



# FOOTBALL

THE BEAUTIFUL GAME ORACLE

# OBJECTIVE: A DATA-CENTRIC APPROACH TO PREDICT FOOTBALL MATCHES IN ENGLISH PREMIER LEAGUE (TRACK 2)

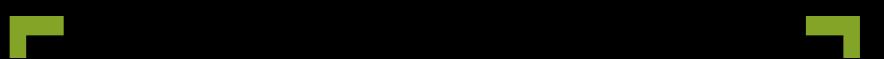
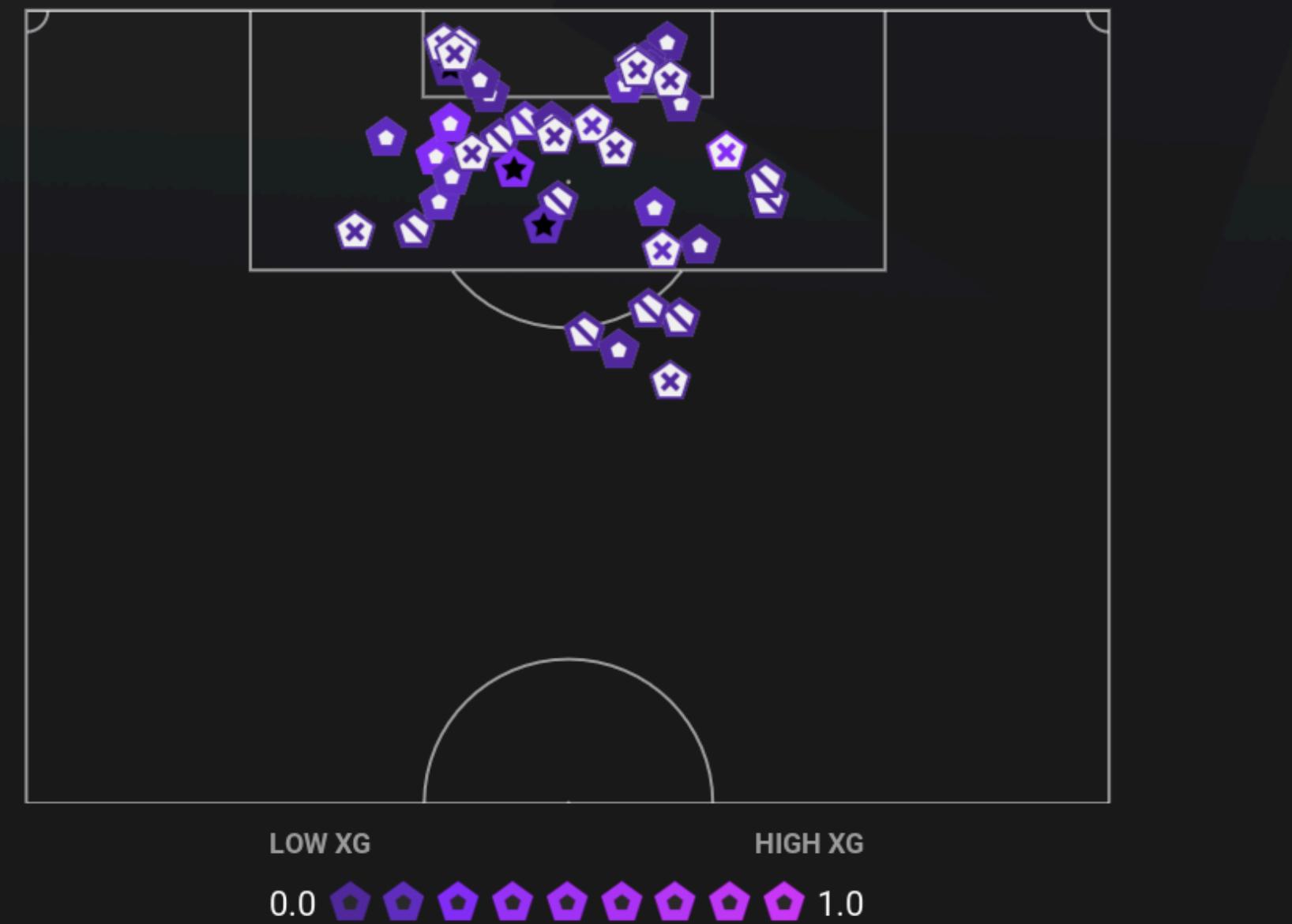


# SOME KEY FOOTIE TERMS.

## SHOT MAP

All Comps, Last 5 Matches

Goals: 3 | xG Total: 4.18



xG - Expected goals

xGa - Expected goals against

Shot vs Shot on target

Possible results for a team:

Win/Draw/Loss

**Home advantage**

Players are considered assets for teams so they have a “Transfer/market value”

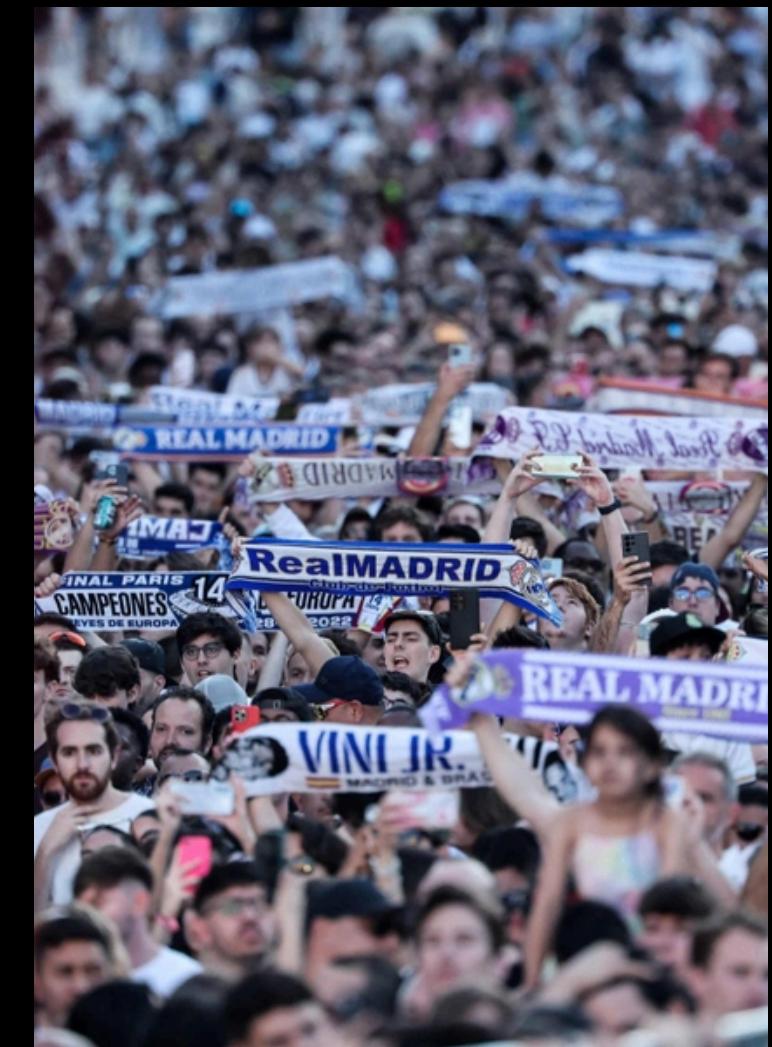
xG provides a good idea of how many goals a team should score based on the quality of the shots on target. It's a good indication of chances, it doesn't always mean the team will score the amount it stated.

# OUR MOTIVATION

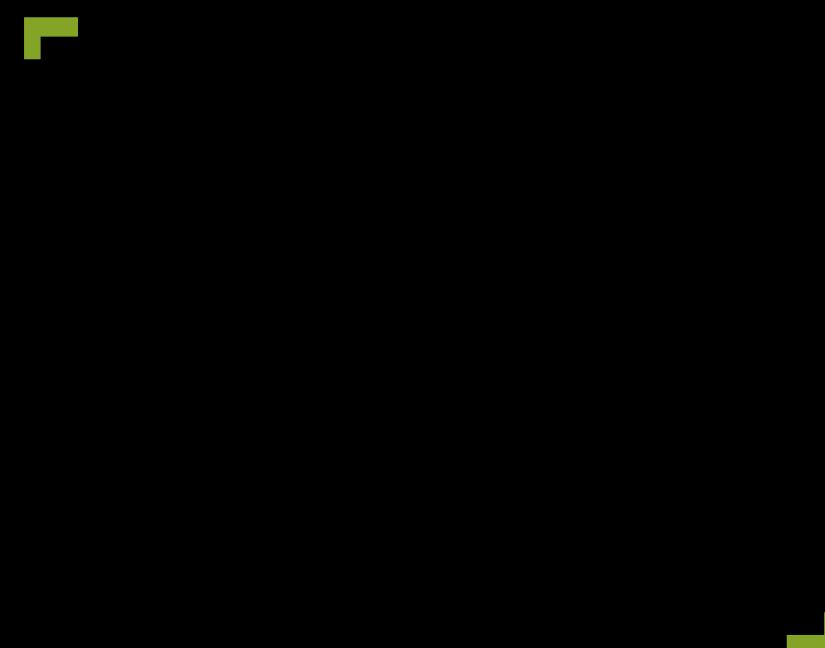
passionate football fans  
wanting to look at the  
sport from different  
lenses



- Test the accuracy of bookmakers
- Determine what the best metrics are to predict success in a football team
- Predict better than bookmakers



# ABOUT THE DATA WE COLLECTED



Data Cascades problems? just one! The result of a match is something that can't be mistaken.  
\* except for financial data regarding wages.

Each match:  
xG, Shots & Goals for both Home and Away teams

|  |  |  | xPTS                    |
|--|--|--|-------------------------|
|  |  |  | 7.77 +2.77 23.65 -2.35  |
|  |  |  | 11.02 +3.02 21.86 -0.14 |
|  |  |  | 13.67 +2.67 18.97 -1.03 |
|  |  |  | 14.28 +4.28 13.69 -5.31 |
|  |  |  | 14.86 +4.86 14.70 -3.30 |
|  |  |  | 15.78 +5.78 10.80 -7.20 |
|  |  |  | 16.83 -1.17 16.99 +1.01 |
|  |  |  | 17.51 +0.51 16.46 -1.54 |
|  |  |  | 15.78 -2.22 16.16 -1.84 |
|  |  |  | 14.33 +5.33 19.14 +2.14 |
|  |  |  | 14.31 -0.69 16.66 +0.66 |
|  |  |  | 13.46 -3.54 18.45 +2.45 |
|  |  |  | 15.96 +2.96 15.00       |
|  |  |  | 11.51 -2.49 16.68 +4.68 |
|  |  |  | 12.11 +0.11 17.14 +1.14 |
|  |  |  | 11.79 +0.79             |

# ELO!

## ELO!!

### ELO!?

Elo: A rating system where teams gain/lose points based on results and match metrics



Creator of elo rating system Arpad Elo

|  |     |    |    |    |         |        |        |        |        |
|--|-----|----|----|----|---------|--------|--------|--------|--------|
|  | 125 | 54 | 20 | 51 | 1511.96 | -2.12  | -9.02  | +18.74 | -8.93  |
|  | 125 | 57 | 24 | 44 | 1509.87 | +2.11  | +0.19  | +12.28 | +11.06 |
|  | 125 | 36 | 39 | 50 | 1500.63 | +11.05 | +3.08  | -18.74 | -7.49  |
|  | 125 | 46 | 26 | 53 | 1472.52 | -11.06 | +11.44 | -5.45  | -6.84  |
|  | 125 | 39 | 31 | 55 | 1465.75 | +11.92 | -0.19  | -8.08  | -15.93 |
|  | 49  | 10 | 12 | 27 | 1456.44 | -11.92 | -12.04 | +5.78  | -12.01 |
|  | 49  | 8  | 10 | 31 | 1453.93 | -7.69  | -10.60 | +8.78  | +12.01 |

Elo is fantastic to evaluate a teams stature across a long period and over many games

|                         | team | played | wins | draws | losses | elo     | L5_1   | L5_2   | L5_3   | L5_4   | L5_5   |                         | next_opponent | next_date | opp_elos | elo_diff |
|-------------------------|------|--------|------|-------|--------|---------|--------|--------|--------|--------|--------|-------------------------|---------------|-----------|----------|----------|
| Arsenal                 |      | 125    | 82   | 27    | 16     | 1629.99 | -1.42  | +10.60 | +5.03  | +6.84  | +4.95  | Tottenham               |               |           | 1511.96  | +118.03  |
| Manchester City         |      | 125    | 84   | 21    | 20     | 1618.07 | +13.36 | +8.99  | -8.46  | +7.49  | +7.35  | Newcastle United        |               |           | 1513.74  | +104.33  |
| Liverpool               |      | 125    | 74   | 29    | 22     | 1573.20 | -13.36 | +9.84  | -8.56  | -11.06 | -7.94  | Nottingham Forest       |               |           | 1465.75  | +107.45  |
| Chelsea                 |      | 125    | 55   | 31    | 39     | 1568.19 | +7.04  | +9.02  | -10.23 | +15.94 | +7.93  | Burnley                 |               |           | 1453.93  | +114.26  |
| Aston Villa             |      | 125    | 62   | 27    | 36     | 1551.68 | +16.50 | -9.84  | +8.46  | +8.93  | +4.95  | Leeds                   |               |           | 1456.44  | +95.24   |
| Crystal Palace          |      | 125    | 41   | 41    | 43     | 1543.34 | -2.40  | +10.45 | -5.03  | -2.11  | -7.53  | Wolverhampton Wanderers |               |           | 1402.97  | +140.37  |
| Brighton                |      | 125    | 50   | 37    | 38     | 1533.50 | +2.40  | +12.03 | -12.27 | +7.16  | -0.70  | Brentford               |               |           | 1520.92  | +12.58   |
| Brentford               |      | 125    | 46   | 32    | 47     | 1520.92 | +12.02 | -10.45 | +8.56  | +13.20 | -7.35  | Brighton                |               |           | 1533.50  | -12.58   |
| Sunderland              |      | 11     | 5    | 4     | 2      | 1520.28 | +1.42  | -3.08  | +10.23 | +8.17  | -11.83 | Fulham                  |               |           | 1472.52  | +47.76   |
| Bournemouth             |      | 125    | 44   | 29    | 52     | 1517.16 | -16.51 | -8.99  | +8.08  | +2.11  | +9.16  | West Ham                |               |           | 1447.62  | +69.54   |
| Newcastle United        |      | 125    | 60   | 29    | 36     | 1513.74 | -12.01 | -14.71 | +5.45  | -7.17  | +8.55  | Manchester City         |               |           | 1618.07  | -104.33  |
| Tottenham               |      | 125    | 54   | 20    | 51     | 1511.96 | -2.12  | -9.02  | +18.74 | -8.93  | +8.66  | Arsenal                 |               |           | 1629.99  | -118.03  |
| Manchester United       |      | 125    | 57   | 24    | 44     | 1509.87 | +2.11  | +0.19  | +12.28 | +11.06 | +11.84 | Everton                 |               |           | 1500.63  | +9.24    |
| Everton                 |      | 125    | 36   | 39    | 50     | 1500.63 | +11.05 | +3.08  | -18.74 | -7.49  | +7.53  | Manchester United       |               |           | 1509.87  | -9.24    |
| Fulham                  |      | 125    | 46   | 26    | 53     | 1472.52 | -11.06 | +11.44 | -5.45  | -6.84  | -9.16  | Sunderland              |               |           | 1520.28  | -47.76   |
| Nottingham Forest       |      | 125    | 39   | 31    | 55     | 1465.75 | +11.92 | -0.19  | -8.08  | -15.93 | -8.55  | Liverpool               |               |           | 1573.20  | -107.45  |
| Leeds                   |      | 49     | 10   | 12    | 27     | 1456.44 | -11.92 | -12.04 | +5.78  | -12.01 | -8.65  | Aston Villa             |               |           | 1551.68  | -95.24   |
| Burnley                 |      | 49     | 8    | 10    | 31     | 1453.93 | -7.69  | -10.60 | +8.78  | +12.01 | -4.95  | Chelsea                 |               |           | 1568.19  | -114.26  |
| West Ham                |      | 125    | 39   | 28    | 58     | 1447.62 | +7.68  | +14.71 | -5.78  | -13.20 | -4.95  | Bournemouth             |               |           | 1517.16  | -69.54   |
| Wolverhampton Wanderers |      | 125    | 36   | 23    | 66     | 1402.97 | -7.03  | -11.43 | -8.78  | -8.18  | +0.70  | Crystal Palace          |               |           | 1543.34  | -140.37  |

| team                    | played | wins | draws | losses | elo     |
|-------------------------|--------|------|-------|--------|---------|
| Arsenal                 | 125    | 82   | 27    | 16     | 1629.99 |
| Manchester City         | 125    | 84   | 21    | 20     | 1618.07 |
| Liverpool               | 125    | 74   | 29    | 22     | 1573.20 |
| Chelsea                 | 125    | 55   | 31    | 39     | 1568.19 |
| Aston Villa             | 125    | 62   | 27    | 36     | 1551.68 |
| Crystal Palace          | 125    | 41   | 41    | 43     | 1543.34 |
| Brighton                | 125    | 50   | 37    | 38     | 1533.50 |
| Brentford               | 125    | 46   | 32    | 47     | 1520.92 |
| Sunderland              | 11     | 5    | 4     | 2      | 1520.28 |
| Bournemouth             | 125    | 44   | 29    | 52     | 1517.16 |
| Newcastle United        | 125    | 60   | 29    | 36     | 1513.74 |
| Tottenham               | 125    | 54   | 20    | 51     | 1511.96 |
| Manchester United       | 125    | 57   | 24    | 44     | 1509.87 |
| Everton                 | 125    | 36   | 39    | 50     | 1500.63 |
| Fulham                  | 125    | 46   | 26    | 53     | 1472.52 |
| Nottingham Forest       | 125    | 39   | 31    | 55     | 1465.75 |
| Leeds                   | 49     | 10   | 12    | 27     | 1456.44 |
| Burnley                 | 49     | 8    | 10    | 31     | 1453.93 |
| West Ham                | 125    | 39   | 28    | 58     | 1447.62 |
| Wolverhampton Wanderers | 125    | 36   | 23    | 66     | 1402.97 |

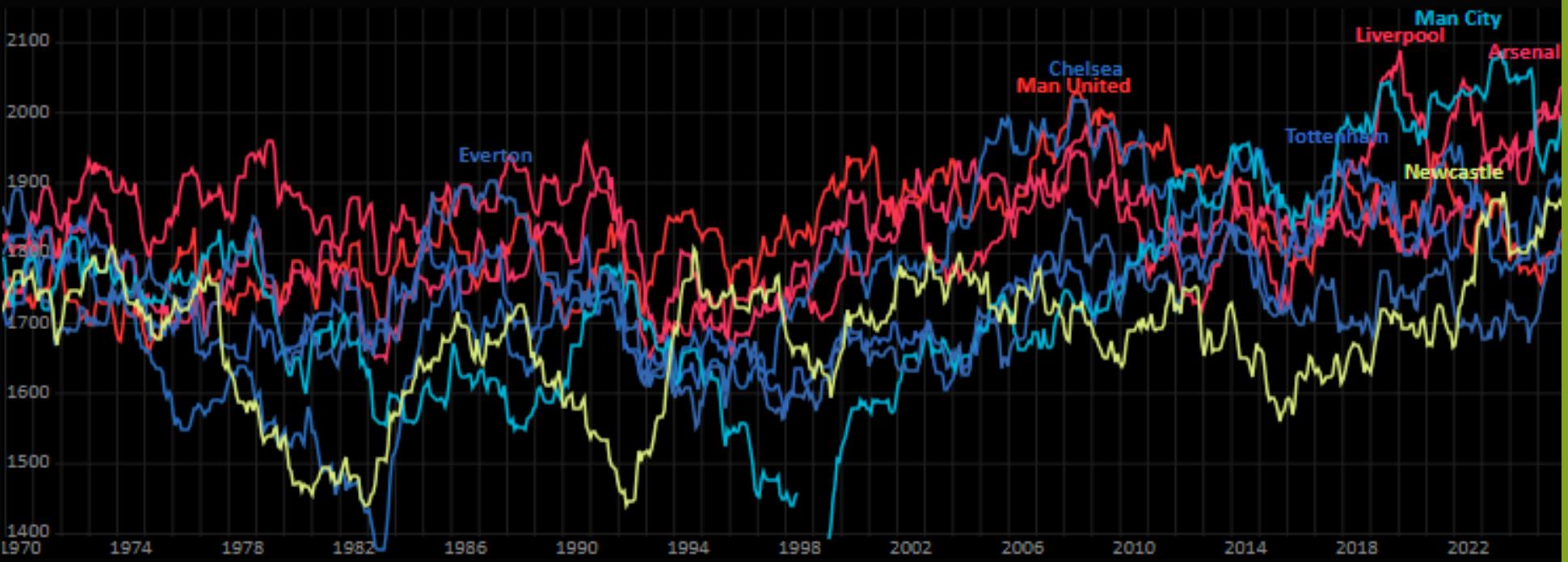
Ours  
compared  
To  
clubelo.com



# England

Home Field Advantage: 53.7 Elo points.

Biggest HFA: 130.2 (on Mar 26th, 1983), smallest HFA: 18.6 (on May 16th, 2021).



## Ranking

| Rank | Club              | Elo  | Last Match | Coach                                  |
|------|-------------------|------|------------|--|
| 1    | 1 Arsenal         | 2038 | 2025-11-08 | Mikel Arteta (since 2019-12-22)        |
| 2    | 2 Man City        | 1997 | 2025-11-09 | Pep Guardiola (since 2016-07-01)       |
| 3    | 4 Liverpool       | 1979 | 2025-11-09 | Arne Slot (since 2024-06-01)           |
| 4    | 9 Chelsea         | 1907 | 2025-11-08 | Enzo Maresca (since 2024-07-01)        |
| 5    | 10 Aston Villa    | 1886 | 2025-11-09 | Unai Emery (since 2022-11-01)          |
| 6    | 12 Newcastle      | 1867 | 2025-11-09 | Eddie Howe (since 2021-11-08)          |
| 7    | 13 Crystal Palace | 1857 | 2025-11-09 | Oliver Glasner (since 2024-02-20)      |
| 8    | 16 Brighton       | 1847 | 2025-11-09 | Fabian Hürzeler (since 2024-07-01)     |
| 9    | 17 Bournemouth    | 1834 | 2025-11-09 | Andoni Iraola (since 2023-07-01)       |
| 10   | 18 Man United     | 1834 | 2025-11-08 | Rúben Amorim (since 2024-11-11)        |
| 11   | 19 Tottenham      | 1830 | 2025-11-08 | Thomas Frank (since 2025-07-01)        |
| 12   | 20 Brentford      | 1829 | 2025-11-09 | Keith Andrews (since 2025-07-01)       |
| 13   | 23 Everton        | 1804 | 2025-11-08 | David Moyes (since 2025-01-11)         |
| 14   | 30 Fulham         | 1779 | 2025-11-08 | Marco Silva (since 2021-07-01)         |
| 15   | 33 Forest         | 1764 | 2025-11-09 | Nuno Espírito Santo (since 2023-12-20) |
| 16   | 42 West Ham       | 1738 | 2025-11-08 | Graham Potter (since 2025-01-09)       |

# ORACLE DECISIONS

X

| Year    | Winner          | Runners-up |
|---------|-----------------|------------|
| 2024-25 | Liverpool       | Arsenal    |
| 2023-24 | Manchester City | Arsenal    |
| 2022-23 | Manchester City | Arsenal    |

X



Data only consists of the previous 3 seasons, ensuring we have sufficient match data, but also have data that may be relevant to the current teams (roughly)



We decided not to use individual player data due to scope of project time frame



Validation data is strictly the 2025/2026 season (Current season) as that is the matches we actually want to predict

X