Draft Kings: Premier League Prediction

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Business Problem

Problem

- Sports gambling and soccer is rising in popularity
- Table prediction gambling is popular
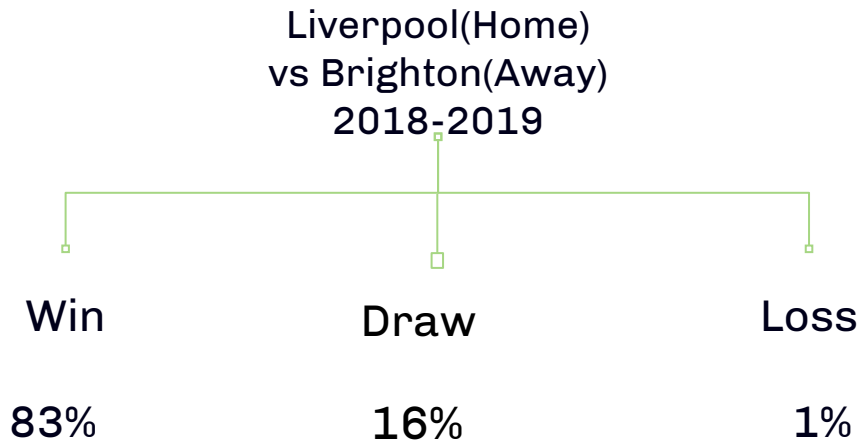
Solution

- Find probabilities using a simulation model

Data Collection

- SofaScore.com
- 2009-2019
- Final Table Results
- 27 unique features

Model

Liverpool(Home)
vs Brighton(Away)
2018-2019

Liverpool Outcome
Probability Example

Win	Draw	Loss
83%	16%	1%

2018-2019 Tables

Simulated Table

Rk	Squad	W	D	L	GF	GA	Pts
1	Man City	26	7	5	92	39	85
2	Liverpool	24	9	5	70	33	81
3	Arsenal	24	6	8	74	40	78
4	Chelsea	22	10	6	87	39	76
5	Tottenham	23	4	11	70	49	73
6	Man Utd	21	8	9	85	49	71
7	Everton	18	11	9	65	50	65
8	Bournemo	19	7	12	65	52	64
9	Wolves	18	5	15	69	64	59
10	Leicester	16	6	16	56	55	54
11	Watford	12	13	13	32	38	49
12	West Ham	13	5	20	44	62	44
13	Southampt	12	6	20	38	55	42
14	Fulham	11	9	18	35	61	42
15	Brighton	10	9	19	38	65	39
16	Crystal Pal	9	6	23	39	66	33
17	Cardiff	8	7	23	34	62	31
18	Huddersfie	7	10	21	38	62	31
19	Newcastle	7	7	24	29	70	28
20	Burnley	2	11	25	12	61	17

Actual Table

Rk	Squad	W	D	L	GF	GA	Pts
1	Man City	32	2	4	95	23	98
2	Liverpool	30	7	1	89	22	97
3	Chelsea	21	9	8	63	39	72
4	Tottenham	23	2	13	67	39	71
5	Arsenal	21	7	10	73	51	70
6	Man Utd	19	9	10	65	54	66
7	Wolves	16	9	13	47	46	57
8	Everton	15	9	14	54	46	54
9	Leicester	15	7	16	51	48	52
10	West Ham	15	7	16	52	55	52
11	Watford	14	8	16	52	59	50
12	Crystal Pal	14	7	17	51	53	49
13	Newcastle	12	9	17	42	48	45
14	Bournemo	13	6	19	56	70	45
15	Burnley	11	7	20	45	68	40
16	Southampt	9	12	17	45	65	39
17	Brighton	9	9	20	35	60	36
18	Cardiff	10	4	24	34	69	34
19	Fulham	7	5	26	34	81	26
20	Huddersfie	3	7	28	22	76	16

Model Evaluation:
Top 3 Teams

Liverpool

1. 40%

2. 25%

3. 15%

4. 12%

Manchester City

1. 25%

2. 23%

3. 15%

4. 13%

Chelsea

1. 19%

2. 25%

3. 19%

4. 20%

Future Steps

- More unique features
- Convert probabilities to gambling odds
- Improve game predictions

Thank You

 https://github.com/djs6478/Capstone-Premier-League-Prediction