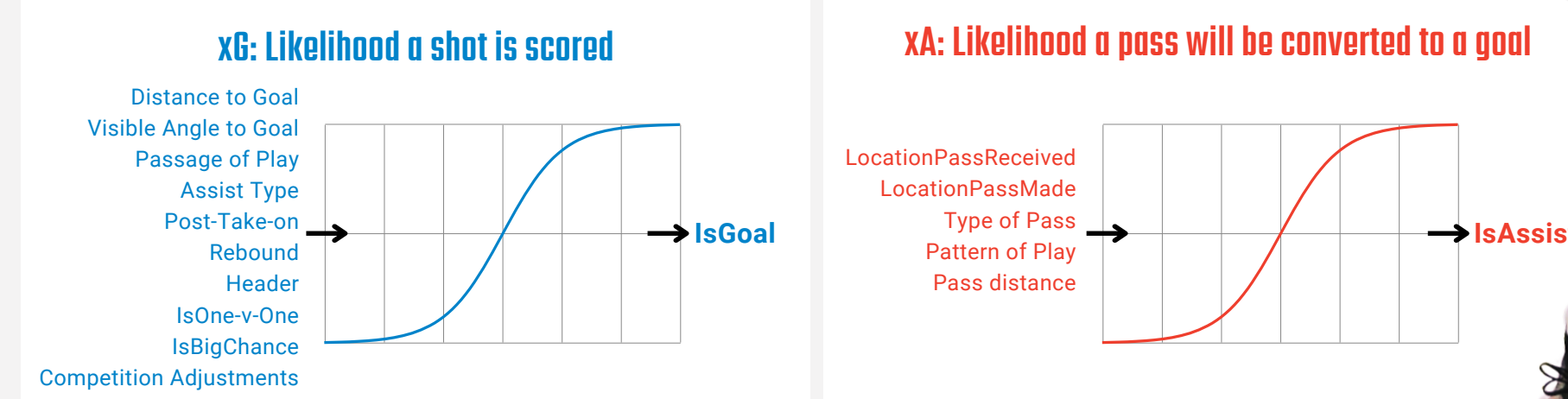


WHO IS THE GOAT OF EUROPEAN SOCCER?

INTRODUCTION

The debate over whether Lionel Messi or Cristiano Ronaldo is considered the Greatest Of All Time (GOAT) is hotly contested. Both have won numerous trophies (shown in Figure 7), and in terms of fan support, a solid case could be made for either. But could data analytics resolve the debate - that Messi is a better overall player? This project analyzes the players from multiple dimensions, in terms of goal scoring capability and versatility, and the ability to create goal opportunities, especially in integrated teamwork. Player data collected from games across 8 years of seasons were used to form rich metrics (shown right). We have discovered goal scoring and goal opportunity patterns which suggests one player to be better than the other.

LOGISTIC REGRESSION



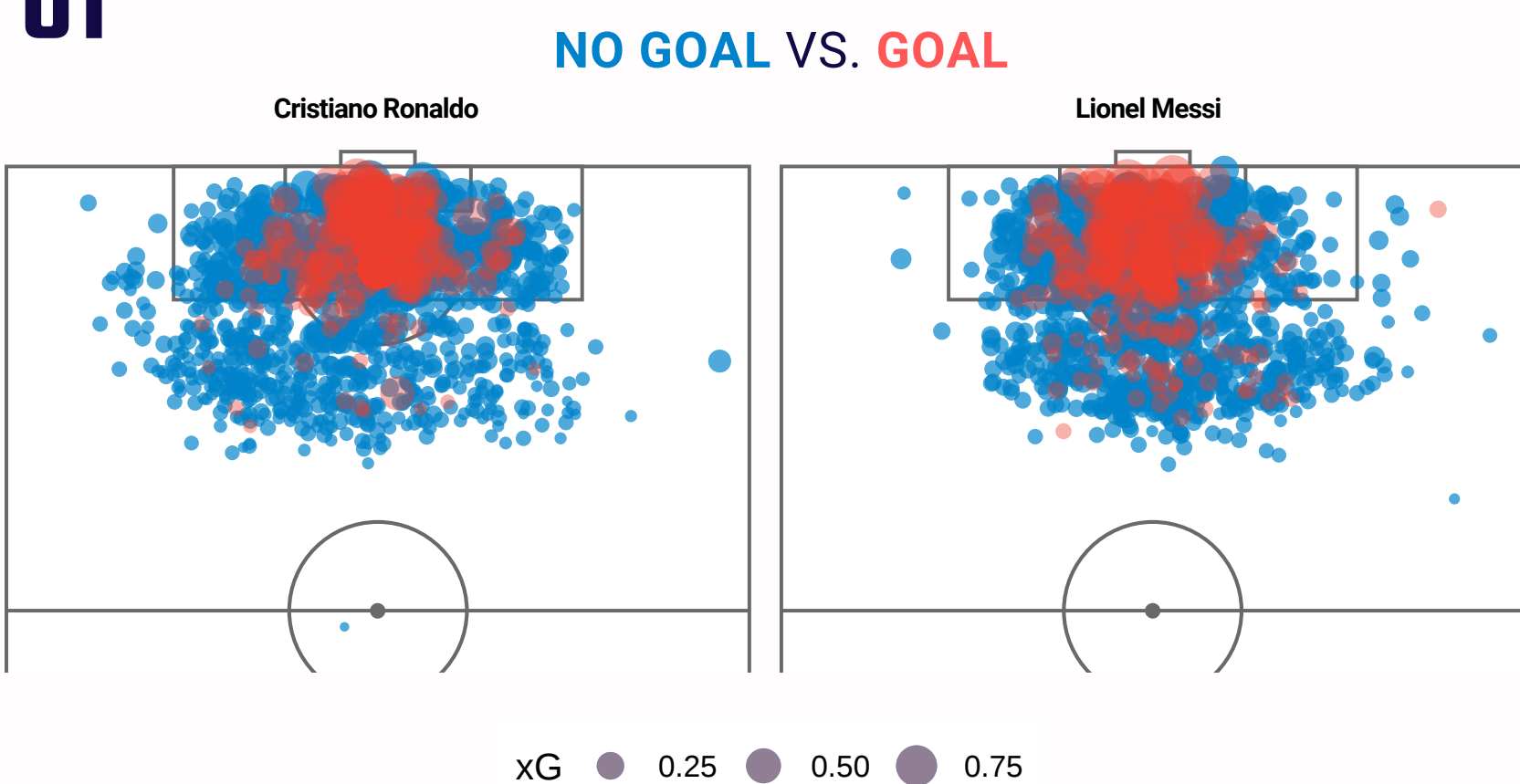
PART I. VERSATILITY ANALYSIS

The study of the versatility of the players to score goals

PART II. OPPORTUNITY CREATION ANALYSIS

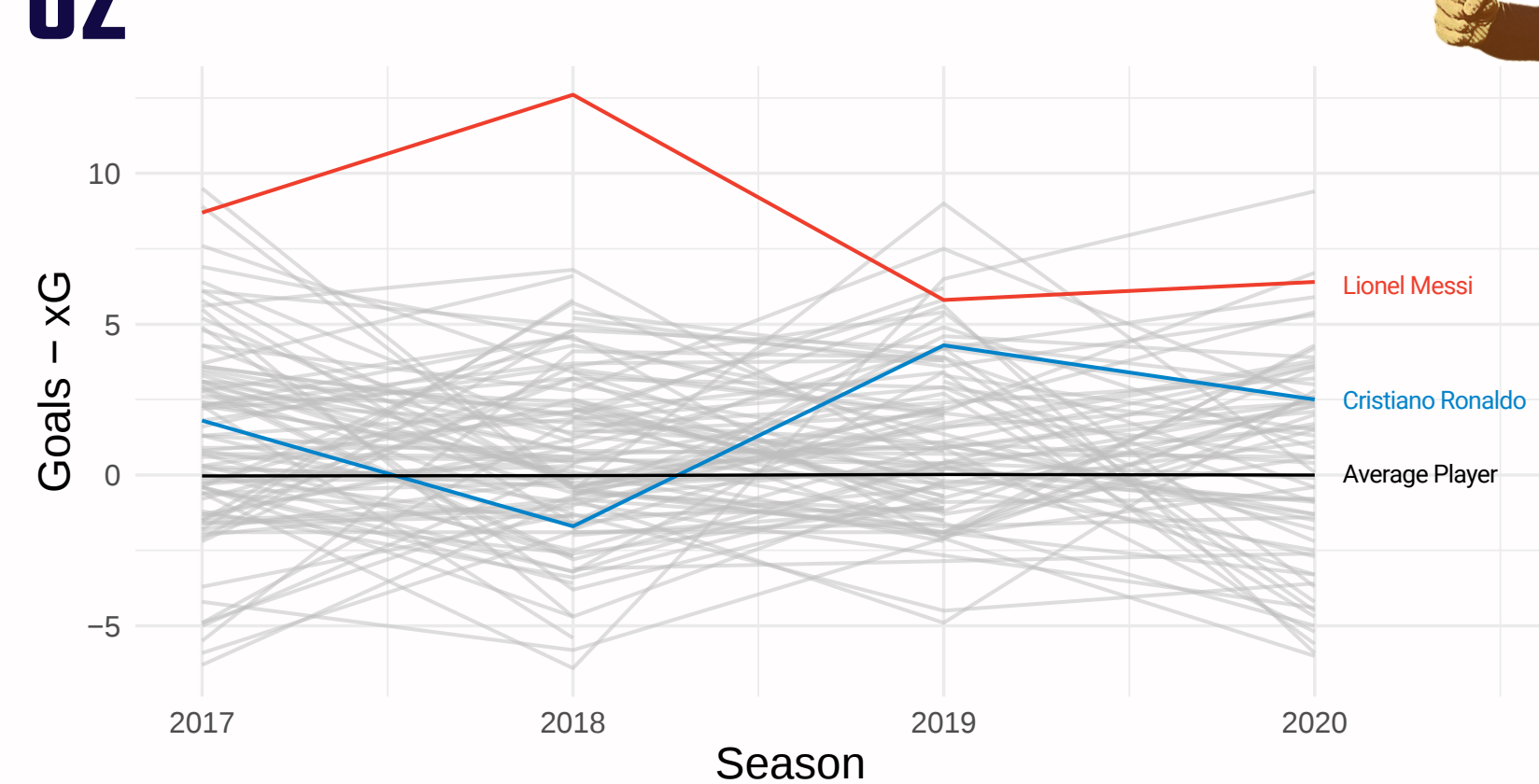
The ability to create goal opportunities directly (assists) and indirectly (part of the goal possession-chain)

01 Figure 1. Expected Goal Heatmap for all Shot Attempts (2014 - 2021 Seasons)



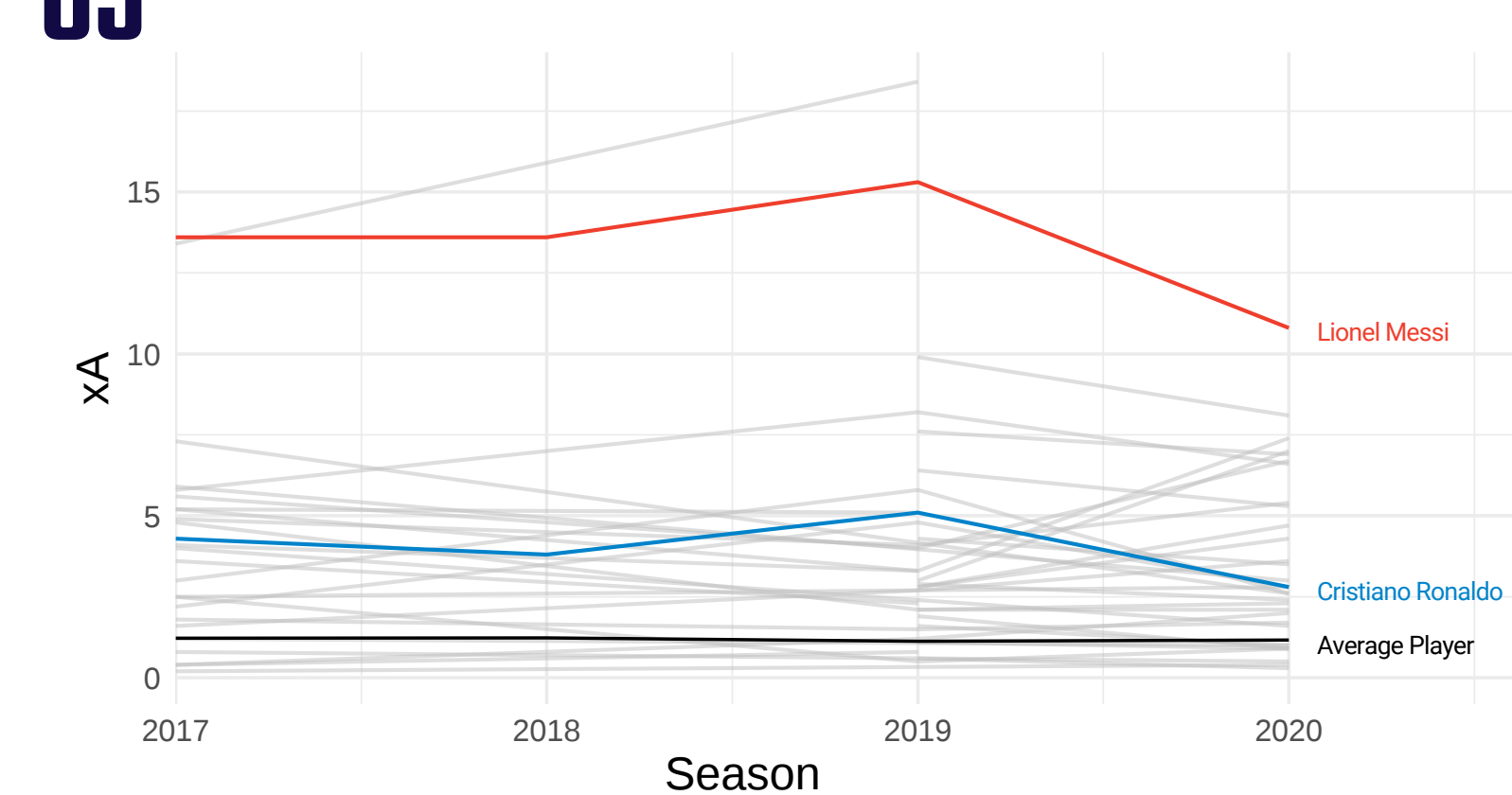
- The xG clustering illustrates a significant goal location tendency group as well as outlier goals (shot outside the 18yd box) from challenging positions.
- The clustering shows a greater variability and greater difficulty (smaller xG) in Messi's shot-to-goal conversions than Ronaldo.

02 Figure 2. Goal - Expected Goal Difference in the Top 5 Leagues in Europe (2017 - 2020 Seasons)

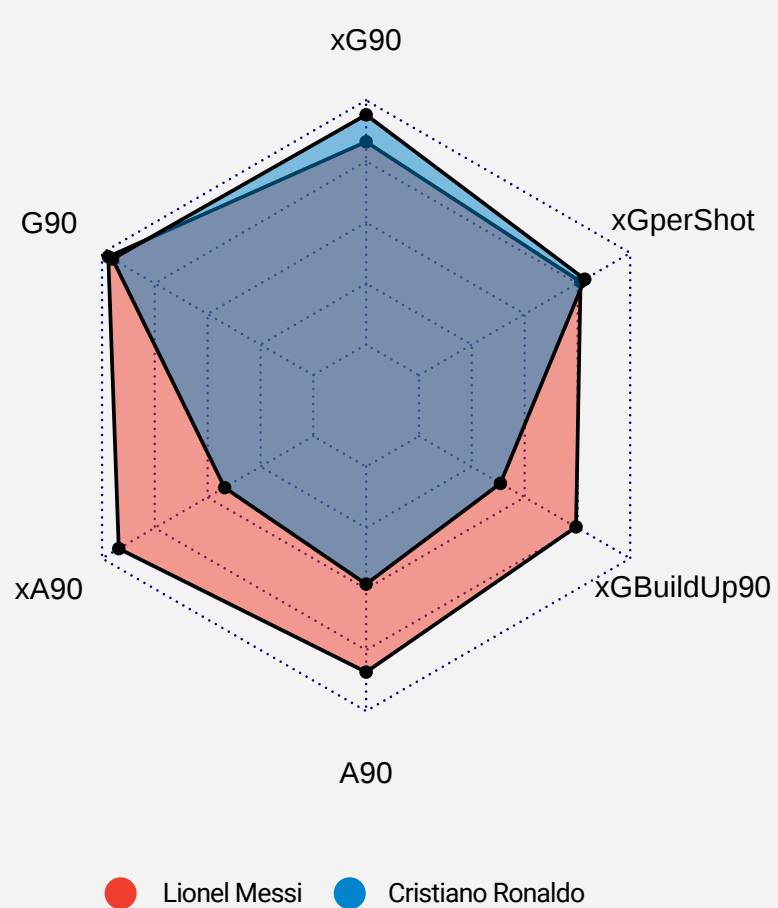


- Messi's surplus in goals over expected goals demonstrates his ability to consistently outperform his goal expectations each season and do so at a greater degree than Ronaldo.

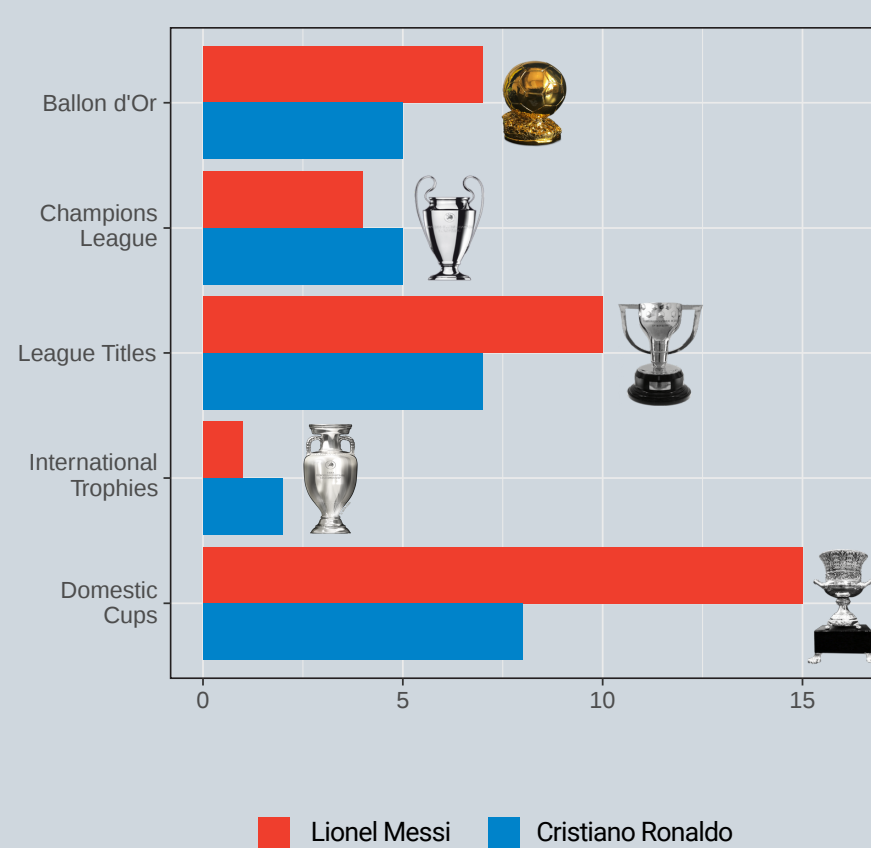
03 Figure 3. Expected Assists in the Top 5 Leagues in Europe



06 Figure 6. Ronaldo vs Messi Spider Chart: (Expected Goals, Goals, Expected Assists, Assists, Expected Goal Buildup) per 90 minutes, and Expected Goals per Shot.



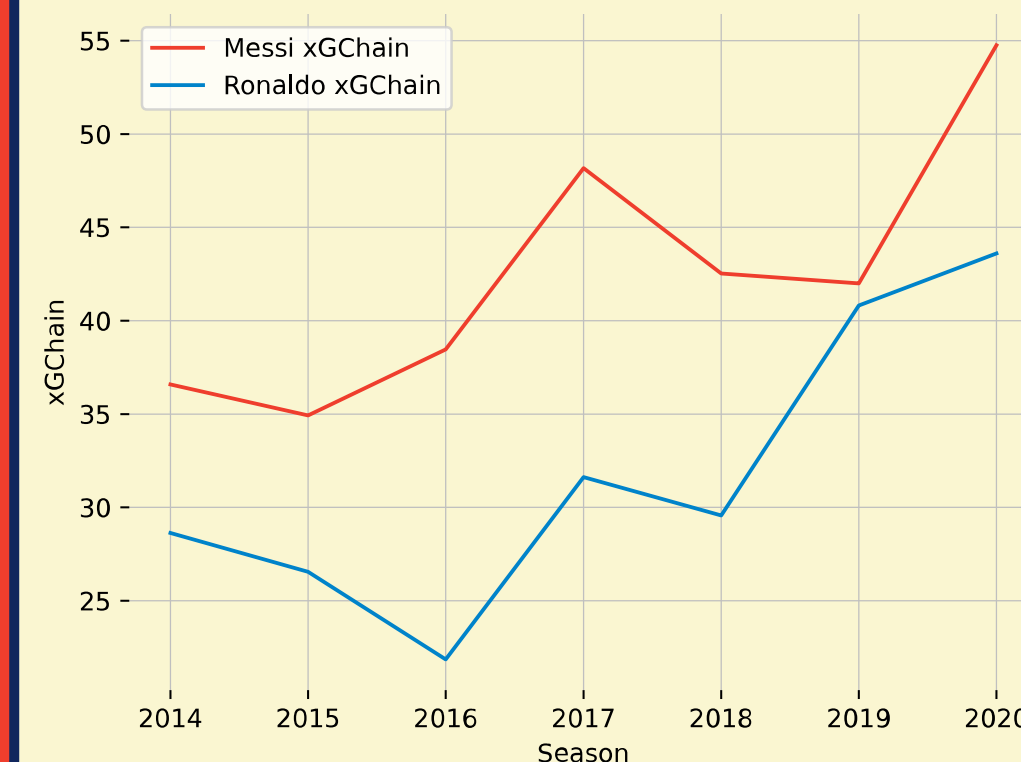
07 Figure 7. Awards Comparison



CONCLUSION

- Figures 1 and 2 demonstrate Messi's versatility at scoring with a larger variability in the expected goal clustering than Ronaldo and at a consistently higher level than Ronaldo across several seasons.
- Figures 3 and 4 show Messi's ability to both directly and indirectly create goal opportunities, demonstrating his greater ability to work well with teammates, on a consistent basis across several seasons.
- Figure 6 addresses the concern that injuries force less game time for players and could introduce an unequal comparison. Thus, this figure investigates expected goals, expected assists, and other metrics per 90 minutes, thereby normalizing player time for analysis. While both players have similar time-normalized scoring capabilities, Messi outperforms Ronaldo in creating opportunities.
- Based on these considerations, it is reasonable to suggest that Messi is the superior player and has earned the title of Greatest Of All Time.

04 Figure 4. Messi vs Ronaldo xG Chain from 2014 to 2020



05 Figure 5. Graphical Description of xGChain

