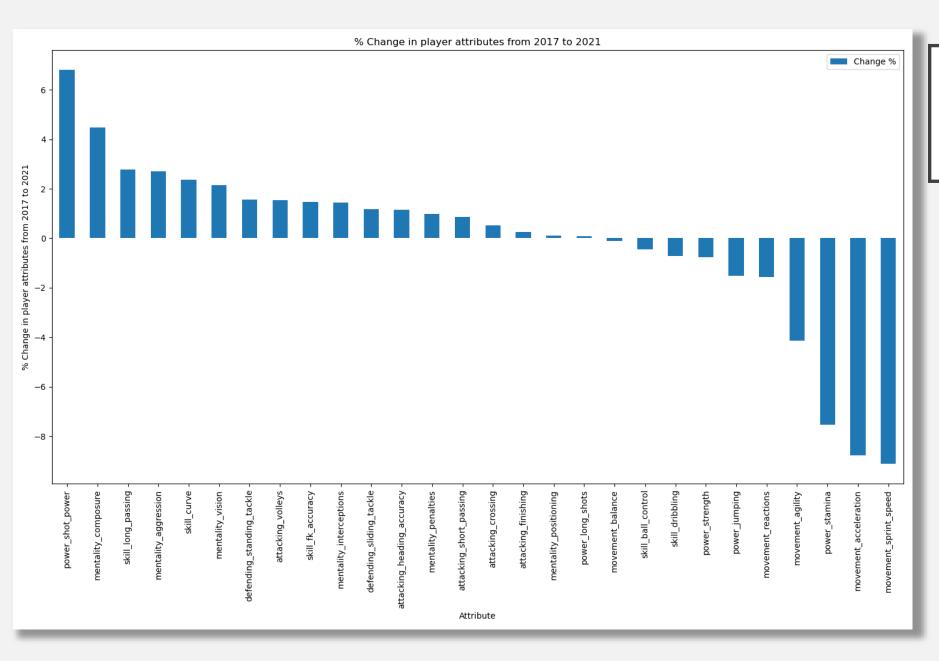
QUESTION I.C: HOW WILL A PLAYER'S BMI AFFECT THEIR PERFORMANCE (2021)?

There is a weak correlation between BMI and Overall Performance



## QUESTION 2: ATTRIBUTES COMPARISON OF PLAYERS BETWEEN 2017 AND 2021

- What attributes changed among the top 5% of the players over the 2017-2021 period?
- How does foot preference affect the player's position?



QUESTION 2.A:
WHAT SKILL METRICS
CHANGED THE MOST OVER
THE PERIOD?

### Improved:

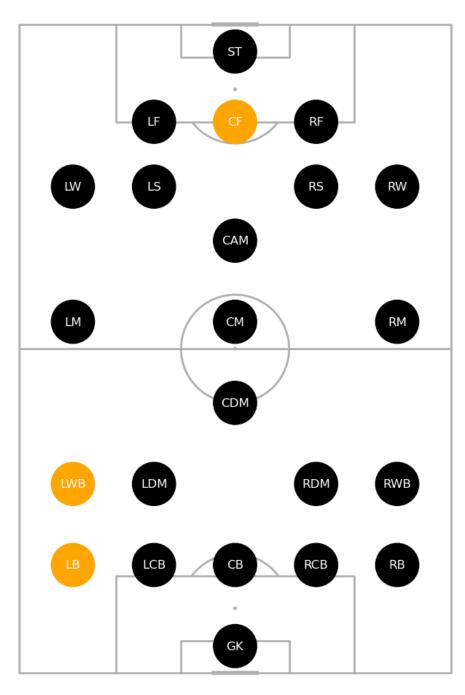
 Mentality, Defending and Attacking

### Declined:

Movement and Power

The most significant change is in speed, with a decline of 9.12%

Player positions by foot preference: Left (Orange) vs Right(Black)



### QUESTION 2.B:

LEFT VS RIGHT FOOT COMPARISON AND IMPACT ON POSITION ON TEAM

- Out of all the positions the left-footed players dominate these positions:
  - Centre Forward (CF)
  - Left Back (LB)
  - Left Wing Back (LWB)
- Most right-foot-dominated position: GK
  - 37 right-foot players vs 5 left-foot players
- Most left-foot-dominated position: LB
  - 25 left-foot players vs 5 right-foot players

QUESTION 3:
BASED ON THE 2021 EPL RESULT, ANALYZE THE WINNING
CLUB AND ITS TEAM MEMBERS PERFORMANCE AND HOW
THE CLUB SPENDING AFFECTED THE PERFORMANCE

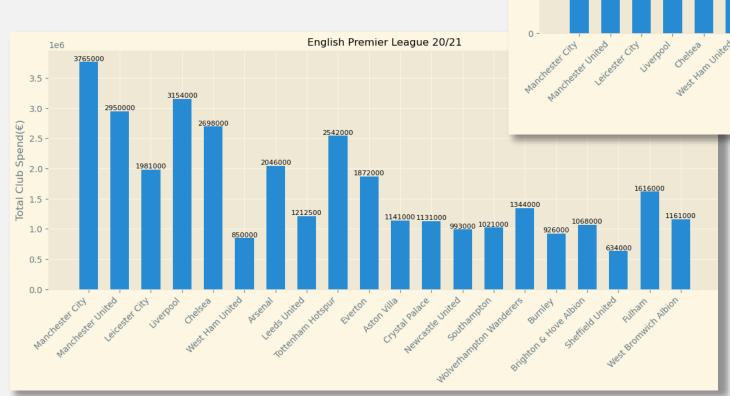
- Did the amount of money spent by clubs have an impact on winning the 2021 English Premier?
- Analysing player performance statistics Winning vs Best consistent performing club
- How do players contribute to their club's performance Winning vs Last place club?

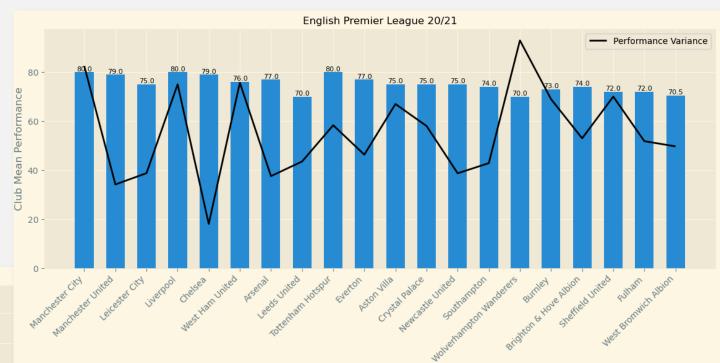
PREMIER LEAGUE 2020/21

### QUESTION 3.A:

BASED ON THE 2021 EPL RESULT, ANALYZE THE WINNING CLUB AND ITS TEAM MEMBERS PERFORMANCE AND HOW THE CLUB SPENDING AFFECTED THE PERFORMANCE

 Does the amount money spent by an EPL club have an impact on their result?

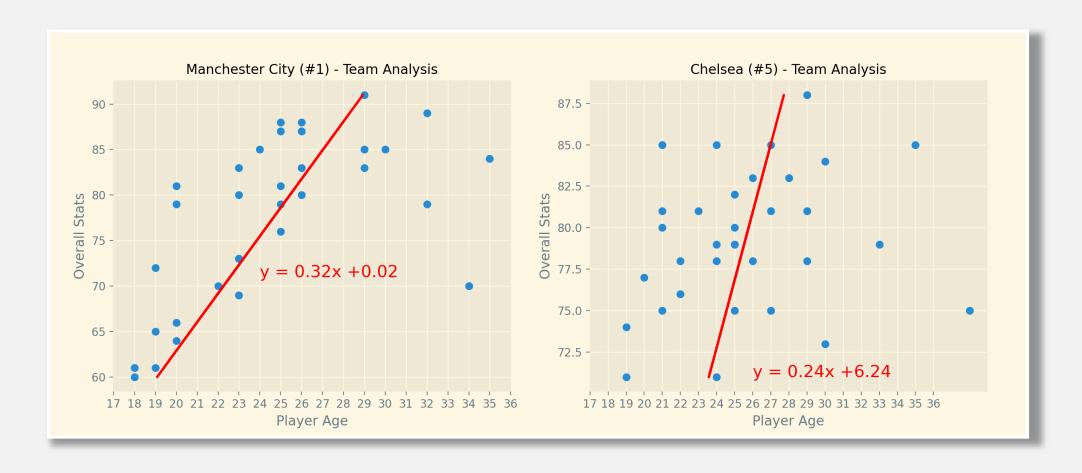




### QUESTION 3.B:

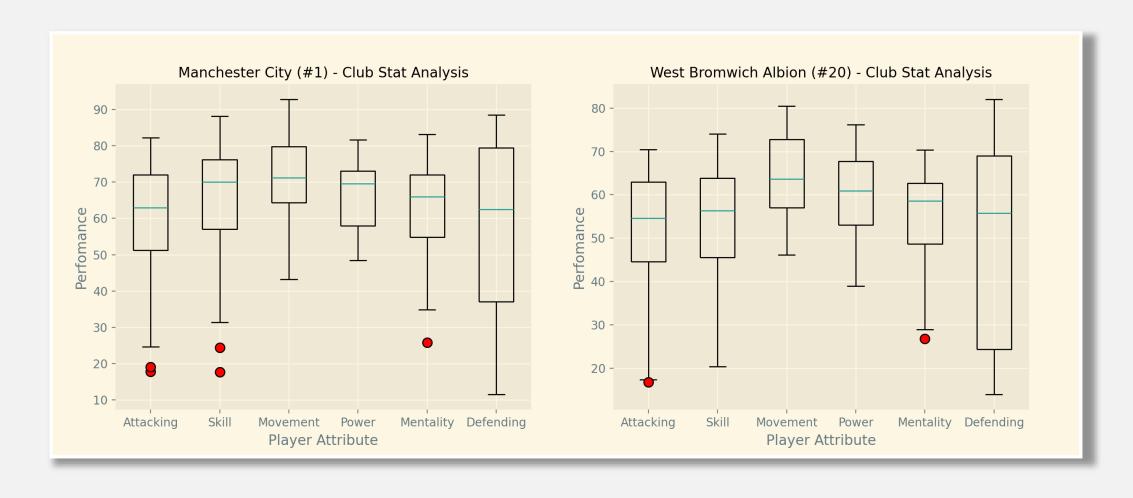
SHOULD CHELSEA BE THE WINNERS SINCE THEIR PLAYER PERFORMANCE STATS ARE BEST AMONGST THE OTHER CLUBS?

Player analysis - Manchester City vs Chelsea based on their Player Age vs Overall Performance scores.



# QUESTION 3.C: HOW DO PLAYERS CONTRIBUTE TO THEIR CLUB'S PERFORMANCE?

So overall, the winning recipe to win the league... it is not just how much you spend on players but also the experience of the players in their position in order to maximize the opportunity for a club to win the league.





For a historical comparison between Ronaldo vs Messi, we will be analysing data between 2017 to 2021:

- What skill metrics changed the most over the period?
- Key attributes comparison for each player
- How attributes and performance metrics impacted overall performance ratings vs goals scored and assists vs value in Euros?

# QUESTION 4.A: WHAT SKILL METRICS CHANGED THE MOST OVER THE PERIOD

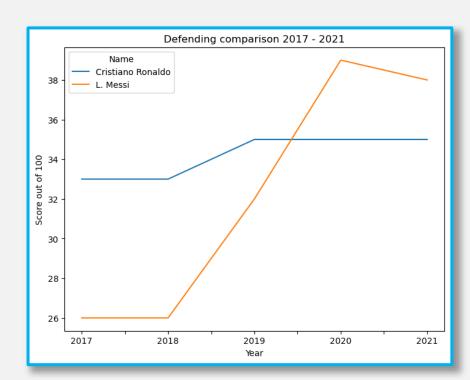
### Improvement

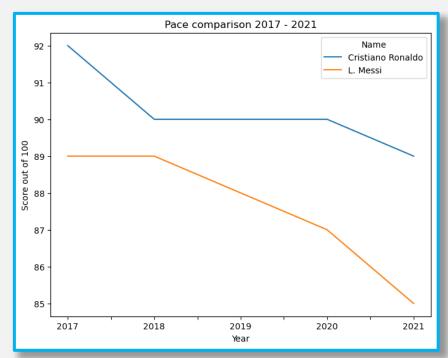
- Messi Defending where he overtook Ronaldo
- Messi Passing

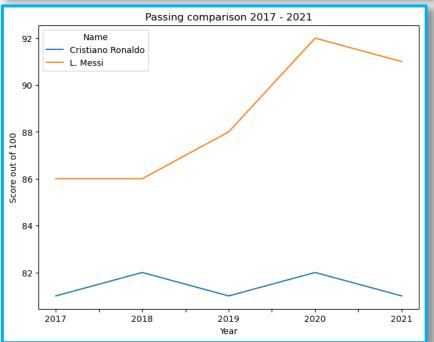
#### Declined

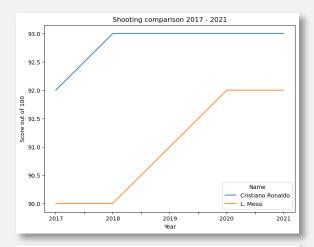
Messi and Ronaldo - Pace

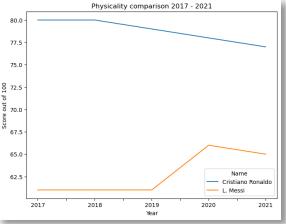
Ronaldo has been more consistent over the period in all the metrics however Messi has found areas of marked improvement

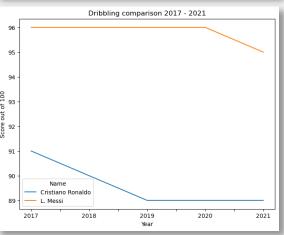






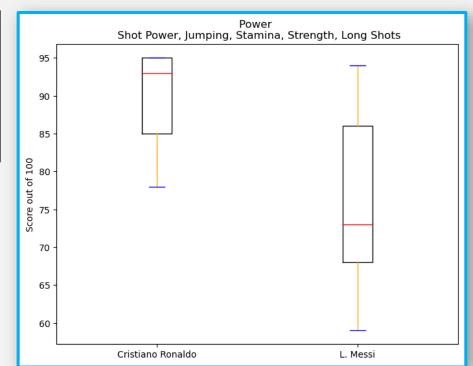


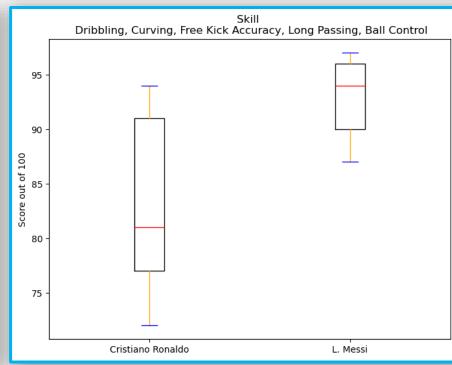


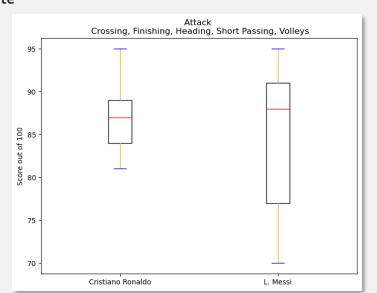


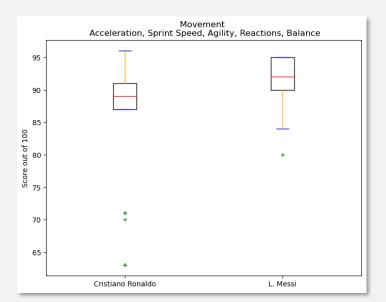
# QUESTION 4.B: KEY ATTRIBUTES COMPARISON

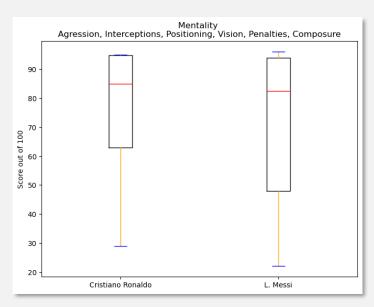
- Ronaldo's attributes have remained more consistent over the period in Attack, Movement, Power and Mentality
- Messi is more consistent in the Skill attribute
- Ronaldo significantly outperforms
   Messi in the Power attribute
   whereas Messi significantly
   outperforms Ronaldo in the Skill
   attribute





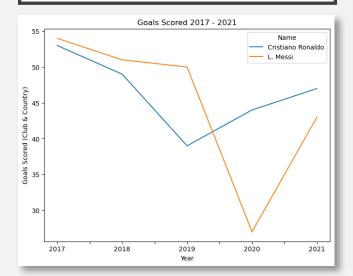


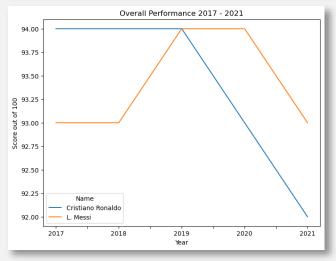




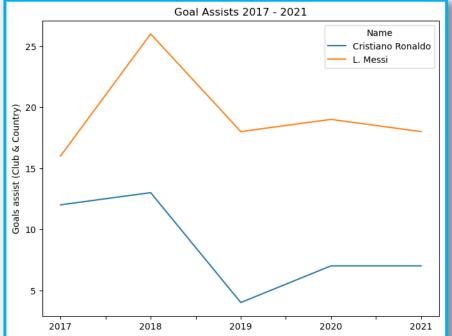
### **QUESTION 4.C:**

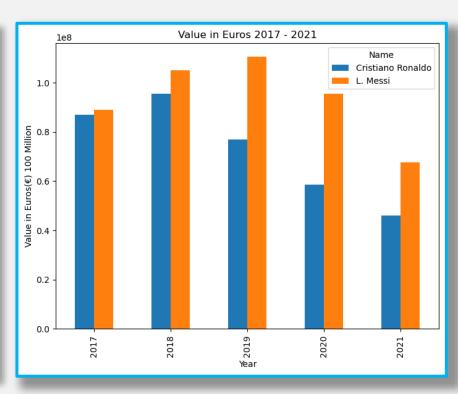
OVERALL PERFORMANCE RATING VS GOALS SCORED AND ASSISTS VS VALUE IN EUROS





- Both players have scored a lot of goals for their respective countries and clubs with Ronaldo scoring slightly more on average over the period.
- Messi has a significant edge on Goal Assists and Value in Euros .





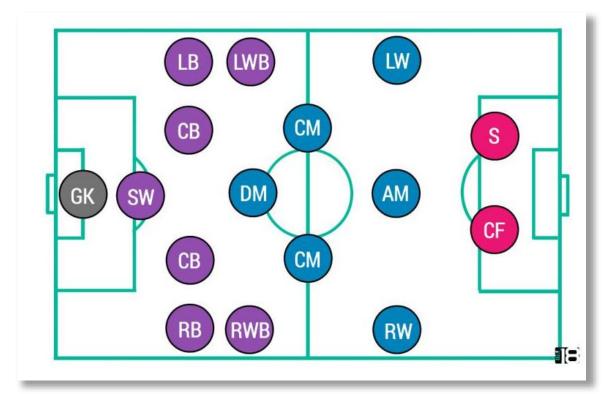
### CONCLUSION

The analysis has determined that Ronaldo is a Power player and Messi is a Skill player but otherwise there is little to distinguish between the two... Unfortunately the Data in this analysis is insufficient to determine who the GOAT really is.

ANY QUESTIONS?



# ADDITIONAL INFORMATION



Defenders	Midfield	Forwards
<b>GK</b> – Goalkeeper	<b>DM</b> – Defensive / Holding Midfielder	CF – Centre Forward/ Second Forward / Second Striker / Support or Withdrawn Striker
<b>SW</b> – Sweeper	CM – Centre Midfielders	<b>S</b> – Striker
CB – Centre-back / Centre Full-back / Central Defender	AM – Attacking Midfielders	
RB/LB – Right and Left Full-backs	<b>RW/LW</b> – Wide Midfielders / Wingers	
RWB/LWB – Right and Left Wingbacks		

Source: https://thes8.com/soccer-learning/soccer-positions-explained-names-numbers-and-roles

### **REFERENCES**

### Datasets used:

• <a href="https://www.kaggle.com/datasets/stefanoleone992/fifa-21-complete-player-dataset">https://www.kaggle.com/datasets/stefanoleone992/fifa-21-complete-player-dataset</a>

### Other:

- https://the18.com/soccer-learning/soccer-positions-explained-names-numbers-and-roles
- <a href="https://www.messivsronaldo.app/calendar-year-stats/">https://www.messivsronaldo.app/calendar-year-stats/</a>
- <a href="https://www.topendsports.com/sport/soccer/list-league-uefa.htm">https://www.topendsports.com/sport/soccer/list-league-uefa.htm</a>