



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

- Daily updates
- Every unique card (415,580 entries)
- Contains Image Data

○ MTGJSON - ALL CARDS

- Contains both IDs

○ MTGJSON - ALL PRICES

- 90-day price data
- All card variations

○ TCGPLAYER PRICES

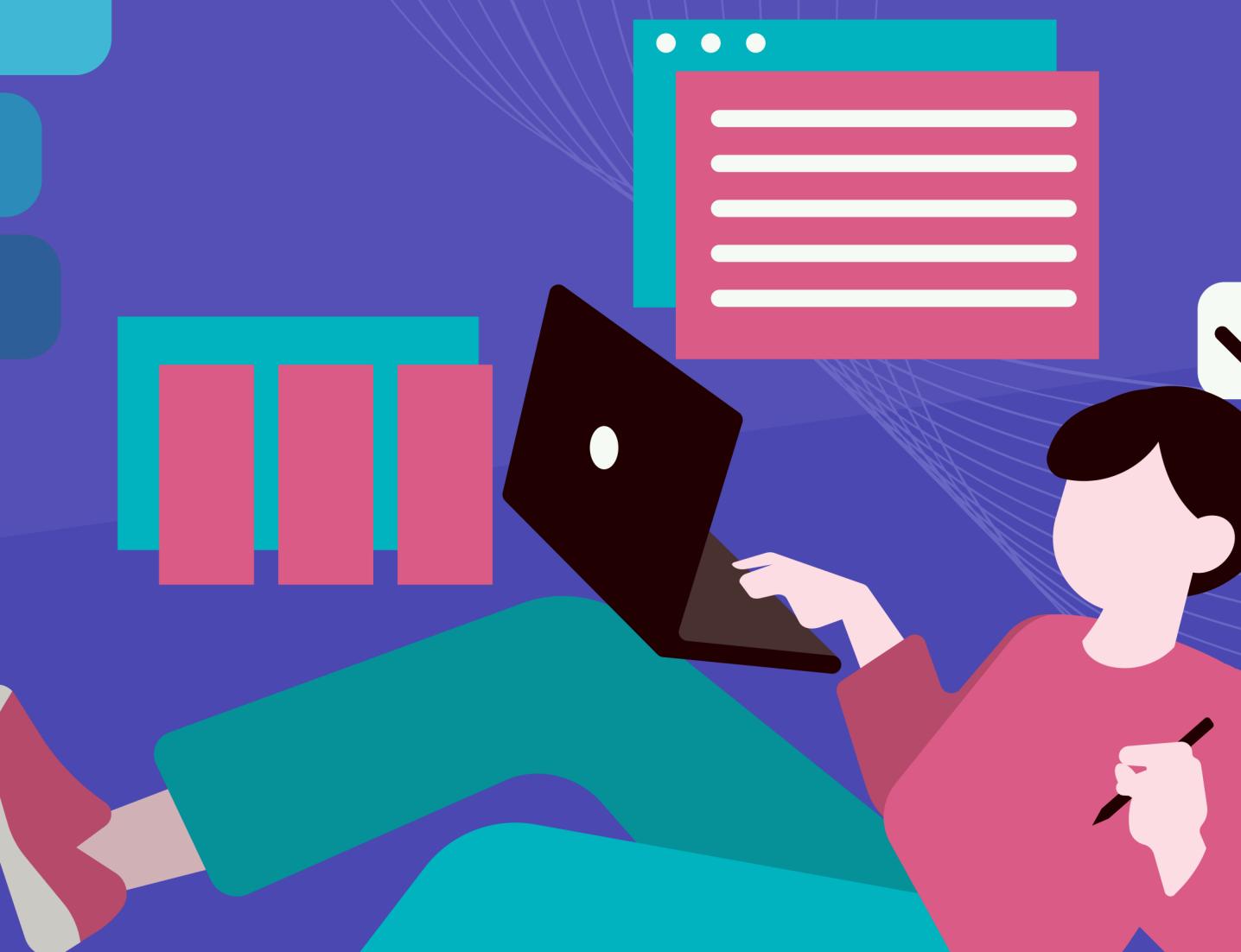
- Most popular MtG marketplace
- Reports market prices
- Contained in All Prices data



DATA PREPARATION

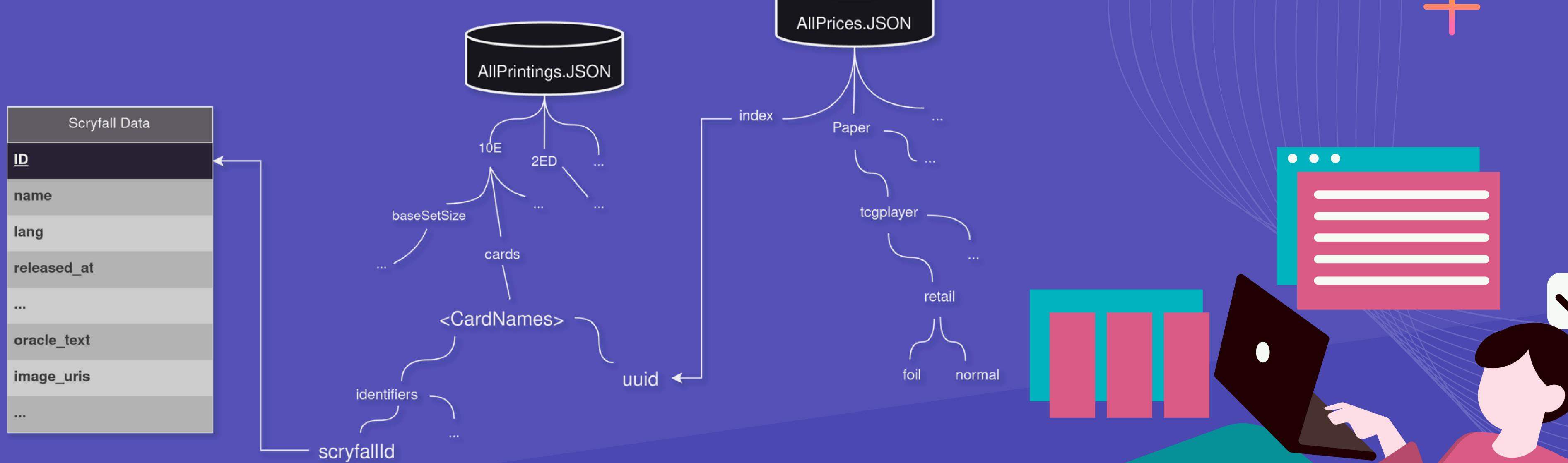
Scryfall Data

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

MtGJson Data



DATA PREPARATION

Text Processing

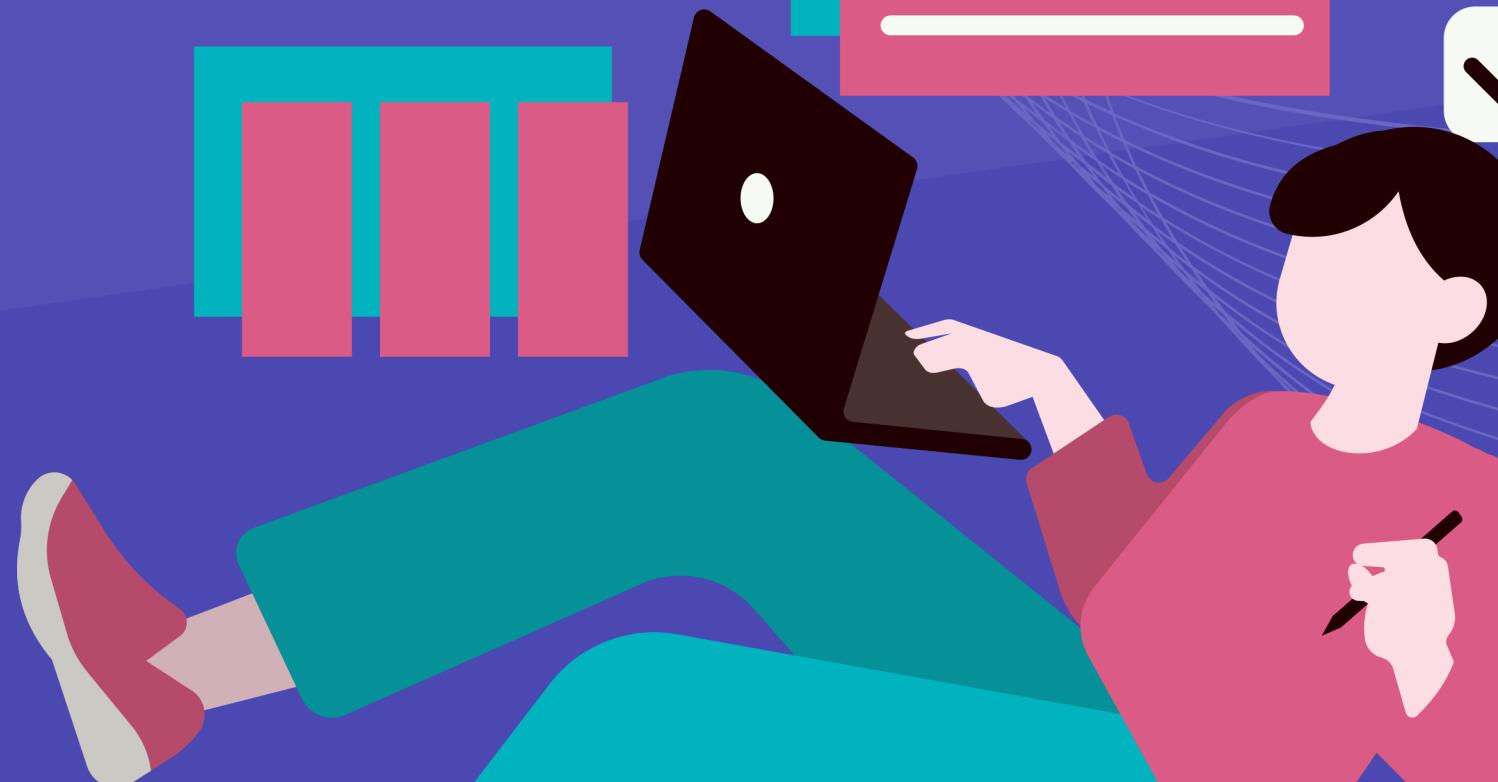
Asmoranomardicadaistinaculdacar

Flying



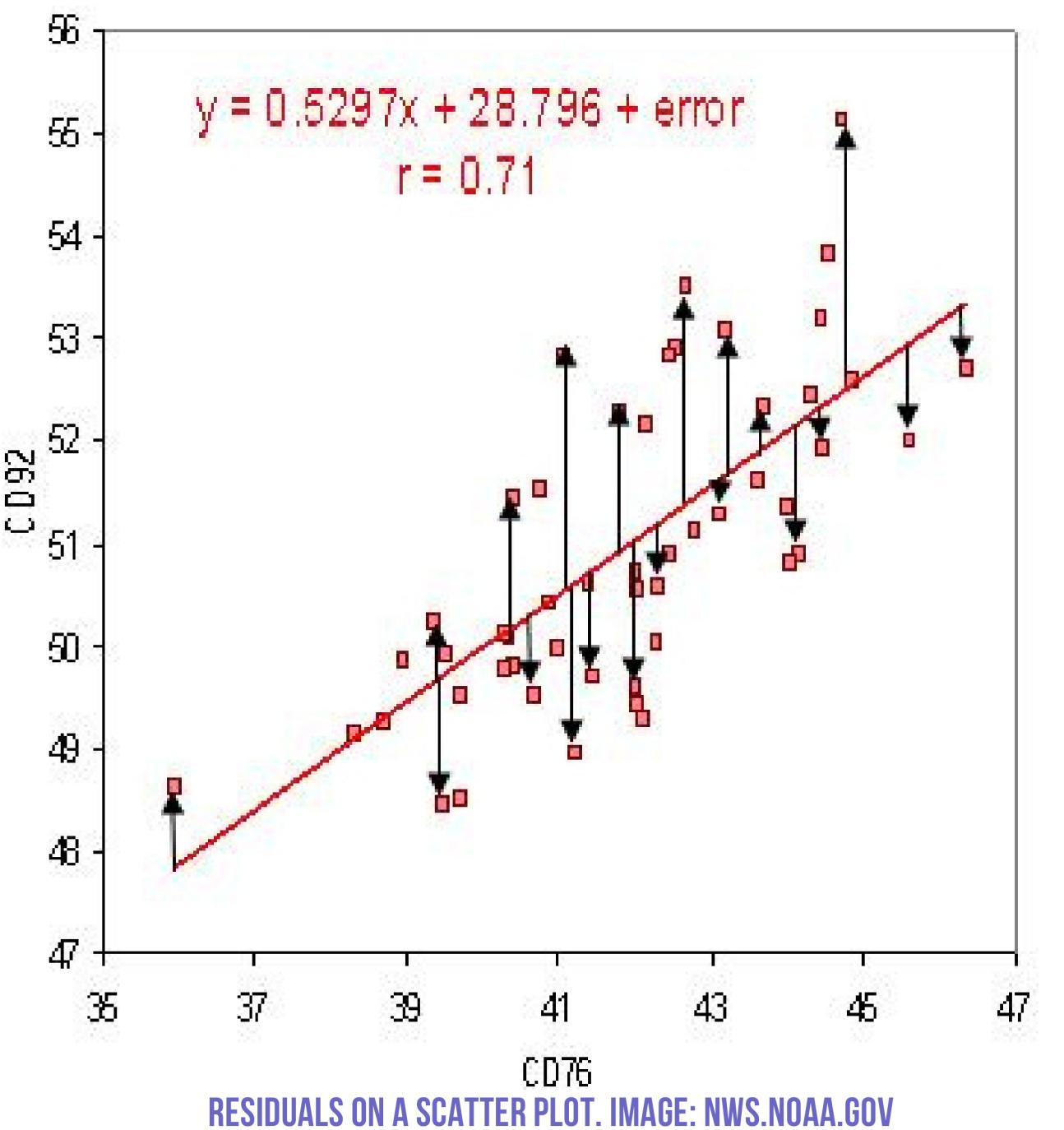
fly

Reduction + Consistency!



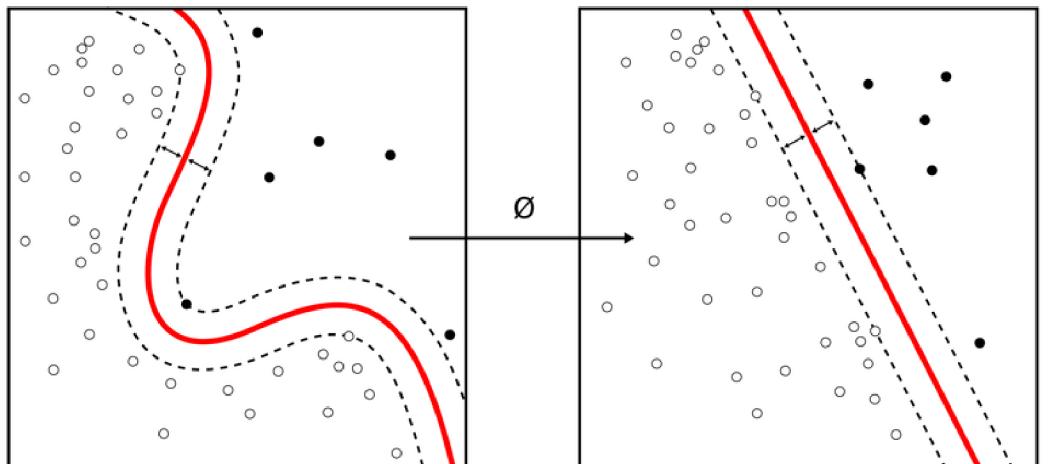
MODELING

Metric:
Root
Mean
Square
Error

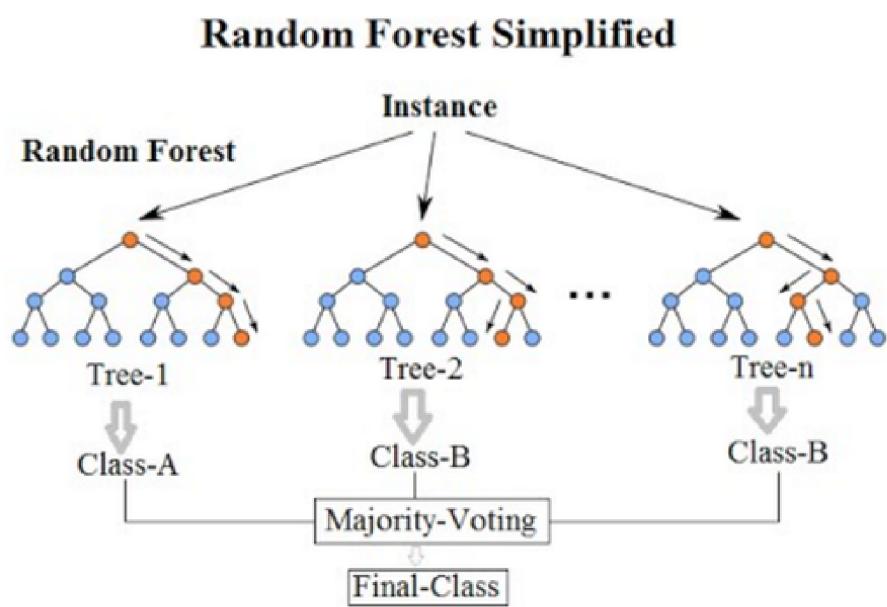


MODELING

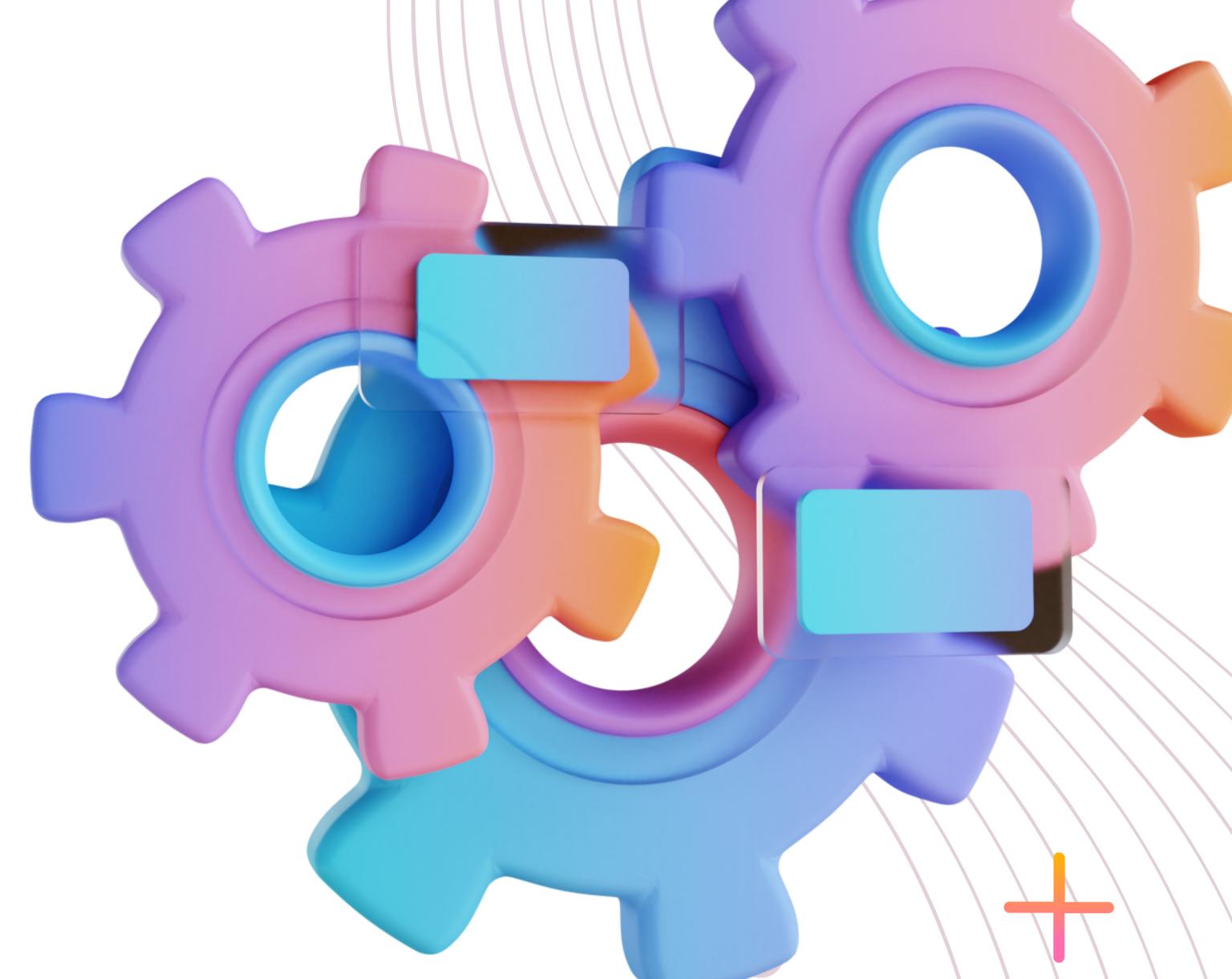
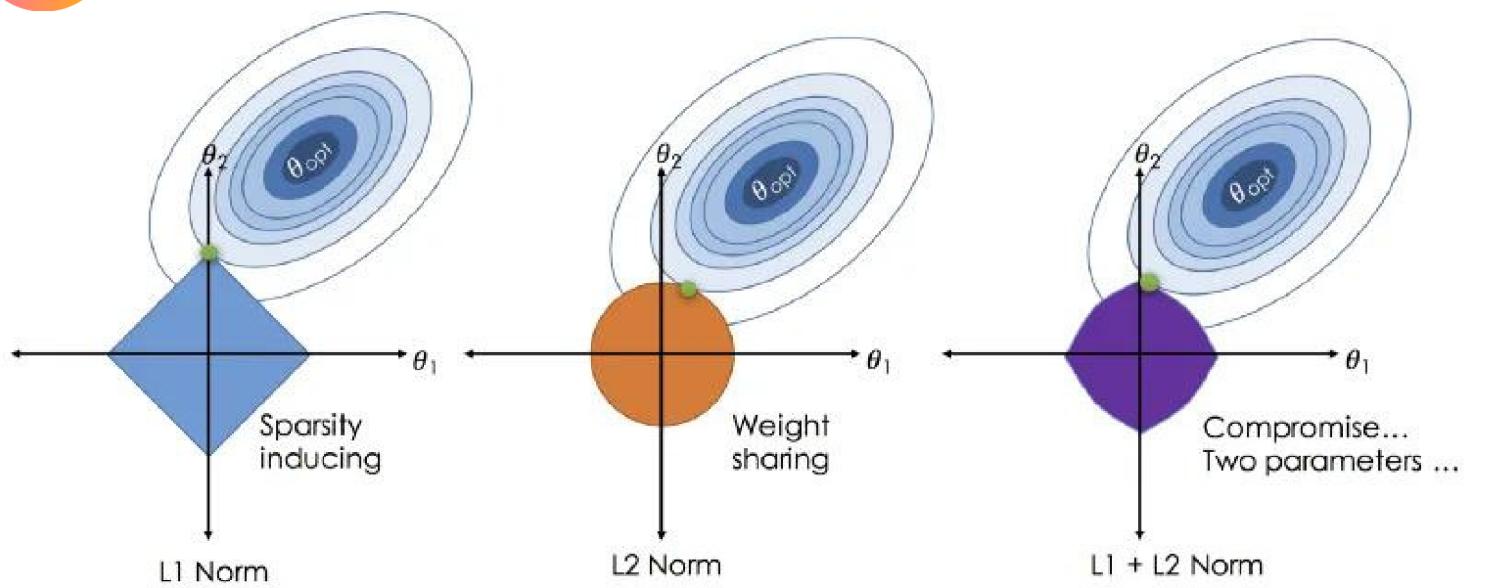
GRADIENT BOOST



RANDOM FOREST

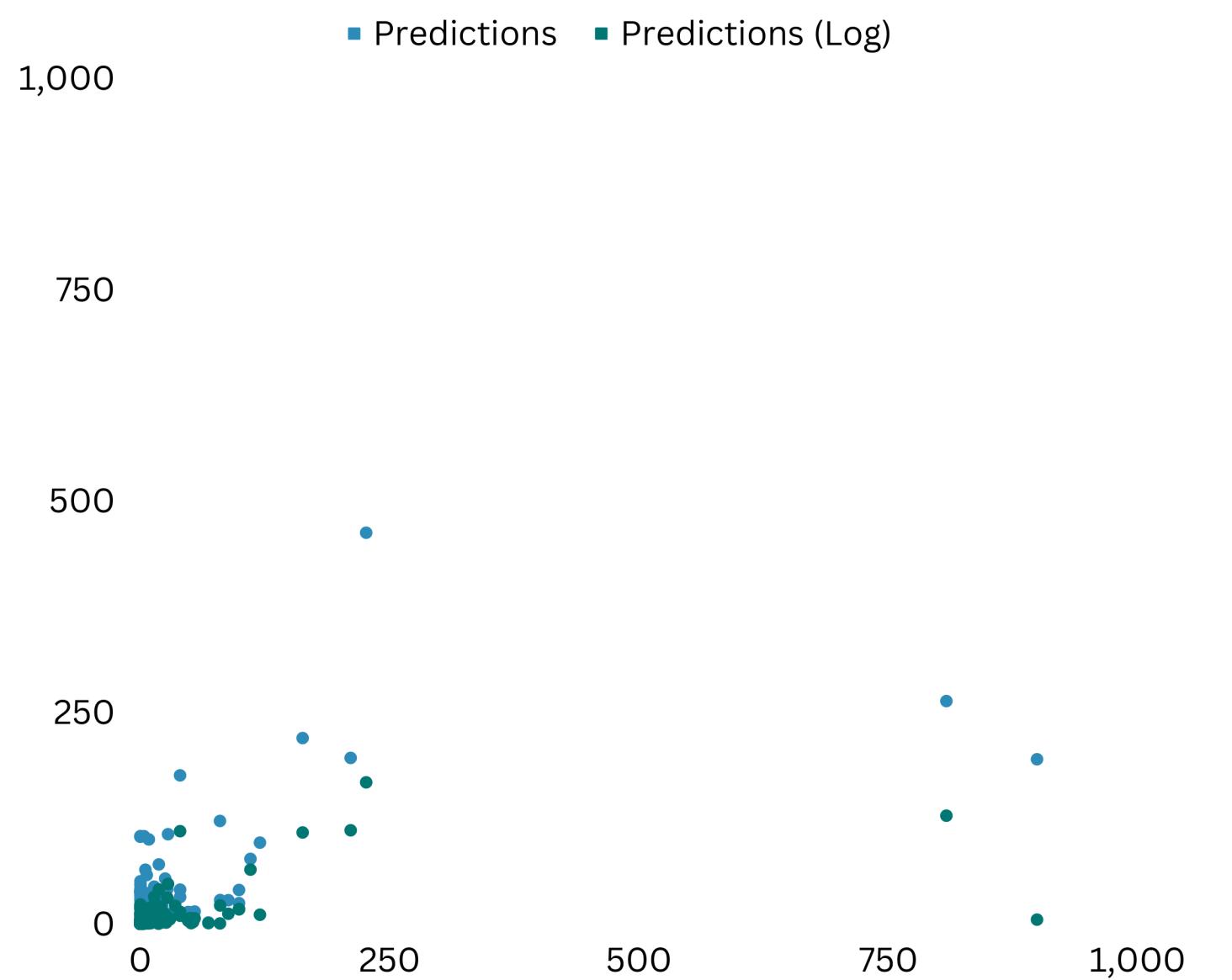


ELASTIC NET

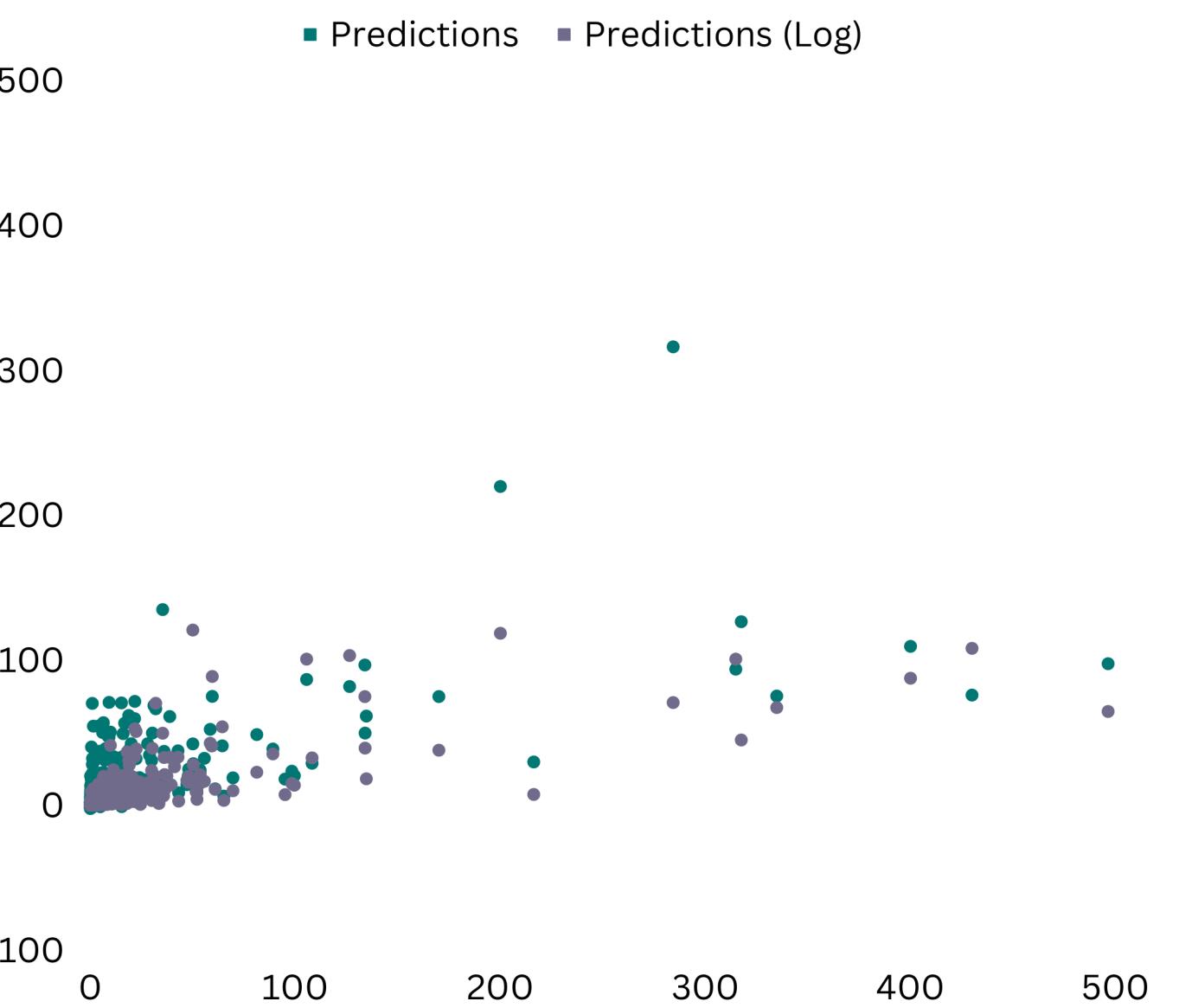


MODELING

Non-Foil Performance

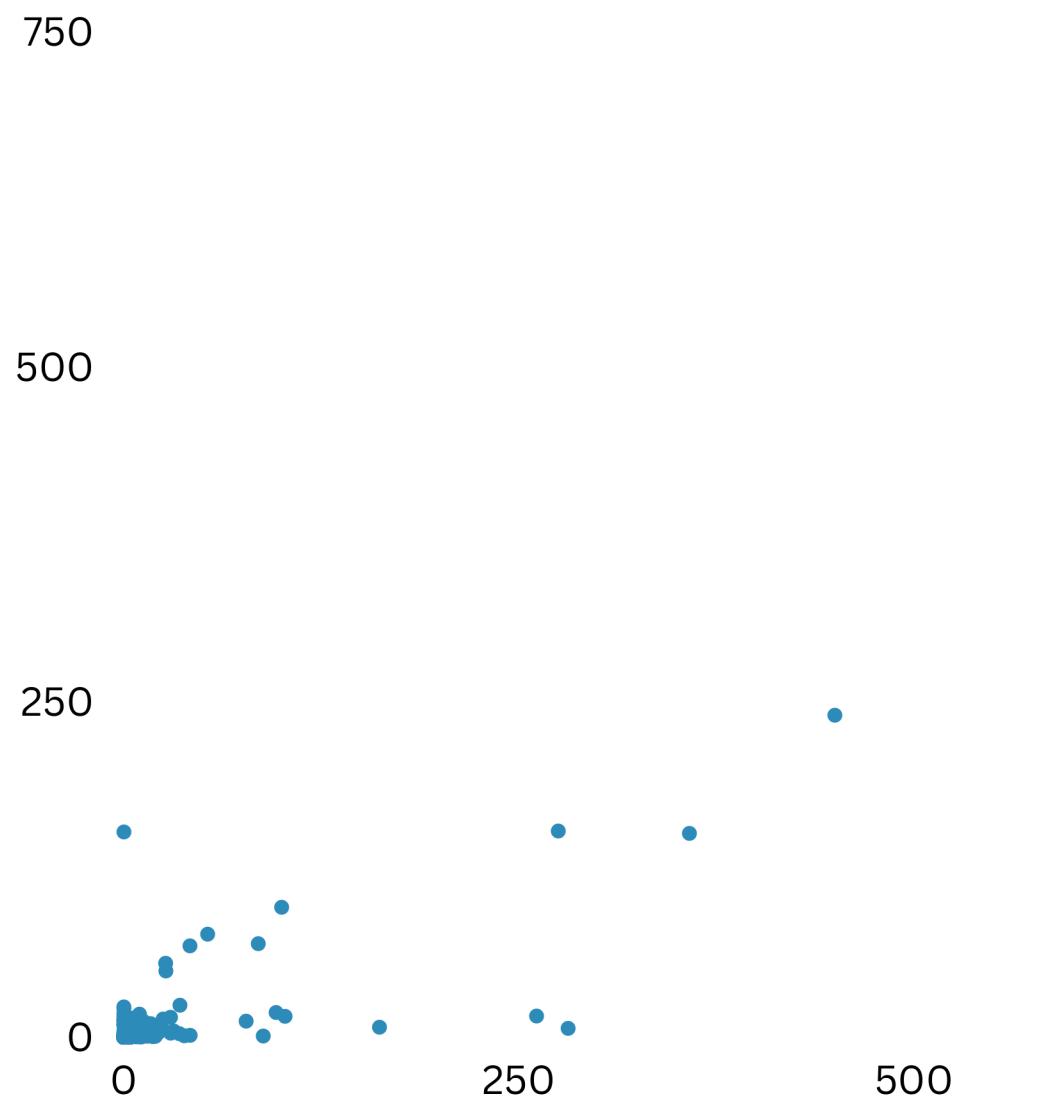


Foil Performance

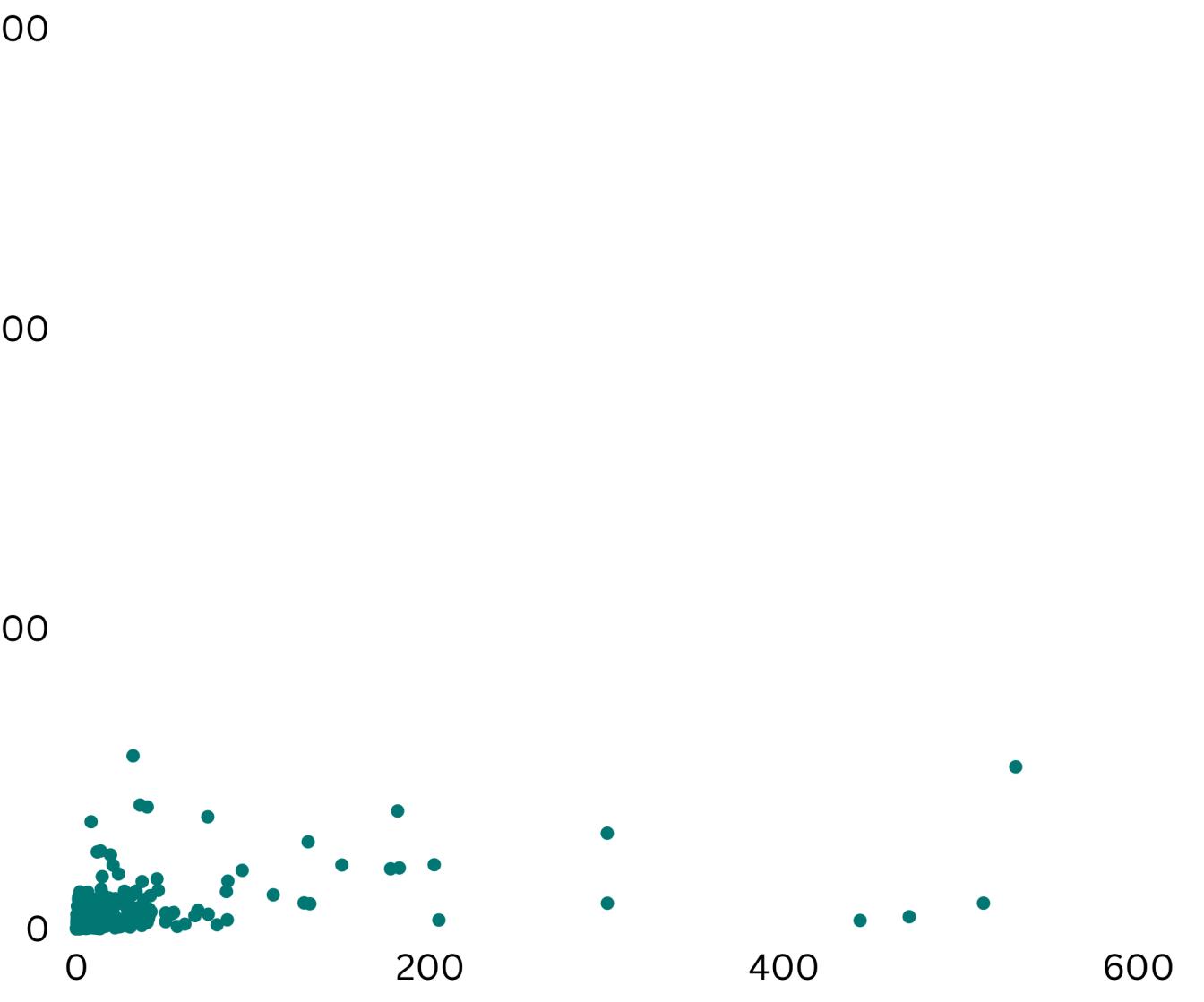


MODELING

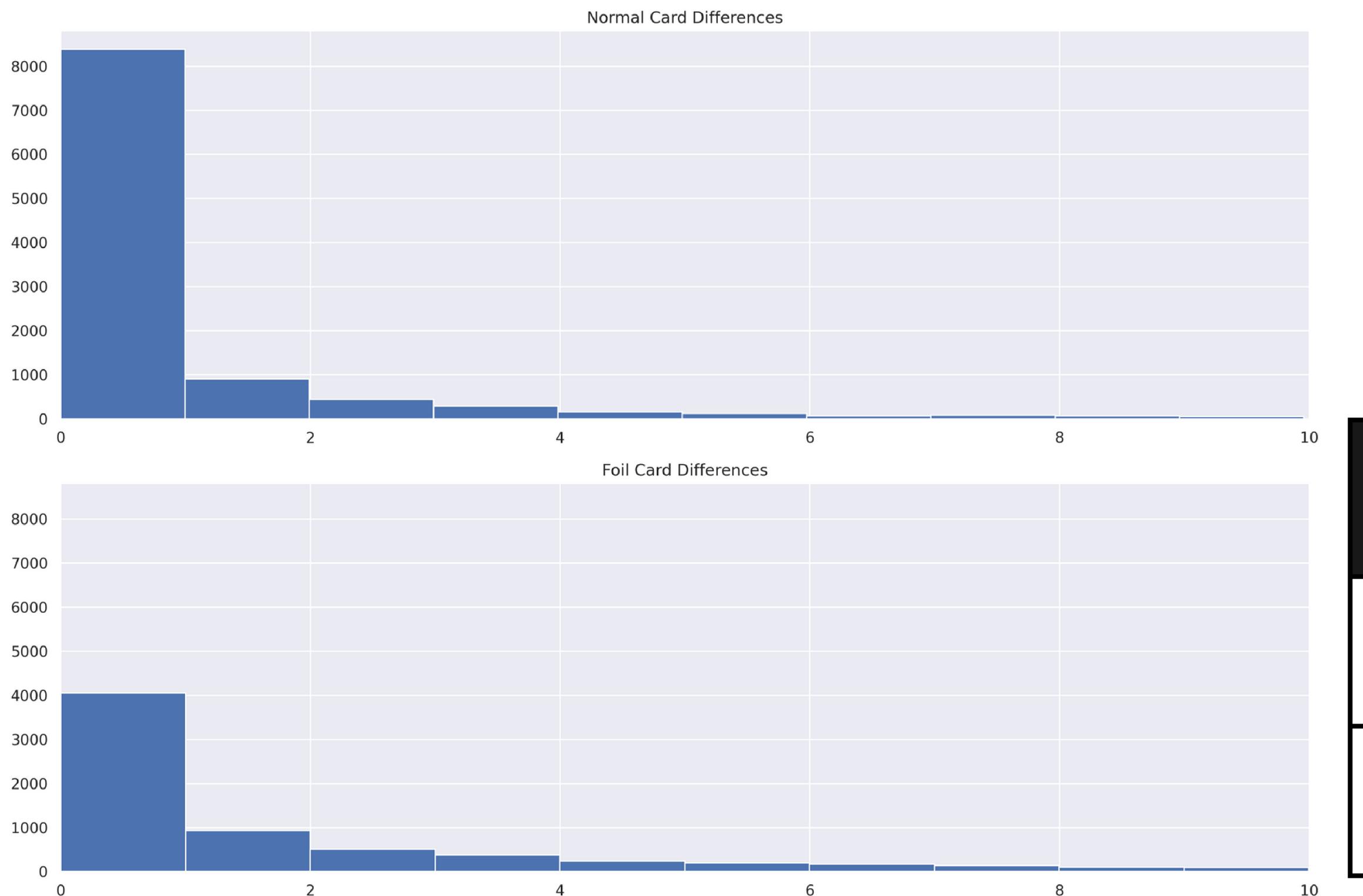
Non-Foil Testing Performance



Foil Testing Performance



MODELING



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





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

