## Guilherme Ferreira

Below I try to answer the three questions about the project where I assess Hakim Ziyech's passing ability using StatsBomb 360 data.

- What was your approach to the problem and why did you choose that methodology?
- What are the pros and cons of this approach?
- Given more time or data, how would you improve your submission?

My general approach consisted of exploring the StatsBomb data related to passes, with special attention to the variables that I considered essentials, and noticing the player's tendencies on the pitch.

In my judgment, it is crucial to comprehend how a team and a player try to move the ball toward the opponent's goal and how they attempt to get inside the penalty area.

A defender can easily rack up a big amount of passes when his team dominates possession. But many (or even most) of them might make the ball move sideways. Analyzing the data from more dangerous areas of the pitch or vertical attempts provide a deeper perspective on a player's passing ability.

For that reason, I used the progressive passes and the passes into the penalty area as the focal points for my analysis of Hakim Ziyech's passes during the FIFA World Cup 2022.

Those events happened often enough to track tendencies and can be calculated from the StatsBomb dataset, even though they aren't explicitly available. Both variables were obtained based on the starting and ending location of the passes.

Ziyech was a key factor for Morocco's surprising run in Qatar and had a crucial role in the team's offensive production as he led the squad in progressive passes and passes into the penalty area.

One of the reasons to choose him was that he played seven matches during the World Cup (most in the tournament along with other players that reached at least the semifinals) and was an influential presence on the pitch, so there was a bigger chance that his stats represented actual trends in his game style, rather than just outliers.

Despite considering all advantages mentioned above in my approach to the project, it would be hard for this project to cover every question related to a player's passes.

StatsBomb 360 provides data with the location of the players on the pitch in most of the events registered, but it remains a tough task to get the general context of the attempted passes demonstrated on the plots.

The quality of a passer also depends on his teammates' ability to be open. Beyond that, it's usually easier to complete a progressive pass during a counter-attack than when all opposing players are behind the ball, for example. Due to those limitations, video analysis remains an important complementary tool to comprehend what happens in a match event.

The tool used to calculate the variables and generate the plots also had its pros and cons. Despite finding Power BI a suitable option whenever I need to visualize large data sets and get quick conclusions from them, I preferred to use Python in this project because I believed it would be easier to plot the passes.

On the other hand, the task of going through all important variables could have been completed much faster with Power BI and its drag and drop tools. Meanwhile, Python may demand writing long lines of code to get the same (or a similar) result.

The data from the World Cup provided by StatsBomb is capable of providing insights about a player's passing ability, but analyzing Ziyech's performance over a longer period would help to understand his tendencies on the pitch. A 7-match sample of performances isn't quite as telling as a whole league campaign. A larger dataset naturally helps to hide some outliers and can better describe a style of play.

With more time, the analysis could be amplified to get a closer look at more variables in the dataset and check if the Moroccan player has numbers that stand out from other forwards in different variables.

Nonetheless, this project already looks at different aspects of Ziyech and explains how his passes helped his national team to achieve the semifinals of the FIFA World Cup 2022.