

Leeds Predictions

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Abstract: How bad are Leeds fans at predicting Leeds scores? An overzealous attempt at formalising the predictive power, or lack thereof, of a couple of groups of (mainly) fans when it comes to Leeds United's league games in the 2023/24 Championship season.

1 Introduction

If you can look into the seeds of time, and say which grain will grow and which will not, speak then to me, who neither beg nor fear your favours nor your hate. So speaks Banquo, Macbeth's mate, to the three witches (double double toil and trouble, that lot), as he demands to know his future. We would all like to know what lies in store for us down the line. We would all also like to think we know a bit about football, and Leeds United in particular. Can all this collective experience and thousands of hours spent watching a bunch of blokes kick a ball about translate into any useful insight about the future?

Lacking in eye of newt and toe of frog, and with too much time on my hands (plus turns out writing a PhD thesis in theoretical particle physics is unbelievable hard so I'll do this instead ta), I decided to collate and track the scores that some friends and family submit for Leeds' league games this season. That way I can take the standard pre game pub chat of "what ya reckon today then?" and turn it into a series of numbers, tables, rankings and graphs, and who doesn't love adding some extra empirical analysis to their football!

1.1 The Rules

The rules are fairly simple - a group of people are invited to submit, in advance of kick-off, what they think the score will be in the next Leeds game, scoring three points if they get the score exactly right, and one point if they get the final result right. Failing to submit a prediction ahead of kick-off results in a default submission of a 3 – 0 Leeds win. Also included in the competition is a random number generator, which randomly chooses a number from zero to four (inclusive) for goals scored and separately for goals conceded in each game. Alongside this, in order to check the wisdom of crowds, an average of all predictions is taken, using the median goals scored and conceded.

The point of this document is to present and explain the graphs and whatnot that the code spits out at roughly 17:15 on a Saturday, or whenever the immutable and all powerful Sky deem our games should finish (also Tuesday nights, but that's one of many champo elements that sucks a bit).

Ideally, this works out better than it did for Banquo. Despite decrying Neil Warnock – "thou played'st most foully" – he is murdered by Macbeth in an attempt to stop the prophecies coming to fruition (spoilers for a 400+ year old play I guess). If anybody has any prophetic visions of us losing in the play offs come May, feel free to do the same to me.

2 Scores

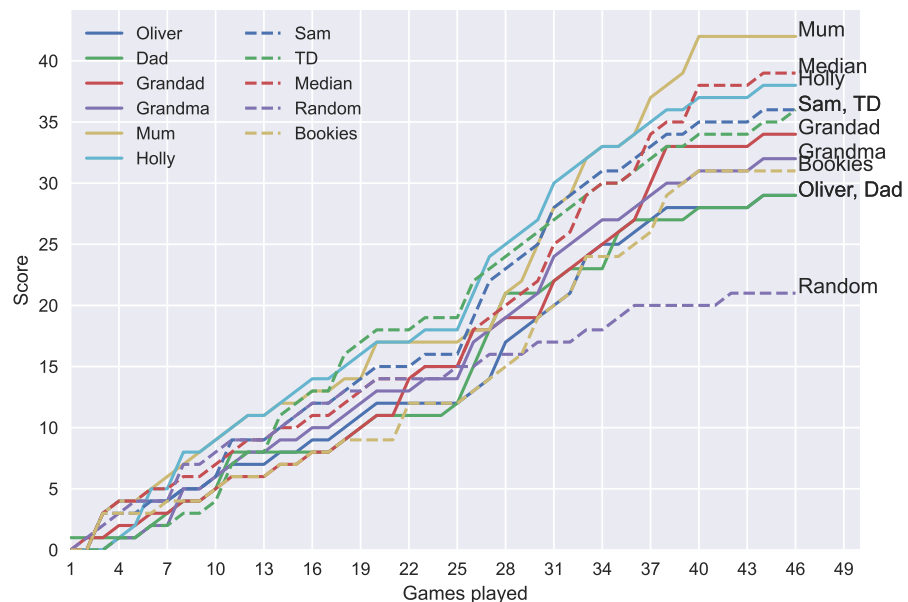
It should be noted that all of this is up to date as of the most recent result, the 1 – 2 loss to Southampton (H) which was the 46th game of the season (100% of the way through).

Mum	42
Median	39
Holly	38
TD	36
Sam	36
Grandad	34
Grandma	32
Bookies	31
Dad	29
Oliver	29
Random	21

Let's start off nice and simple and with the thing that people actually want to know - who's winning and who's losing. As you can see in the table to the left, currently up at the top we have Mum with 42 points, while Random is bringing up the rear on 21 points. Also, here's your periodic reminder that there's a random number generator included in the rankings here, so if you're currently scoring lower than literally numbers plucked from the ether, maybe you should have a think about things.

Breaking this down a little more, we can look at how this came to be. In this plot below we have the effective timeline of how each person has accrued their points over the season, on a game by game basis, so you can identify any hot streaks or barren spells in predictive accuracy for each person.

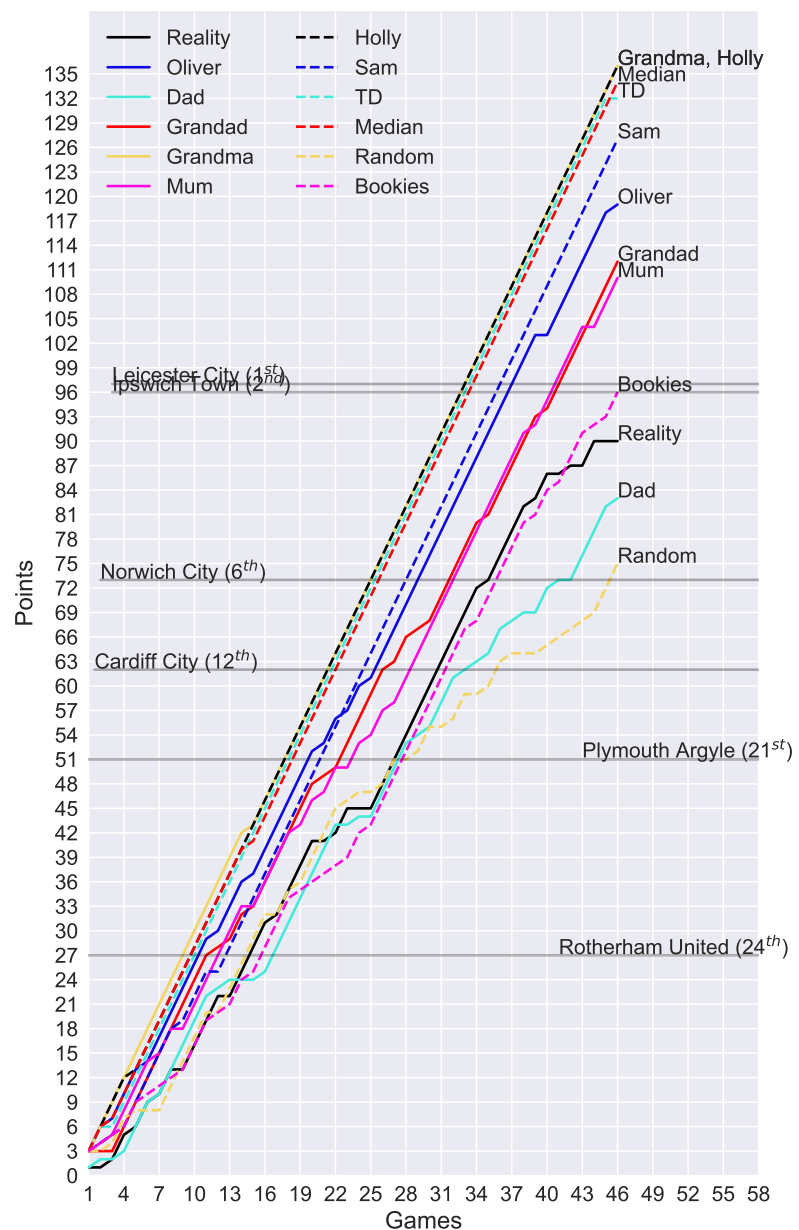
This is shown on a game by game basis. If you prefer to have things in a video format, theres one of those hip new bar chart races showing the same data at [this link](#) (tips on how to embed videos into pdfs in a nice and consistent way much appreciated).



3 Points

Of course, scores and points are two entirely separate things, definitely not a slightly artificial way of differentiating between these two sections, no further questions taken at this time. Scores, naturally, refers to the total accrued by accurately predicting the Leeds' scores (three for the exact score, one for the result), whilst points is used as a way of checking predictions against reality. With this graph, what we're showing is the amount of league table points Leeds would have accrued, *if* all of a person's predictions had come true. Basically, what this shows is roughly how Leeds would be getting on in the league if you were right all the time. And wow, there is a Lot of optimism about that.

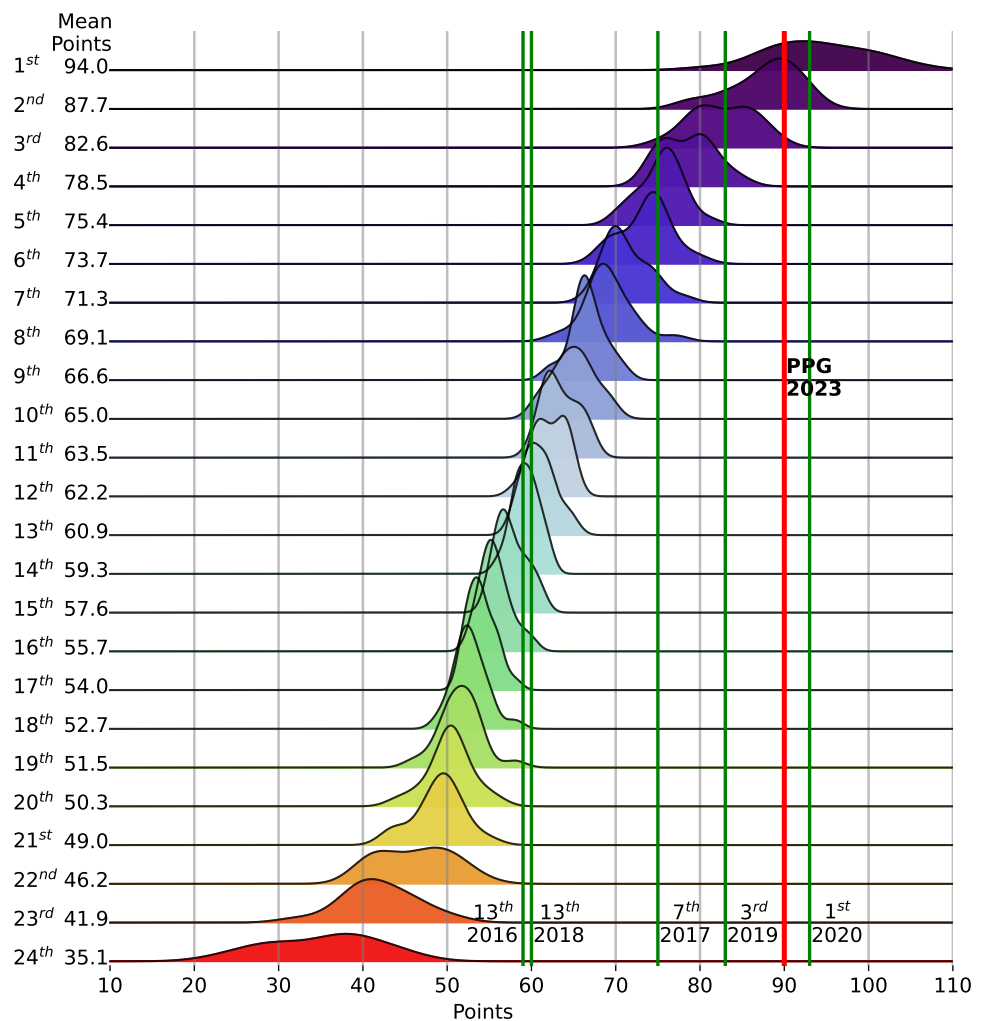
Also included on this graph are the black line showing how Leeds' actual points have progressed over the season and horizontal grey lines showing the current points totals of a handful of key positions in the league. The one caveat is that these horizontal grey lines don't take into account each person's predictions and only reflect reality, so if, for example, you thought we'd lose to Leicester, then this isn't reflected in the line for Leicester's points total. It's also worth remembering that this is only up to date as of the end of the last Leeds game.



4 Comparison

Admittedly, this graph has nothing to do with the actual predictions of the users, but it is an attempt to forecast roughly the ballpark in which the club will finish this season, based on past results. This plot is based on the same notion of [this nice YouGov graph rating adjectives](#). In words, what this shows is the distribution of the points scored by the team finishing in each position in the championship over the last 21 seasons. This also accounts for the handful of points deductions handed down over the years to give the “true” points total based on wins and draws. To take a concrete example, we can see from the bottom of the graph is that the team who finish 24th mainly get between 25 and 45 points by the end of the season, with a handful of teams falling outside of this range. Moving further up the table, we can see the quagmire of mid table with the heavily overlapping distributions between about 19th and about 9th, before we start to see a bit more distinction as we reach the play offs. Finally, we can see that the champions can fall into a wide spread of points, but remain distinct from the play offs.

You can think of the height of each hillock at a given point as the chance of finishing in that position. Also included are the final points total from Leeds' past five championship seasons as the green vertical lines, in addition to this seasons projected total from the current points per game as the thick red vertical line. Hopefully that makes sense.



5 Full data

Just for completion, here's the full data, i.e. all the individual predictions from each person (and random number generator) for each game, coloured green for correct exact score, blue for correct result and black for being plain wrong.

	Result	Oliver	Dad	Grandad	Grandma	Mum	Holly	Sam	TD	Median	Random	Bookies	
Cardiff (H)	2 - 2	3 - 1	1 - 1	2 - 1	3 - 0	2 - 1	5 - 1	2 - 0	3 - 0	2 - 1	3 - 1	1 - 0	Cardiff (H)
Birmingham (A)	0 - 1	2 - 1	1 - 1	0 - 2	3 - 1	1 - 1	3 - 0	1 - 1	2 - 1	2 - 1	2 - 3	1 - 1	Birmingham (A)
West Brom (H)	1 - 1	1 - 1	1 - 3	0 - 1	3 - 0	1 - 1	3 - 0	1 - 1	0 - 3	1 - 1	3 - 3	1 - 1	West Brom (H)
Ipswich (A)	4 - 3	2 - 1	1 - 1	2 - 1	3 - 0	2 - 1	3 - 0	1 - 1	3 - 1	2 - 1	3 - 2	1 - 1	Ipswich (A)
Sheff Wednesday (H)	0 - 0	3 - 1	3 - 0	2 - 0	3 - 0	4 - 1	2 - 2	3 - 1	4 - 0	3 - 0	4 - 4	2 - 0	Sheff Wednesday (H)
Millwall (A)	3 - 0	1 - 1	2 - 1	1 - 0	3 - 2	2 - 0	3 - 0	2 - 0	2 - 1	2 - 0	0 - 1	1 - 1	Millwall (A)
Hull (A)	0 - 0	2 - 0	1 - 1	3 - 0	3 - 0	1 - 1	3 - 0	2 - 1	3 - 1	2 - 0	1 - 4	1 - 1	Hull (A)
Watford (H)	3 - 0	2 - 1	2 - 1	2 - 0	3 - 0	1 - 0	3 - 0	2 - 1	3 - 1	2 - 0	3 - 0	1 - 1	Watford (H)
Southampton (A)	1 - 3	2 - 0	2 - 1	3 - 0	3 - 1	1 - 2	3 - 0	2 - 2	3 - 1	2 - 1	4 - 3	1 - 1	Southampton (A)
QPR (H)	1 - 0	2 - 1	2 - 0	2 - 0	4 - 1	2 - 0	3 - 0	2 - 0	4 - 0	2 - 0	4 - 2	2 - 0	QPR (H)
Bristol (H)	2 - 1	3 - 1	2 - 1	2 - 0	1 - 0	2 - 0	3 - 0	2 - 1	2 - 1	2 - 0	1 - 0	1 - 0	Bristol (H)
Norwich (A)	3 - 2	2 - 2	2 - 2	1 - 1	3 - 1	2 - 1	3 - 0	1 - 2	2 - 1	2 - 1	1 - 3	1 - 1	Norwich (A)
Stoke (A)	0 - 1	3 - 0	2 - 2	1 - 1	3 - 1	2 - 0	3 - 0	2 - 0	4 - 1	2 - 0	4 - 2	1 - 1	Stoke (A)
Town (H)	4 - 1	3 - 1	1 - 2	2 - 0	3 - 0	3 - 1	3 - 0	2 - 0	4 - 1	3 - 0	2 - 1	2 - 0	Town (H)
Leicester (A)	1 - 0	2 - 2	1 - 3	1 - 1	1 - 1	1 - 3	3 - 0	3 - 0	3 - 2	2 - 2	4 - 0	1 - 1	Leicester (A)
Plymouth (H)	2 - 1	2 - 0	1 - 1	2 - 0	3 - 0	2 - 0	5 - 1	3 - 0	3 - 1	2 - 0	4 - 2	2 - 0	Plymouth (H)
Rotherham (A)	1 - 1	3 - 1	2 - 1	4 - 0	3 - 0	2 - 0	3 - 0	2 - 0	4 - 0	3 - 0	2 - 4	2 - 0	Rotherham (A)
Swansea (H)	3 - 1	2 - 0	3 - 0	3 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 1	3 - 0	4 - 0	2 - 0	Swansea (H)
Middlesbrough (H)	3 - 2	3 - 0	2 - 1	2 - 1	3 - 0	1 - 1	3 - 0	3 - 0	3 - 0	3 - 0	1 - 1	1 - 1	Middlesbrough (H)
Blackburn (A)	2 - 0	4 - 0	3 - 0	3 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 1	3 - 0	4 - 2	1 - 1	Blackburn (A)
Sunderland (A)	0 - 1	1 - 1	3 - 0	1 - 1	3 - 0	1 - 1	3 - 0	3 - 0	3 - 2	3 - 0	4 - 1	1 - 1	Sunderland (A)
Coventry (H)	1 - 1	3 - 0	3 - 0	1 - 1	3 - 0	3 - 1	3 - 0	3 - 0	3 - 1	3 - 0	1 - 0	1 - 1	Coventry (H)
Ipswich (H)	4 - 0	3 - 3	1 - 2	3 - 0	3 - 0	1 - 3	3 - 2	3 - 0	3 - 0	3 - 1	2 - 2	1 - 1	Ipswich (H)
Preston (A)	1 - 2	3 - 1	2 - 2	2 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 2	3 - 0	0 - 0	1 - 0	Preston (A)
West Brom (A)	0 - 1	1 - 1	1 - 2	3 - 0	3 - 0	1 - 1	3 - 0	3 - 0	3 - 1	3 - 0	0 - 2	1 - 1	West Brom (A)
Birmingham (H)	3 - 0	3 - 1	3 - 0	3 - 0	3 - 0	2 - 1	3 - 0	3 - 0	3 - 0	3 - 0	0 - 0	2 - 0	Birmingham (H)
Cardiff (A)	3 - 0	3 - 1	3 - 0	1 - 1	3 - 1	1 - 1	3 - 0	3 - 0	2 - 1	3 - 1	3 - 2	1 - 0	Cardiff (A)
Preston (H)	2 - 1	2 - 1	2 - 1	3 - 1	3 - 1	2 - 1	3 - 0	3 - 0	3 - 1	3 - 1	2 - 3	2 - 0	Preston (H)
Norwich (H)	1 - 0	2 - 1	1 - 1	1 - 1	2 - 1	3 - 1	3 - 0	3 - 0	3 - 0	2 - 1	2 - 2	2 - 0	Norwich (H)
Bristol (A)	1 - 0	2 - 1	1 - 1	1 - 1	2 - 1	1 - 0	4 - 1	3 - 0	2 - 0	2 - 1	4 - 2	1 - 0	Bristol (A)
Rotherham (H)	3 - 0	5 - 0	3 - 1	3 - 0	3 - 0	3 - 0	3 - 0	3 - 0	4 - 0	3 - 0	1 - 4	2 - 0	Rotherham (H)
Swansea (A)	4 - 0	2 - 0	4 - 1	3 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 0	3 - 0	4 - 4	1 - 0	Swansea (A)
Plymouth (A)	2 - 0	2 - 0	1 - 1	1 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 0	2 - 0	3 - 2	2 - 0	Plymouth (A)
Leicester (H)	3 - 1	2 - 1	1 - 1	2 - 0	3 - 0	2 - 1	3 - 0	3 - 0	2 - 1	2 - 0	2 - 3	1 - 1	Leicester (H)
Town (A)	1 - 1	5 - 0	1 - 1	2 - 2	3 - 0	3 - 1	3 - 0	3 - 0	3 - 1	3 - 0	4 - 4	1 - 0	Town (A)
Stoke (H)	1 - 0	2 - 0	2 - 0	2 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 0	2 - 0	3 - 2	2 - 0	Stoke (H)
Sheff Wednesday (A)	2 - 0	3 - 0	1 - 1	2 - 0	3 - 0	2 - 0	4 - 1	3 - 0	2 - 1	2 - 0	1 - 1	1 - 0	Sheff Wednesday (A)
Millwall (H)	2 - 0	3 - 1	1 - 1	2 - 0	3 - 0	3 - 1	3 - 0	3 - 0	3 - 1	3 - 0	0 - 2	2 - 0	Millwall (H)
Watford (A)	2 - 2	3 - 0	0 - 2	2 - 0	3 - 0	1 - 1	5 - 3	3 - 0	2 - 0	2 - 0	0 - 4	1 - 1	Watford (A)
Hull (H)	3 - 1	0 - 1	2 - 1	1 - 1	4 - 1	3 - 1	3 - 0	3 - 0	3 - 0	3 - 1	3 - 3	2 - 0	Hull (H)
Coventry (A)	1 - 2	3 - 0	1 - 1	3 - 0	3 - 0	2 - 0	3 - 0	3 - 0	3 - 0	3 - 0	1 - 1	1 - 1	Coventry (A)
Sunderland (H)	0 - 0	2 - 0	0 - 2	3 - 0	3 - 0	2 - 1	3 - 0	3 - 0	2 - 1	2 - 0	1 - 1	2 - 0	Sunderland (H)
Blackburn (H)	0 - 1	1 - 0	3 - 0	3 - 0	3 - 0	3 - 1	3 - 0	3 - 0	3 - 0	3 - 0	1 - 1	2 - 0	Blackburn (H)
Middlesbrough (A)	4 - 3	2 - 1	1 - 0	1 - 0	3 - 0	1 - 2	3 - 0	3 - 0	3 - 1	2 - 0	3 - 3	1 - 1	Middlesbrough (A)
QPR (A)	0 - 4	1 - 0	2 - 0	3 - 0	3 - 0	2 - 1	3 - 0	3 - 0	4 - 1	3 - 0	3 - 1	1 - 1	QPR (A)
Southampton (H)	1 - 2	1 - 1	1 - 1	2 - 1	3 - 0	2 - 1	5 - 4	3 - 0	1 - 3	2 - 1	3 - 2	2 - 1	Southampton (H)
	Result	Oliver	Dad	Grandad	Grandma	Mum	Holly	Sam	TD	Median	Random	Bookies	

And translating those predictions into a league table format we have

Anyway, that's your lot for now. Any and all suggestions on improving any aspect of this endeavour are very welcome.

Name	Pts	W	D	L	GF	GA	GD
Result	90	27	9	10	81	43	38
Oliver	119	37	8	1	107	31	76
Dad	83	22	17	7	79	46	33
Grandad	112	34	10	2	92	19	73
Grandma	136	45	1	0	134	13	121
Mum	110	34	8	4	88	35	53
Holly	136	45	1	0	147	15	132
Sam	127	41	4	1	120	11	109
TD	132	44	0	2	130	36	94
Median	134	44	2	0	113	15	98
Random	75	20	15	11	105	90	15
Bookies	96	25	21	0	63	22	41