**INTRO**

As well as soon becoming a fully-fledged data nerd, I’m also a self-confessed football nerd.

**LIONEL MESSI**

When carrying out analysis for this project, we’ve discounted any data prior to the 2005/06 season, but that’s only 7 first team games. We also discounted the 2019/20 season as it was heavily affected by COVID.

**HONOURS/RECORDS**

**HYPOTHESIS/PROBLEM STATEMENT**

**GOAL CLASSIFICATION**

Using supervised machine learning, I looked at whether it was possible to predict whether a shot would result in a goal or not.

I looked at all shots taken by Barcelona players in the Messi era (HOW MANY IN TOTAL??????)

Accuracy score of 0.87 using the logistic regression model – 87% certain that the prediction of whether a shot will result in a goal or not will be correct.

Season

Play Pattern – regular play, from corner/free kick/throw in/counter/goal kick/keeper/kick-off

Player

Type – open play, corner, free kick, penalty, kick-off

Body Part – right foot, left foot, head, other

Technique – backheel, diving header, half volley, lob, normal, overhead kick, volley

TABLEAU VISUALISATION

**MESSI’S OUTPUT BY SEASON**

There are obviously a number of ways in which output can be measured for a footballer, but we’ll focus on the simplest measures – goals and assists (the final pass leading up to a goal).

GRAPH

Here we see Messi’s goals (bars) and assists (line) throughout his career. To make things ever easier, I combined these into what’s known as ‘goal involvements’.

GRAPH

Could’ve calculated linear regression, but would’ve produced an unrealistic line (constantly rising). There appears to be a clear peak (2012 = 91 goals) so first look at upward/downward straight lines (0.985/0.253)

Dips appear to be linked with injury lay-offs. Looked at ‘returns per game’ to improve accuracy, didn’t work (0.983/0.198)

So looked at quadratic regression instead, much better (0.743)

**PREDICTING MESSI’S DECLINE**

Using our linear regression model from earlier, I wanted to predict Messi’s output as he approaches retirement.

Changed the x-axis from ‘seasons’ to ‘age’ (Messi’s birthday is 24 June 1987, which is conveniently between seasons, so we went with his age at the start of the season).

GRAPH

PREDICTED RESULTS

Messi’s actual goal involvements in 2019/20 was 44 – it’s clear that Messi isn’t declining as quick as the model suggests!

**QUESTIONS?**

Only 3 clubs Messi hasn’t scored against in a La Liga match:

Xerez (currently in 4th tier, in La Liga 2009/10, was sub both games, 1 assist)

Rea Murcia (currently in 3rd tier, only played once in 2007/08, 5-3 win, 2 assists)

Cadiz (only played once in 2005/06, 1 assist, Cadiz now back in La Liga)

Compilation - https://www.youtube.com/watch?v=PSanJ5swYBM&feature=emb\_rel\_err

Athletic - https://www.youtube.com/watch?v=YBaXSEkzAEE

Betis - https://www.youtube.com/watch?v=qtxavu2uJY4 or <https://www.youtube.com/watch?v=zq0Az3HTmLU>

<https://giphy.com/gifs/soccer-goat-messi10-JQ4yLSItNc5jGfSPDZ>

<https://giphy.com/gifs/fcbarcelona-barcelona-xUA7aT4k7JLXH71zG0>

INTRO MUSIC - <https://www.youtube.com/watch?v=Y1fiOJDXA-E> (1:42 or 3:06 start)