



SPELL TRENDS

MTG PRICE PREDICTIONS

Presented by JD Mentz



WHO AM I

- Data Scientist
- Life-Long Geek
- Numbers Fiend
- 9 years of MtG



AGENDA

1 GOALS

2 DATA USED

3 DATA
PREPARATION

4 MODELING

5 CONCLUSIONS

6 NEXT STEPS

GOALS

Predict Prices

- Investing
- Inform purchasing
- Spot Trends



DATA SETS USED

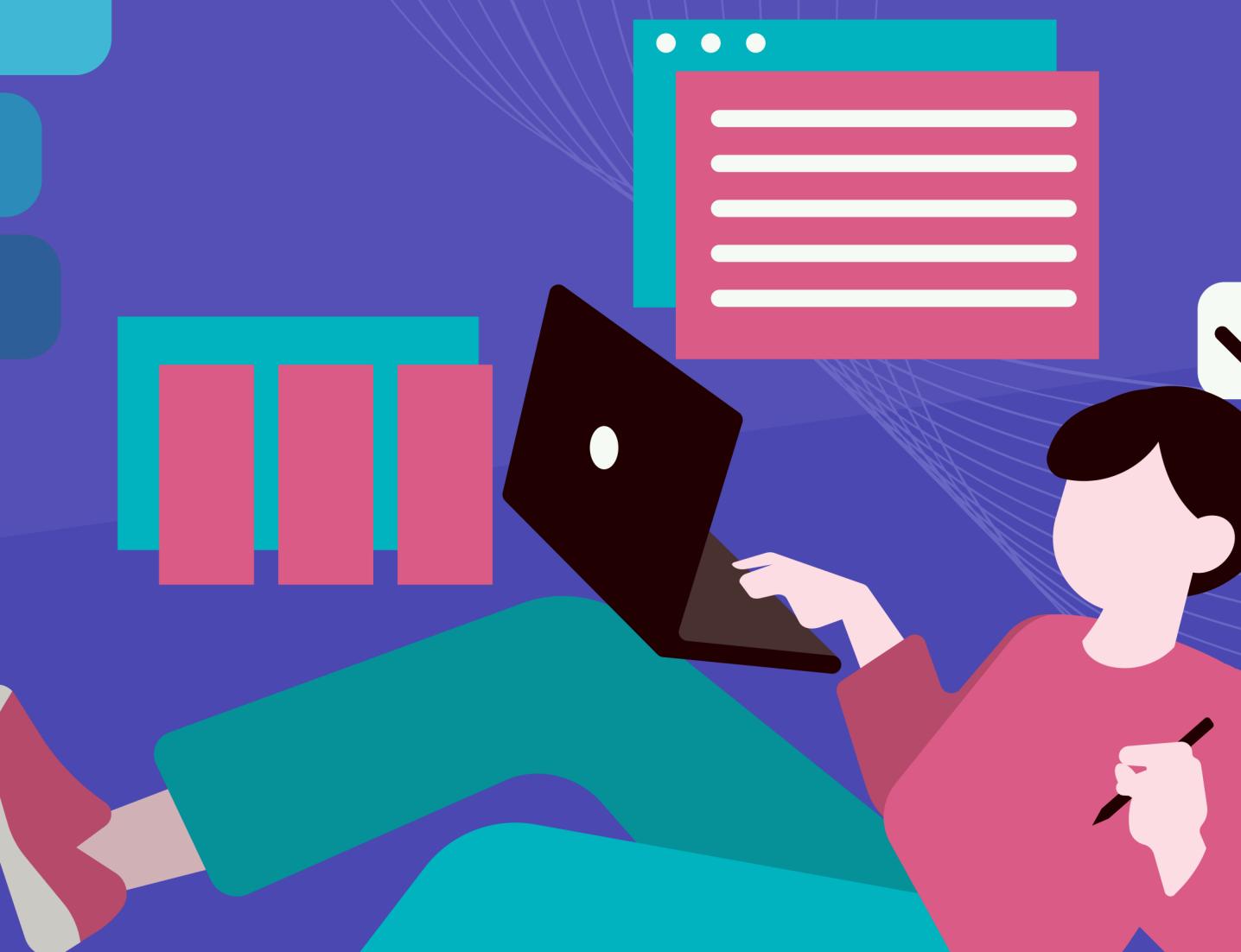
- SCRYFALL BULK DATA
 - Every unique card (415,580 entries)
- MTGJSON - ALL CARDS
 - Contains both IDs
- MTGJSON - ALL PRICES
 - 90-day price data
- TCGPLAYER PRICES
 - Most popular MtG marketplace



DATA PREPARATION

Scryfall Data

Everything	415,580
English	80,033
Normal-Sized	79,470
Legal Game Pieces	77,435
Physical Cards	69,414
Regular Printings	67,533
Have Type(s)	67,520
Not Playtest	67,280



DATA PREPARATION

Text Processing

Asmoranomardicadaistinaculdacar

Flying



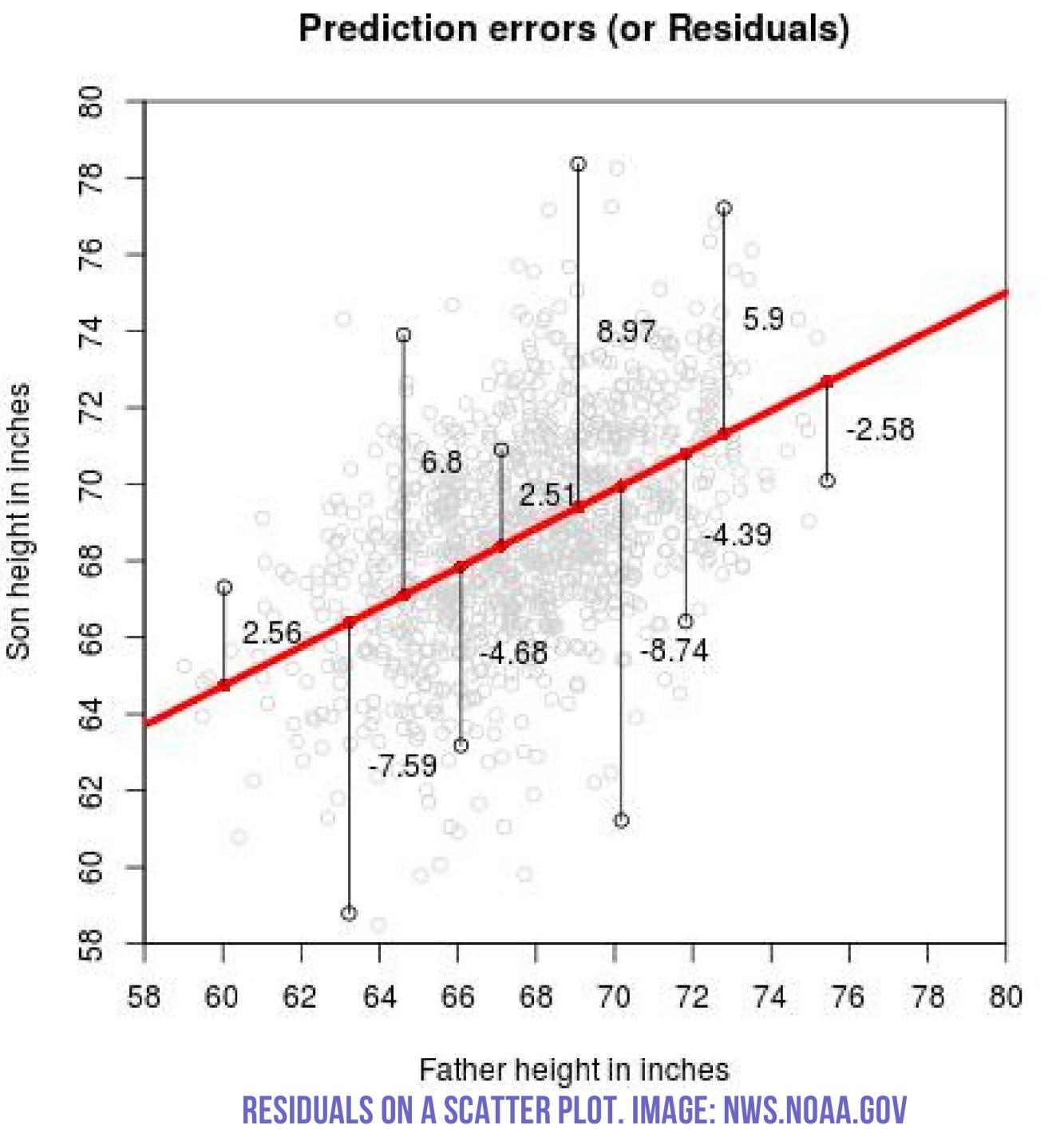
fly

Reduction + Consistency!



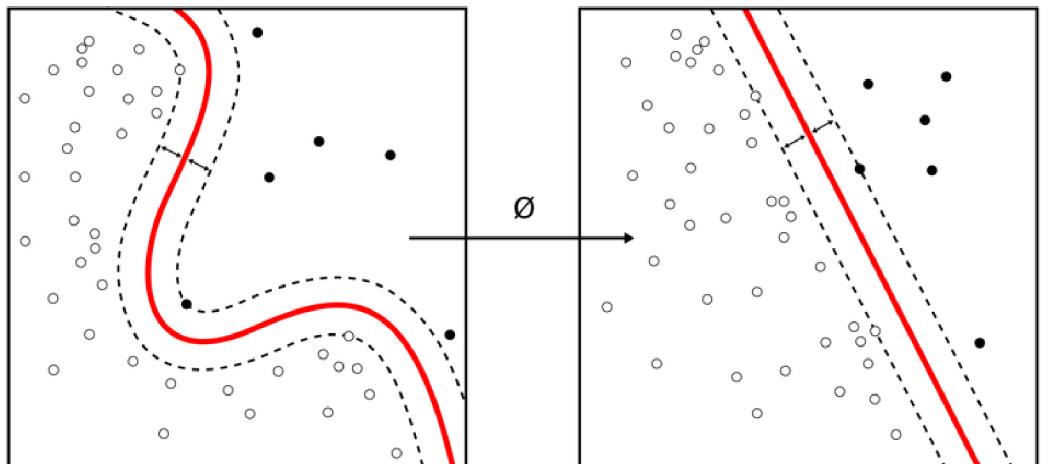
MODELING

Metric:
Root
Mean
Square
Error

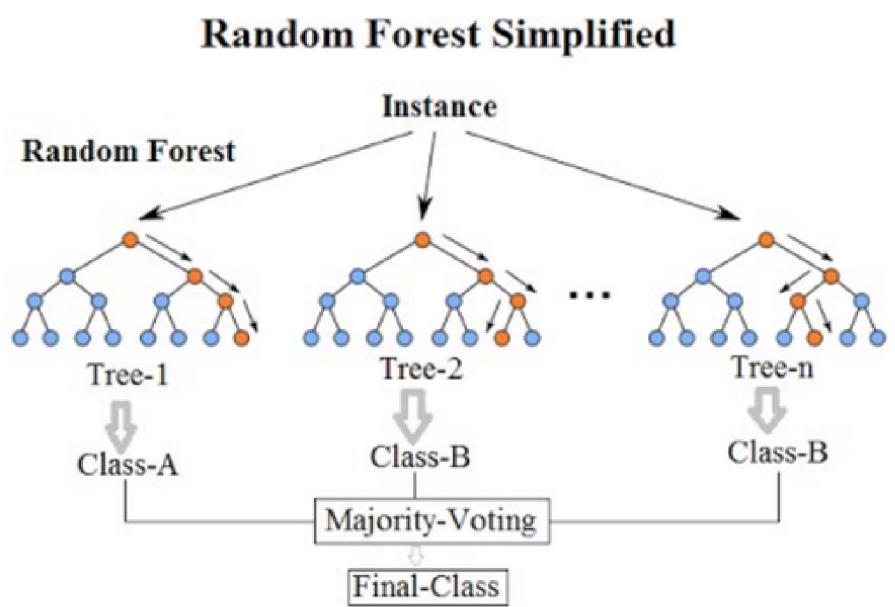


MODELING

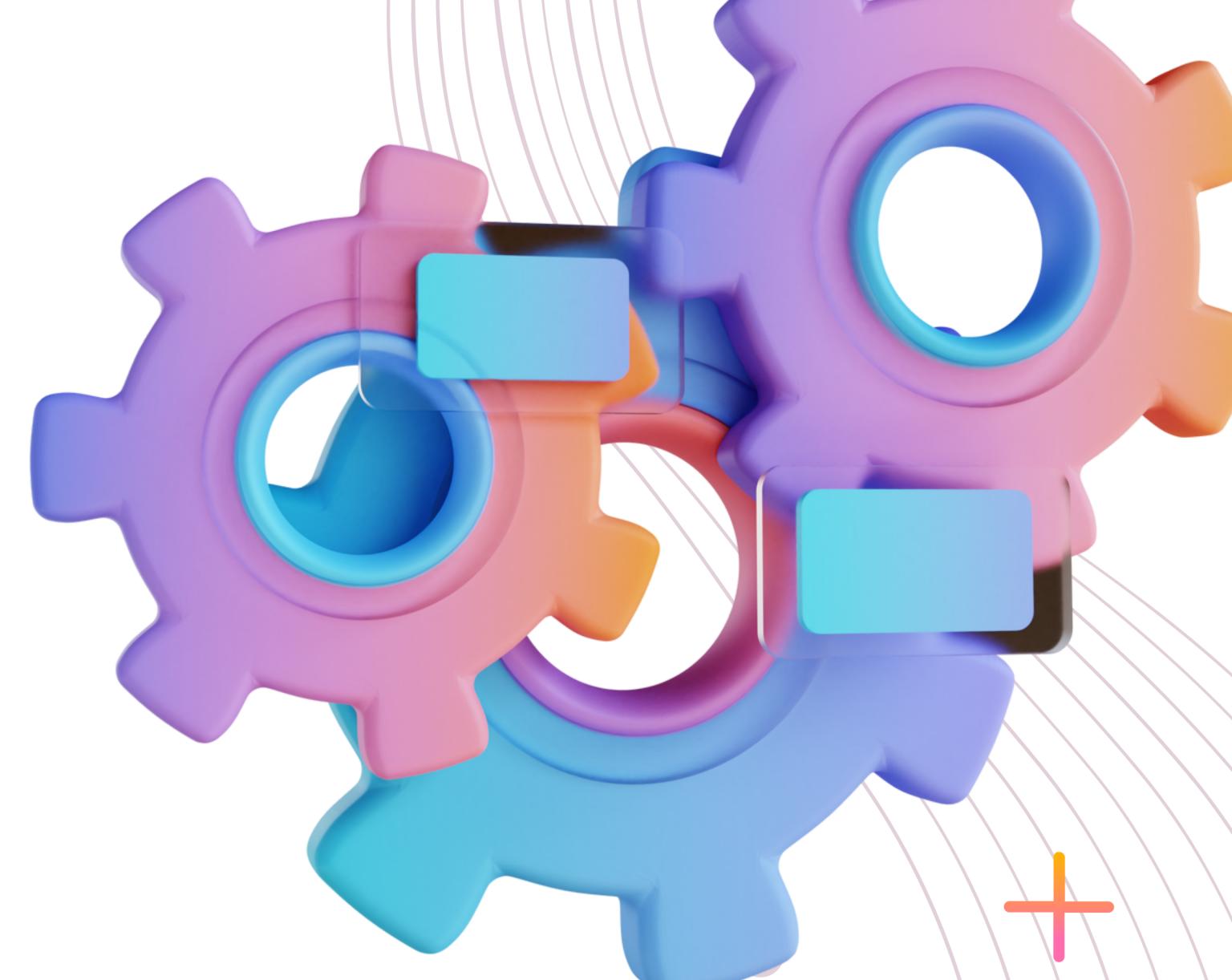
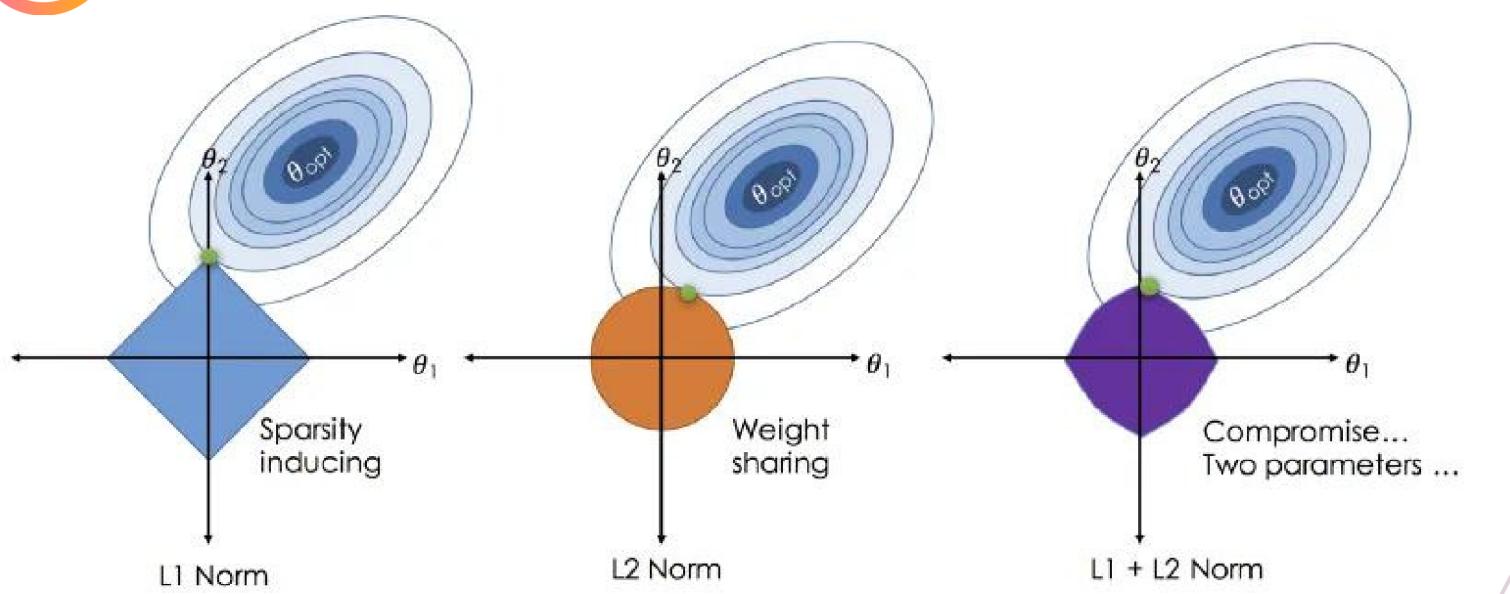
GRADIENT BOOST



RANDOM FOREST

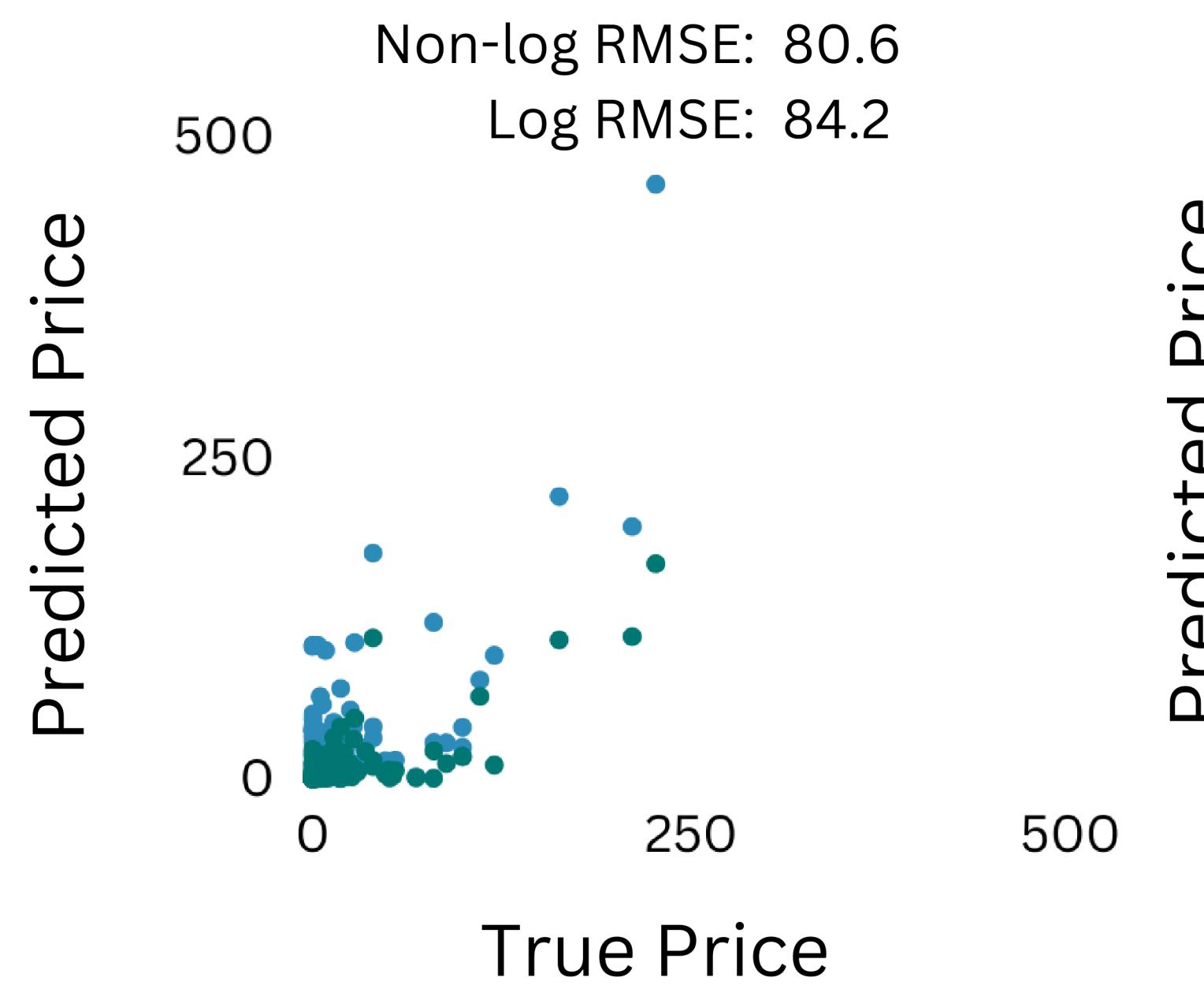


ELASTIC NET

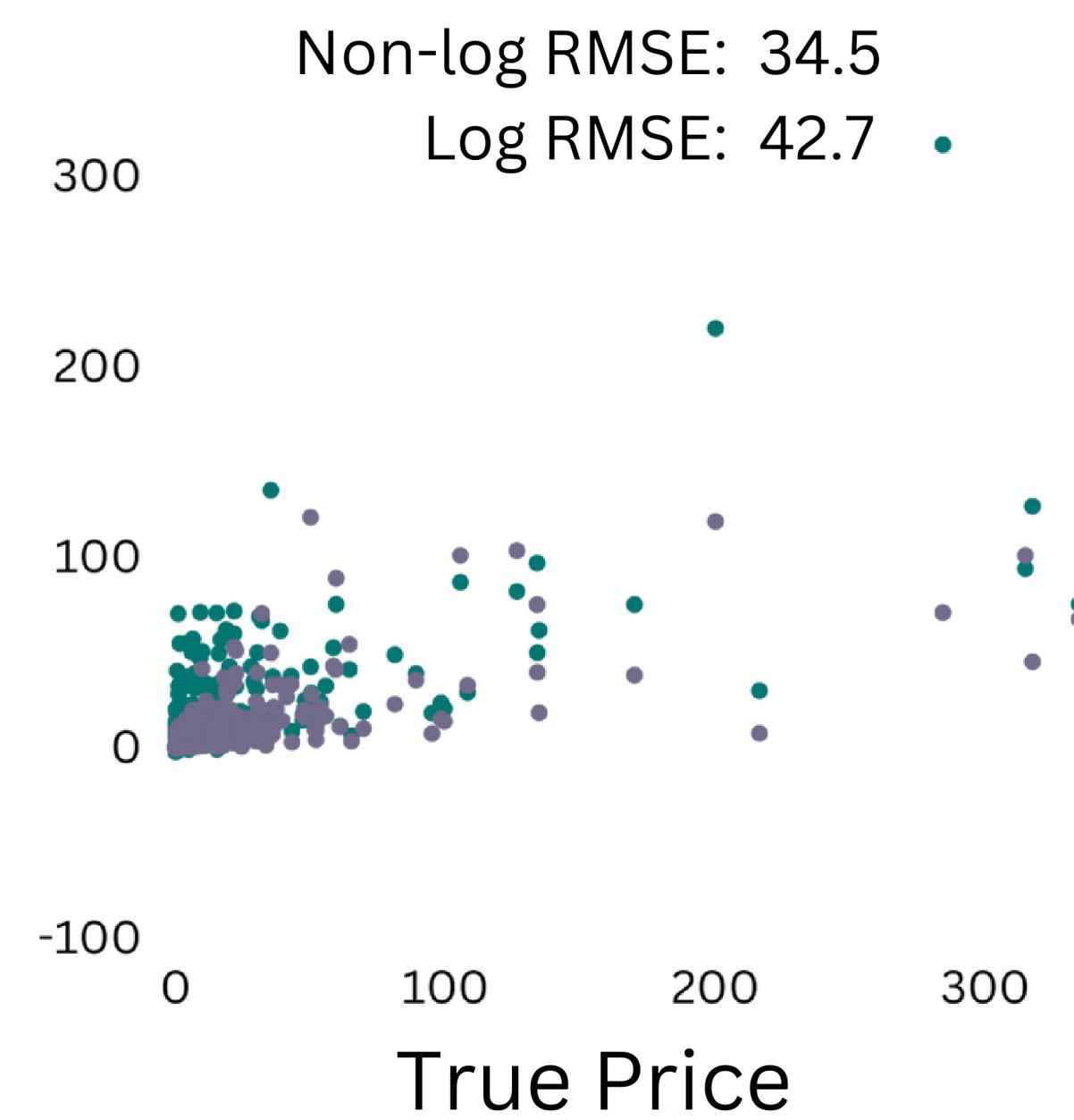


MODELING

Non-Foil Performance

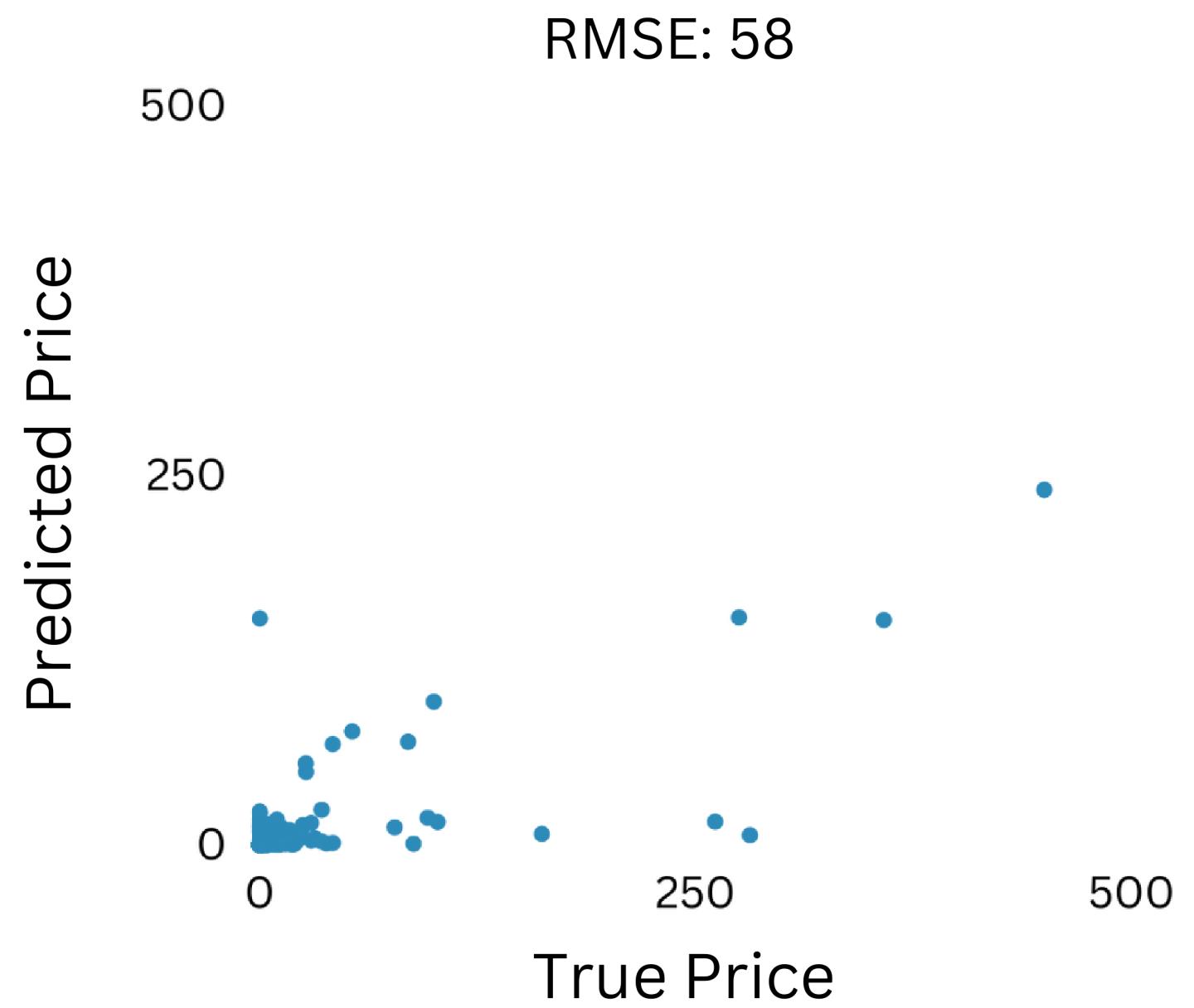


Foil Performance

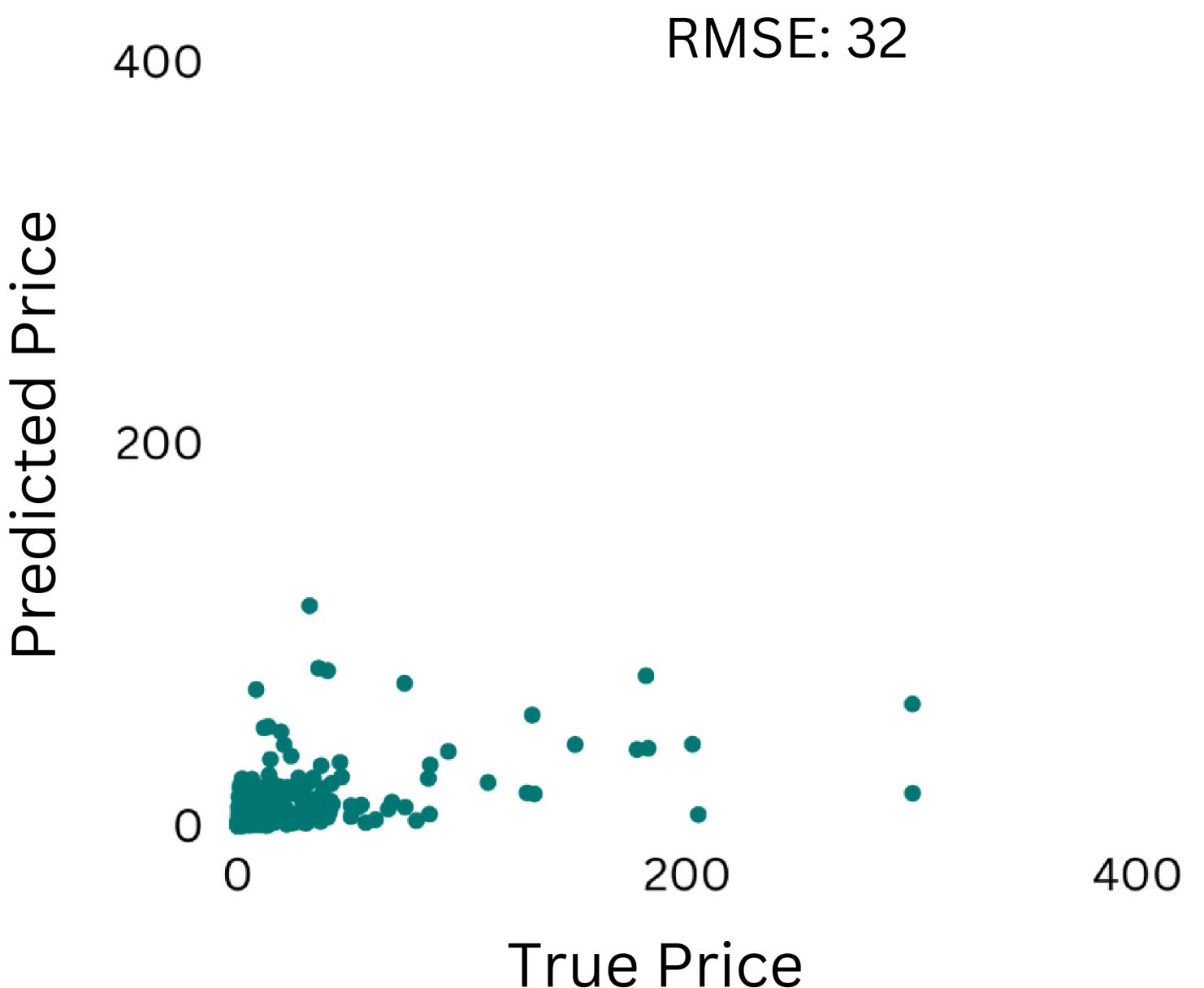


MODELING

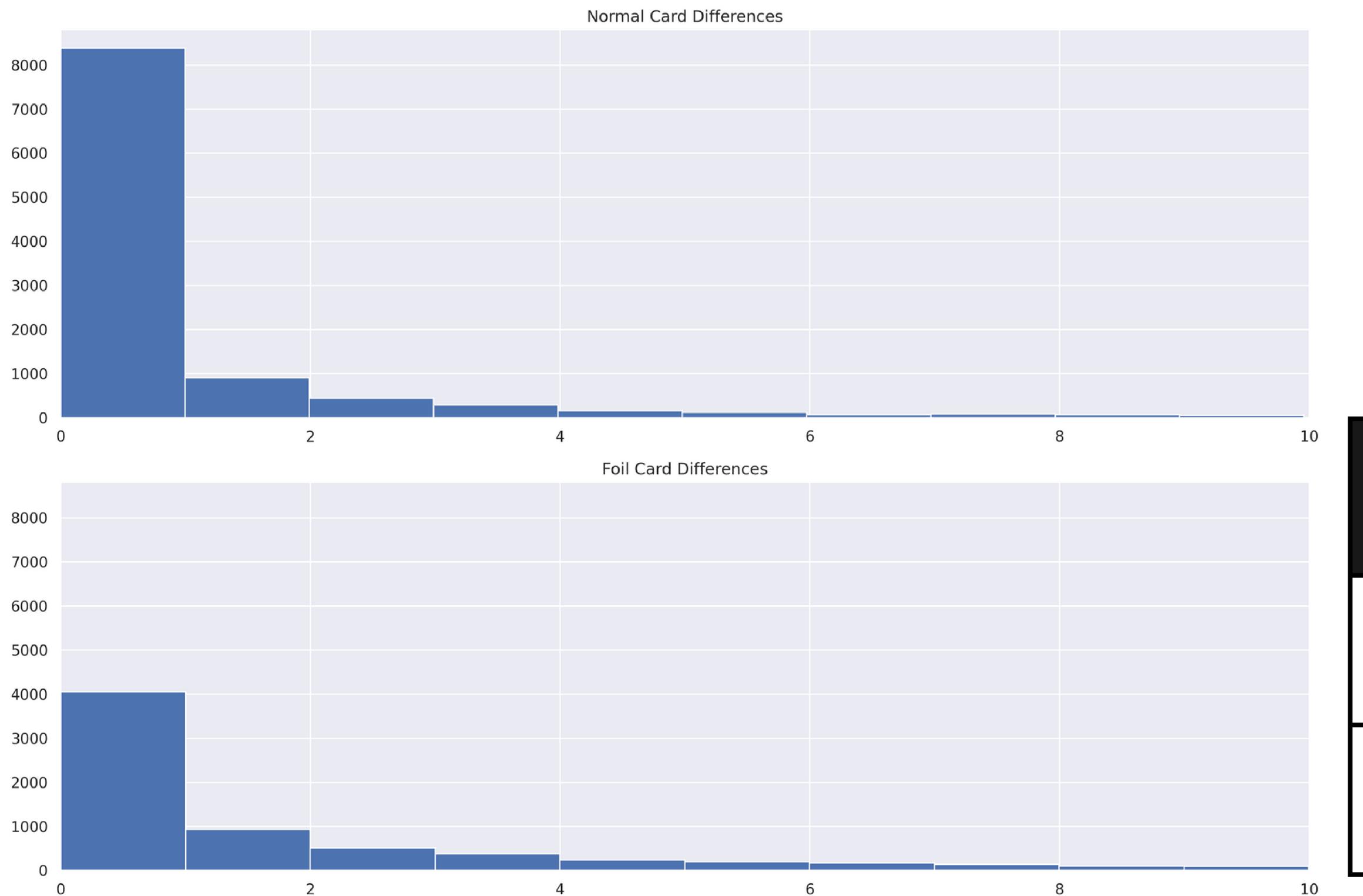
Non-Foil Testing Performance



Foil Testing Performance



MODELING



FINISH

% WITHIN \$1

NORMAL

75%

FOIL

52%

A graphic featuring a stylized illustration of interlocking gears in shades of purple, blue, and red. Below the illustration is a table with four quadrants. The top-left quadrant contains the word "FINISH". The top-right quadrant contains "% WITHIN \$1". The bottom-left quadrant contains the word "NORMAL". The bottom-right quadrant contains the number "75%". To the right of the "NORMAL" quadrant is another table with two quadrants. The top-right quadrant of this smaller table contains the word "FOIL". The bottom-right quadrant contains the number "52%".

FINISH	% WITHIN \$1
NORMAL	75%
FOIL	52%



CONCLUSIONS

- Lots left to do!
- Provides insights
- Not yet ideal
- Genuinely Promising





NEXT STEPS

- Do lots more!
- Model tweaking
- More Subsets
- Account for corner cases



THANK YOU

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Repository:

- github.com/ParkedHampster/Spell-Trends

