

NFL Spread Predictions

“It’s not gambling if you absolutely know you’re going to win” – Barney Stinson



Motivation

- NFL is the most popular league in the US
- Legalization of gambling is growing in many states
- Future of sports may be tied to sports betting
- VERY HARD to beat Vegas
 - Spread vs Money Line



How it Works

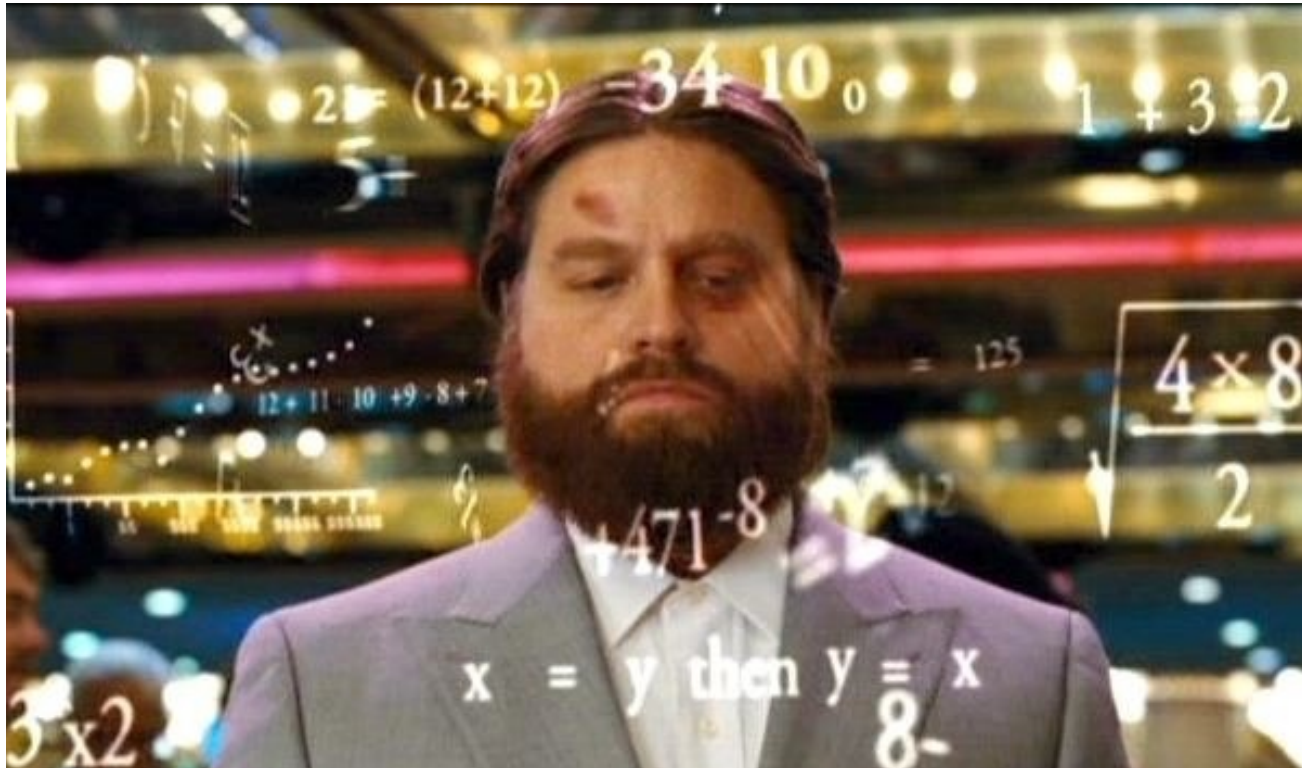


The Data

- Provided by Sports Book Review Online
- 2007-2020
- Included Scores by Quarter, Opening and closing lines for the games, and Team names
- Cleaning data was challenging
- RDS used to store web app inputs and predictions

Date	Rot	VH	Team	1st	2nd	3rd	4th	Final	Open	Close	ML	2H
913	463	V	Philadelphia	10	7	0	0	17	6.5	5.5	-230	1.5
913	464	H	Washington	0	7	7	13	27	44	41.5	195	20
913	465	V	Chicago	3	3	0	21	27	43.5	42.5	110	0.5
913	466	H	Detroit	3	10	10	0	23	1	2.5	-130	20.5
913	467	V	Indianapolis	7	10	0	3	20	6.5	7	-320	3
913	468	H	Jacksonville	0	14	3	10	27	44.5	44	265	23
913	469	V	GreenBay	3	19	7	14	43	46	44.5	105	22
913	470	H	Minnesota	7	3	0	24	34	3	1.5	-125	3.5
913	471	V	LAChargers	0	6	0	10	16	3	2	-130	3.5
913	472	H	Cincinnati	7	0	6	0	13	44	41	110	19.5

Modeling



- Random Forest Model
 - Home vs Away
 - Spread
 - Scoring Averages
- Success Criteria
 - Be able to make money long term
 - Assuming -105 Lines
 - Used Opening Lines
 - Goal: 51.2% accuracy

Results and Insights

- Cross-Validation accuracy of 51.32%
 - \$56.03 Profit after a season of \$100 bets
- Weird spread threshold
- Covering is much different than winning



Thank You!

- I will be making \$2 bets on every game this season
- If anyone would like the link to the website/model to join let me know
 - benjaminhakimi2021@u.northwestern.edu
 - Please Gamble Responsibly