Premier League Predictions

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Agenda

About the PL

⚽ Highest level of English Football

⚽ 20 teams, 38 games, Home/Away

⚽ Win = 3, Draw = 1, Loss = 0

⚽ Goal Difference (GD) =
Goals Scored - Goals Conceded

My Aim

- ⚽ 7/8 games left this season

- ⚽ Season ends 22nd May

- ⚽ Predict the outcome of 2021-22 season

- ⚽ Winner, Top 4, Bottom 3

Experts Predictions

Winner: Man City

Top 4:

Man City, Liverpool, Chelsea, Tottenham

Bottom 3:

Norwich, Watford, Burnley

Experts	Points
Man City	92
Liverpool	91
Chelsea	79
Tottenham	67
Arsenal	65
Man United	60
West Ham	57
Wolves	55
Leicester City	51
Brighton	48
Crystal Palace	48
Brentford	46
Aston Villa	46
Southampton	45
Newcastle	43
Leeds United	38
Everton	36
Burnley	33
Watford	27
Norwich	26

Current Standings: 2021-22 Season

	Team	Played	Won	Draw	Lost	GD	Points
	Man City	31	23	5	3	52	74
	Liverpool	31	22	7	2	57	73
	Chelsea	30	18	8	4	41	62
	Tottenham	31	18	3	10	19	57
	Arsenal	30	17	3	10	9	54
	West Ham	32	15	6	11	9	51
	Man United	31	14	9	8	7	51
	Wolves	32	15	4	13	5	49
	Leicester City	29	11	7	11	-3	40
	Crystal Palace	31	8	13	10	3	37
	Brighton	31	8	13	10	-8	37
	Aston Villa	31	11	3	17	-14	36
	Brentford	32	10	6	16	3	36
	Southampton	31	8	12	11	-19	36
	Newcastle	31	8	10	13	-4	34
	Leeds United	32	8	9	15	-30	33
	Everton	30	8	4	18	-19	28
	Burnley	30	4	12	14	-19	24
	Watford	31	6	4	21	-32	22
	Norwich	31	5	6	20	-44	21

Champions League Qualification

Relegation

Race for the Title

Title Win Probability

Manchester City

Liverpool

65.6%

34.4%

FINAL GAME

100%

75%

50%

25%

0%

12 Aug 01 Sep 01 Oct 01 Nov 01 Dec 01 Jan 01 Feb 01 Mar 01 Apr 01 May 22 May
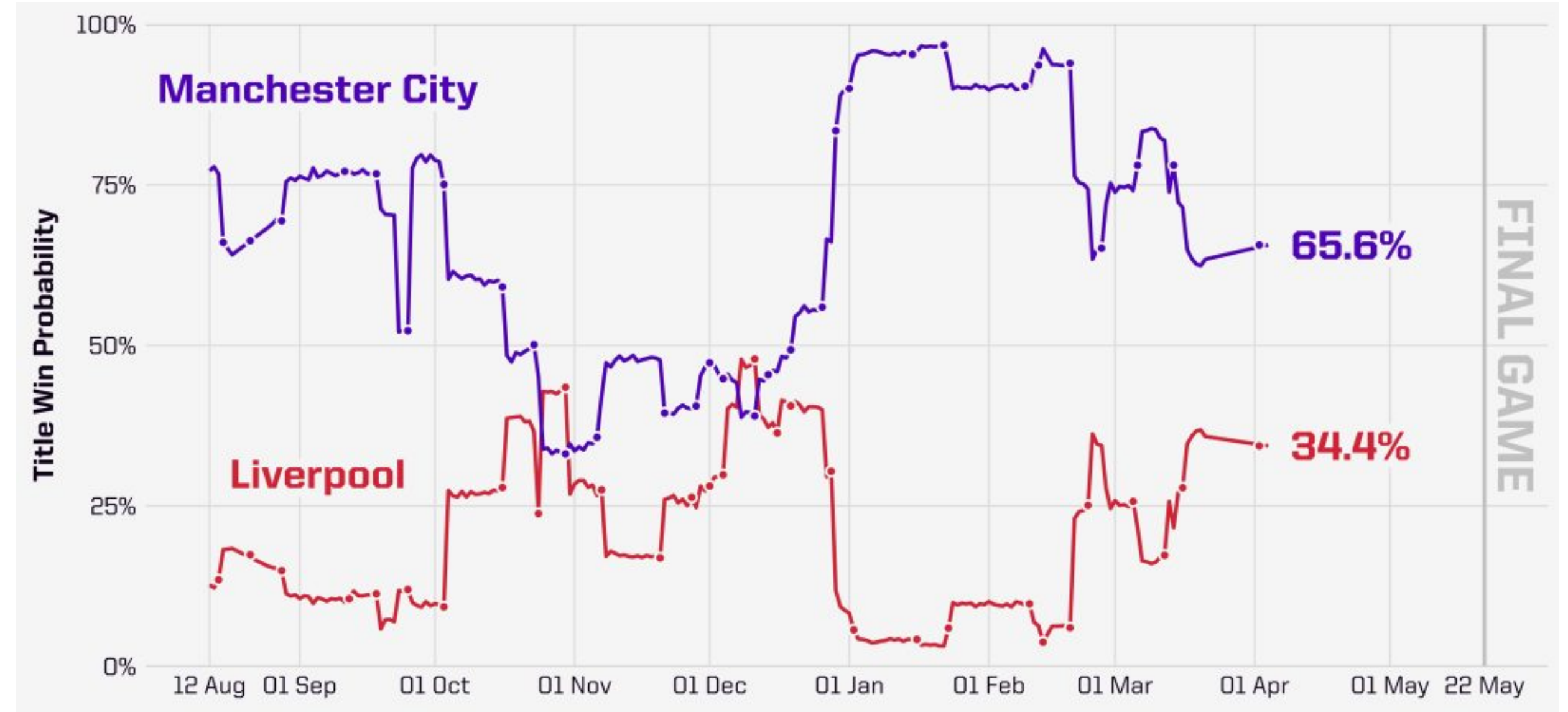
Making the Model

- ⚽ Kaggle dataset- almost entire PL history

- ⚽ Very clean

- ⚽ EDA led to useful features for model refinement later

- ⚽ Log Reg

- ⚽ Naive Bayes- multi-class predictions: Home Win/Draw/Away Win

Making the Model: Part 2

	Log Reg	Naive Bayes
Accuracy	0.46	0.48
Precision	0.44	0.44
Recall	0.41	0.45

Model Refinement

⚽ **Home Advantage:**

- Home 46%
- Draw 26%
- Away 28%

⚽ **Head 2 Head:**

Look at previous results between two teams

⚽ **Team Win Probability:**

Teams win percentages at Home/Away

⚽ **Form:**

Teams momentum and current form

Model Refinement: Part 2

	Naive Bayes	Add Form	Add Team Win Prob	Add Both
Accuracy	0.48	0.53	0.53	0.53
Precision	0.44	0.52	0.50	0.52
Recall	0.45	0.53	0.53	0.53

Final Predictions

Experts	Points		My Prediction	Points
Man City	92	=	Man City	95
Liverpool	91	=	Liverpool	94
Chelsea	79	=	Chelsea	84
Tottenham	67	=	Tottenham	75
Arsenal	65	=	Arsenal	72
Man United	60	=	Man United	64
West Ham	57	=	West Ham	60
Wolves	55	=	Wolves	58
Leicester City	51	=	Leicester City	56
Brighton	48	▼7	Aston Villa	46
Crystal Palace	48	▼3	Southampton	44
Brentford	46	=	Brentford	42
Aston Villa	46	▲3	Leeds United	42
Southampton	45	▲3	Crystal Palace	41
Newcastle	43	▼1	Everton	40
Leeds United	38	▲3	Newcastle	40
Everton	36	▲2	Brighton	38
Burnley	33	=	Burnley	27
Watford	27	=	Watford	23
Norwich	26	=	Norwich	22

Limitations

1. Time

2. Bigger dataset- other comps

3. Injuries/ Transfers

4. Players Form

5. Volatile

Thank you