

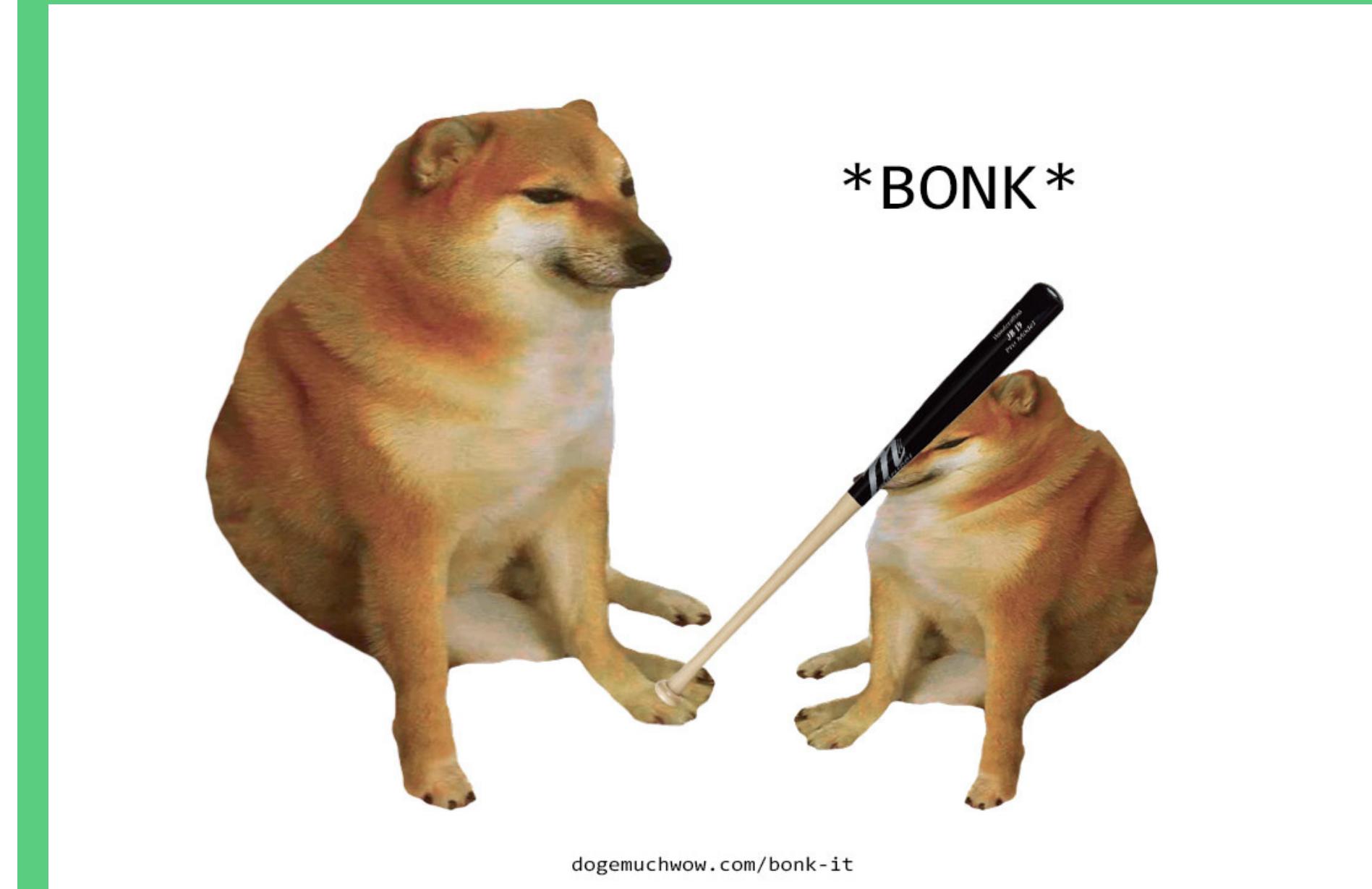
PREDICTION WITH MACHINE LEARNING

Ignacio Rus Prados - Final Project

DAFT MAR21 - IRONHACK







RAW DATA

Date

Closing Price

Max & Min Price

Date	Close	Max.	Min.
Jan 01, 2021	1.2212	1.2217	1.2210
Dec 31, 2020	1.2213	1.2310	1.2209
Dec 30, 2020	1.2295	1.2311	1.2246
Dec 29, 2020	1.2247	1.2276	1.2207

ECONOMETRICS FEATURES

RSI 20:

- Overbought
- Oversold

Max/Min Range

MACD & Signal

ADX

Moving Averages



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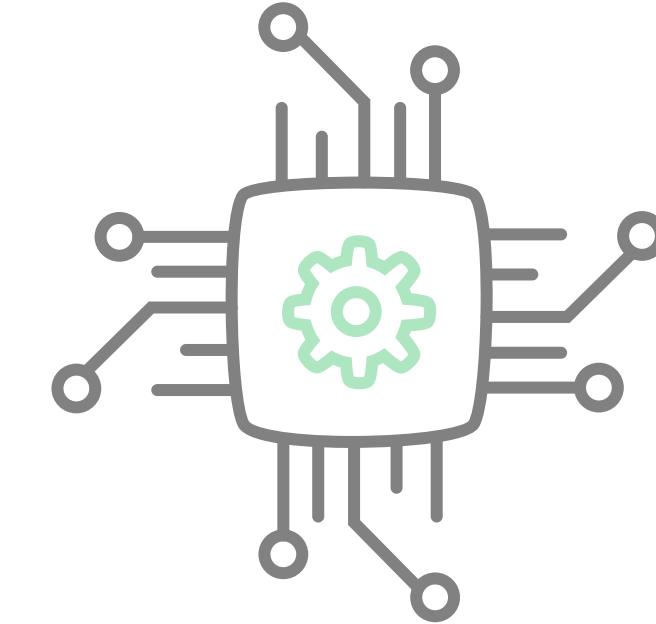
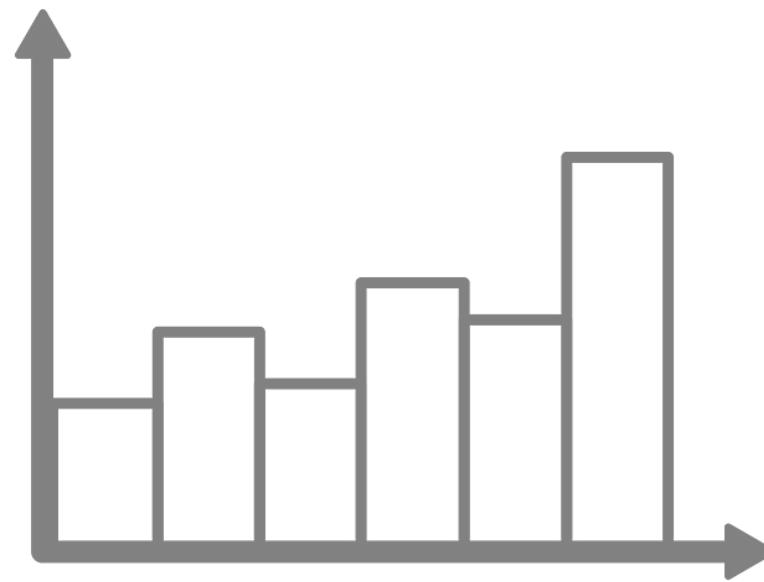
ADX

Moving Averages



DATA

Before deploying ML models



PREDICTION

- Classification
- Regression

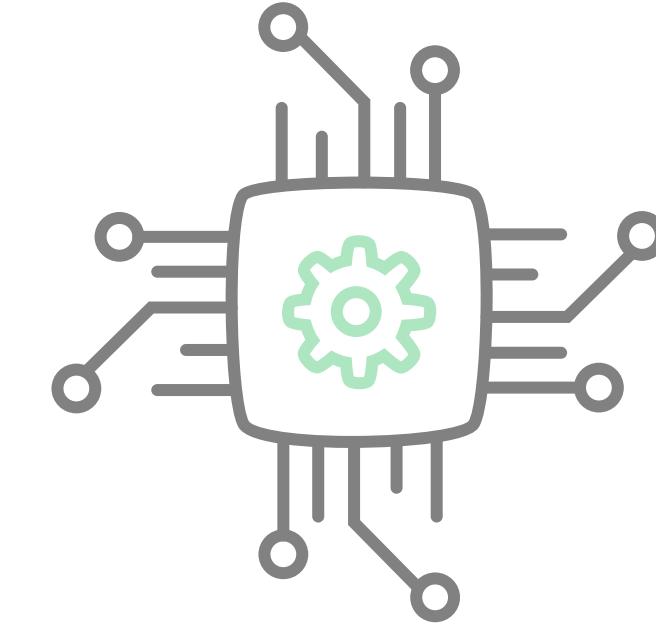
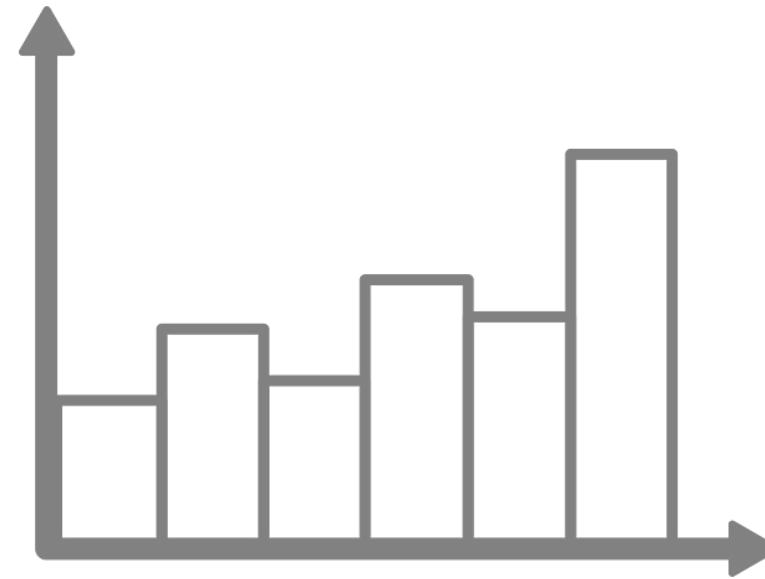
SCALER

- StandardScaler()
- RobustScaler()

MODEL

`GradientBoostingClassifier()`
Ensemble of Decision trees

Before deploying ML models



PREDICTION

- Classification
- ~~Regression~~

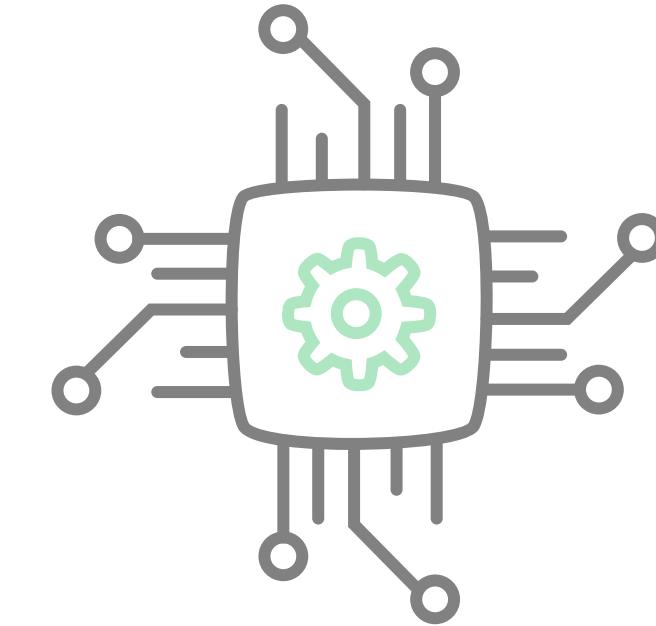
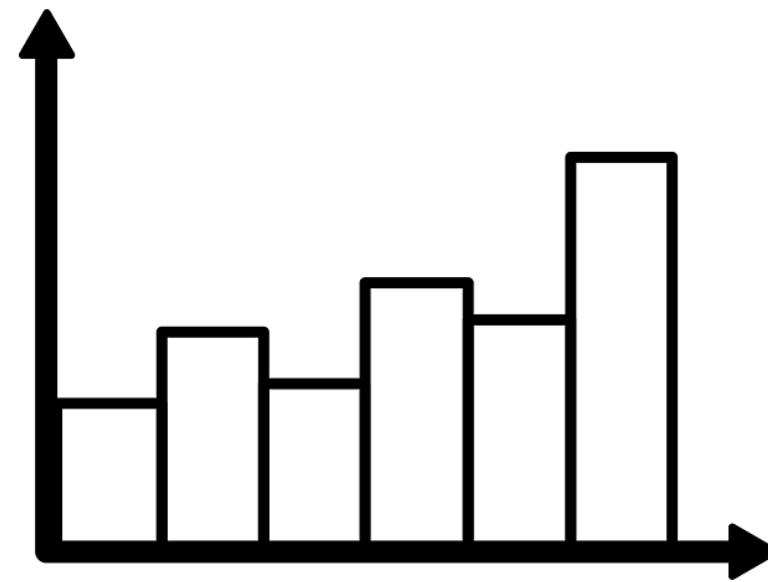
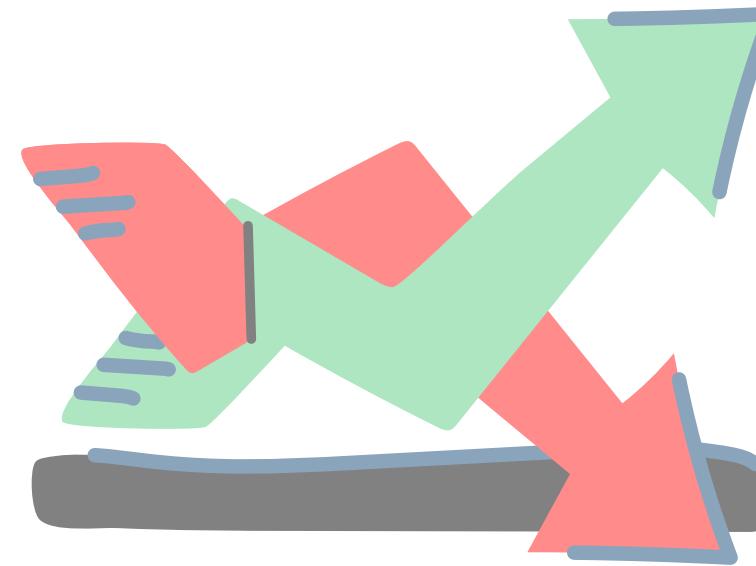
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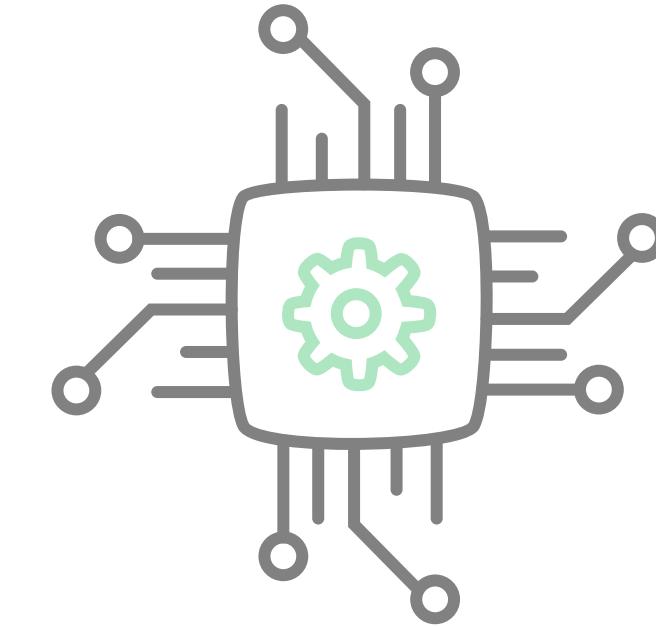
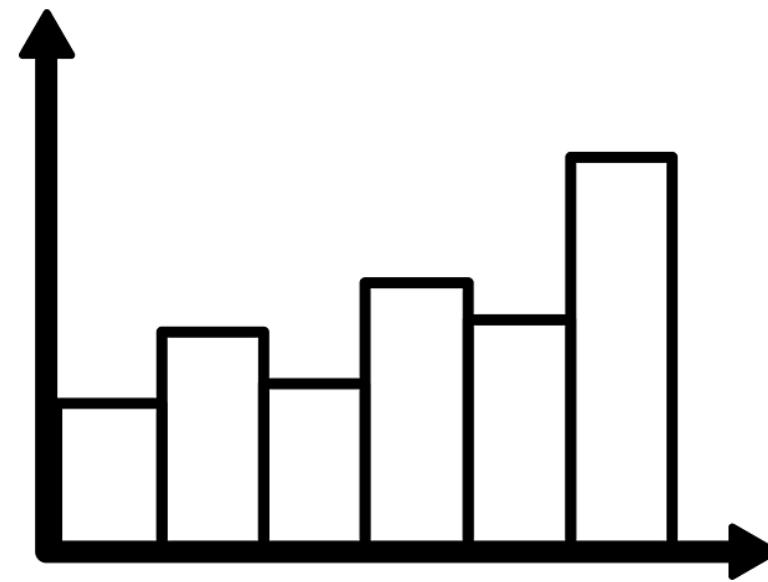
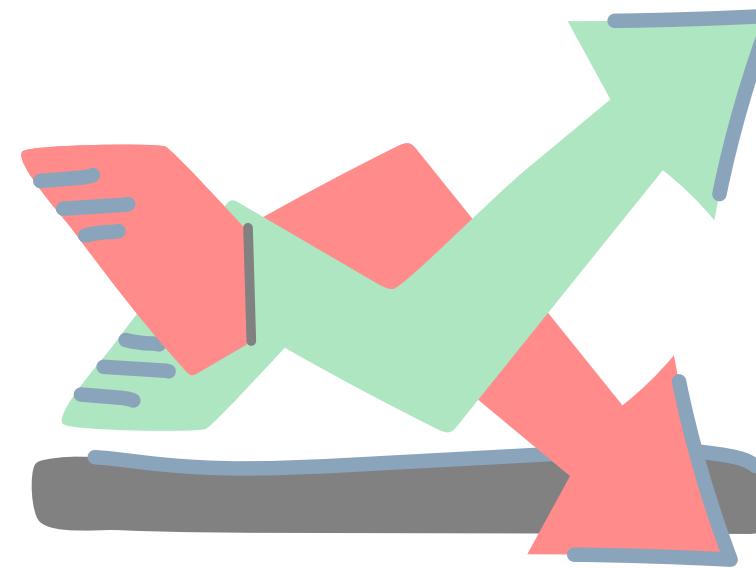
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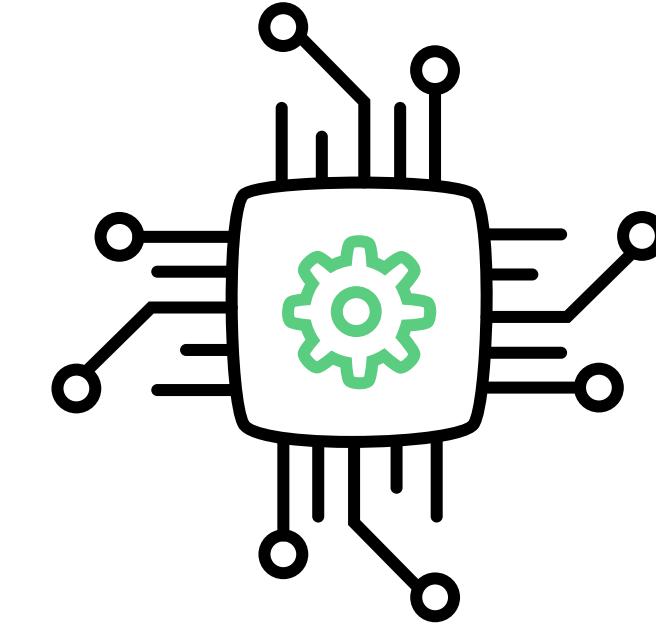
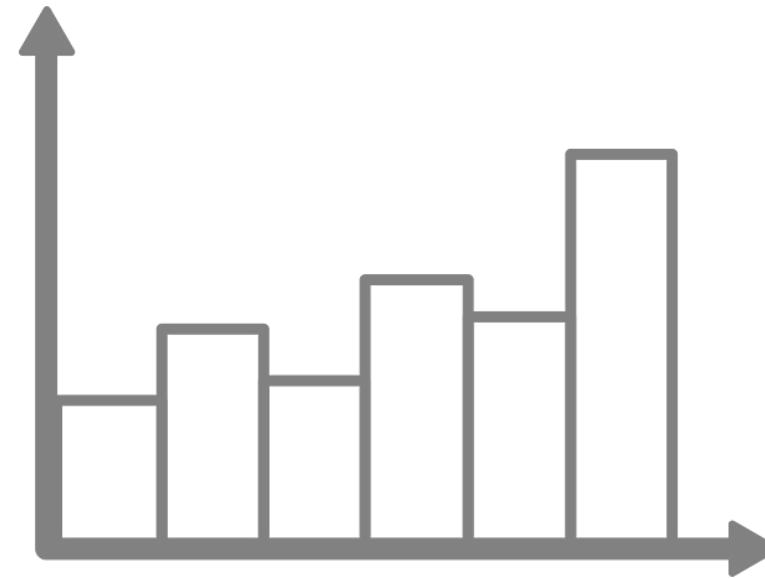
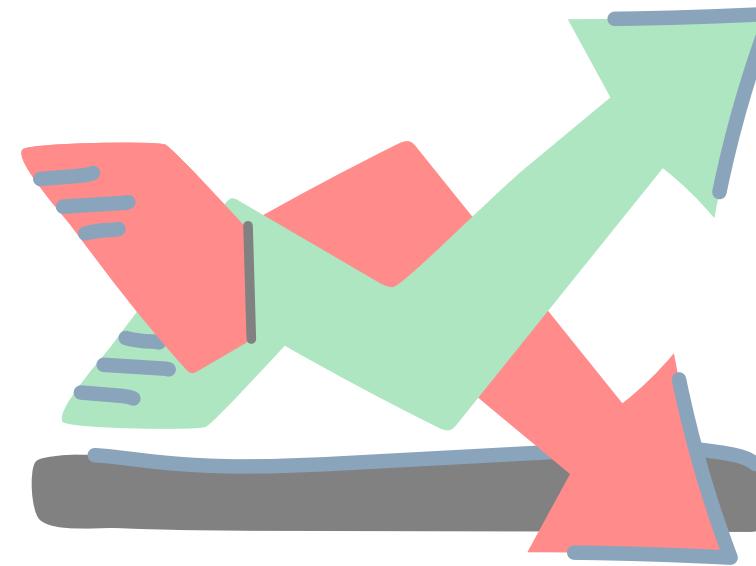
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SCALER

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MODEL

`GradientBoostingClassifier()`
Ensemble of Decision trees

ACCURACY

56.1% TRAIN SET

Model 1: Basic GBC

TEST SET

53.7%

ACCURACY

ACCURACY

56.1% TRAIN SET

COHEN'S KAPPA
SCORE

<0.2	Not significant
0.2-0.4	Low
0.4-0.6	Moderate
0.6-0.8	Good
0.8-1	Very good

Model 1: Basic GBC

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ACCURACY

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Model 1: Basic GBC

COHEN'S KAPPA SCORE

0.07

TEST SET **53.7%**

ACCURACY

ACCURACY

100%

TRAIN SET

Model 2: GBC

GridSearchCV for parameter optimization

COHEN'S KAPPA SCORE

0.04

TEST SET

51.8%

ACCURACY

ACCURACY

100%

TRAIN SET

Model 3: GBC

GridSearchCV for parameter optimization

Optimal number of features (2 dropped)

COHEN'S KAPPA SCORE

0.03

TEST SET

51.4%

ACCURACY

ACCURACY

100% TRAIN SET

COHEN'S KAPPA SCORE

0.17

Model 4: GBC

GridSearchCV for parameter optimization

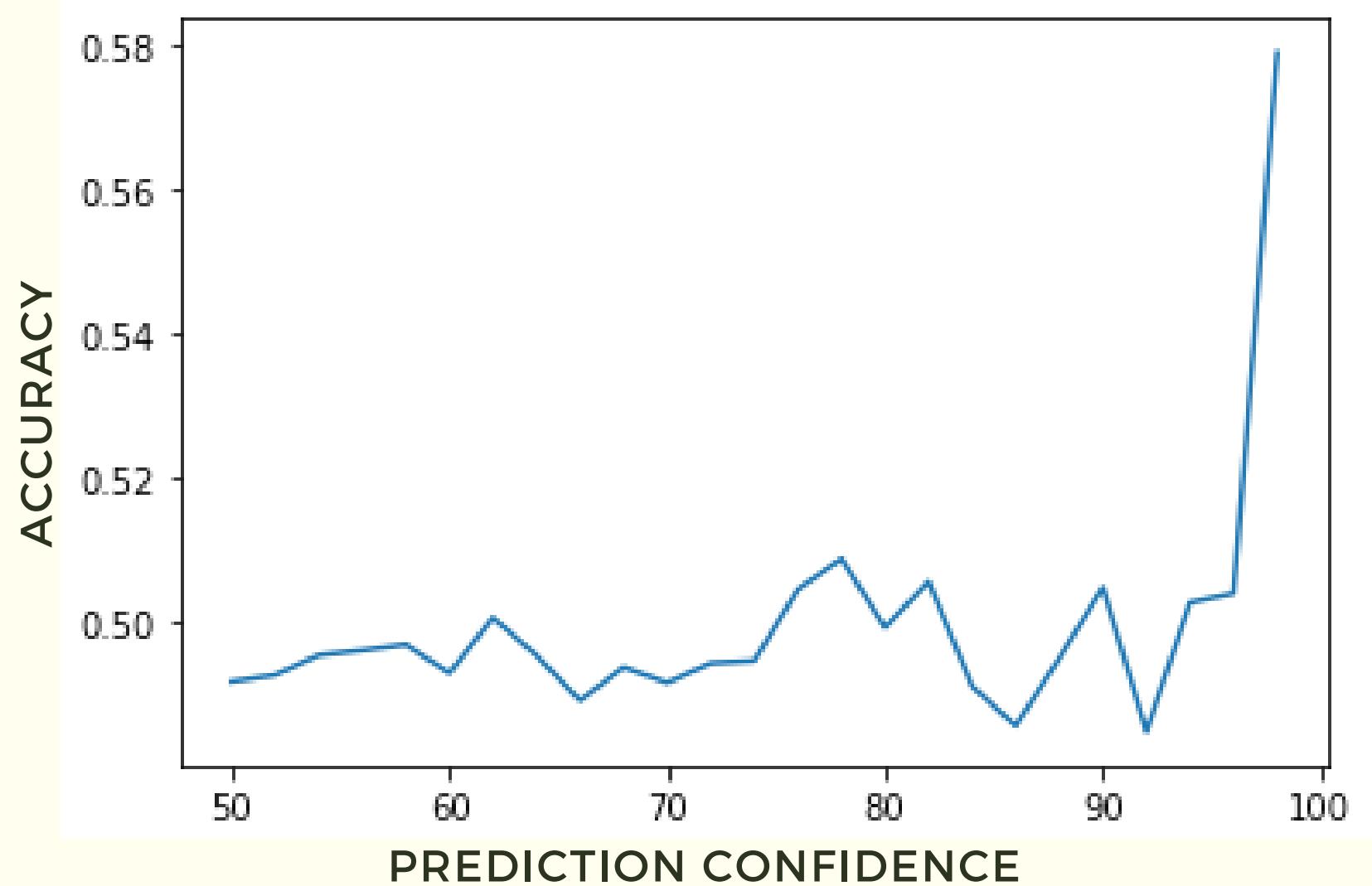
Optimal number of features (2 dropped)

Optimal prediction confidence

TEST SET

58.3%

ACCURACY



Model 4: GBC

GridSearchCV for parameter optimization

Optimal number of features (2 dropped)

Optimal prediction confidence

COHEN'S KAPPA SCORE

0.17

TEST SET 58.3%
ACCURACY



Model 4: GBC

GridSearchCV for parameter optimization
Optimal number of features (2 dropped)
Optimal prediction confidence

COHEN'S KAPPA SCORE

0.17

TEST SET 58.3%
ACCURACY

Model 5: GBC

Feature Interaction

ACCURACY

74.5% TRAIN SET

COHEN'S KAPPA SCORE

-0.008

TEST SET

49.7%

ACCURACY

Model 6: Basic GBR

Regression for classification

ACCURACY

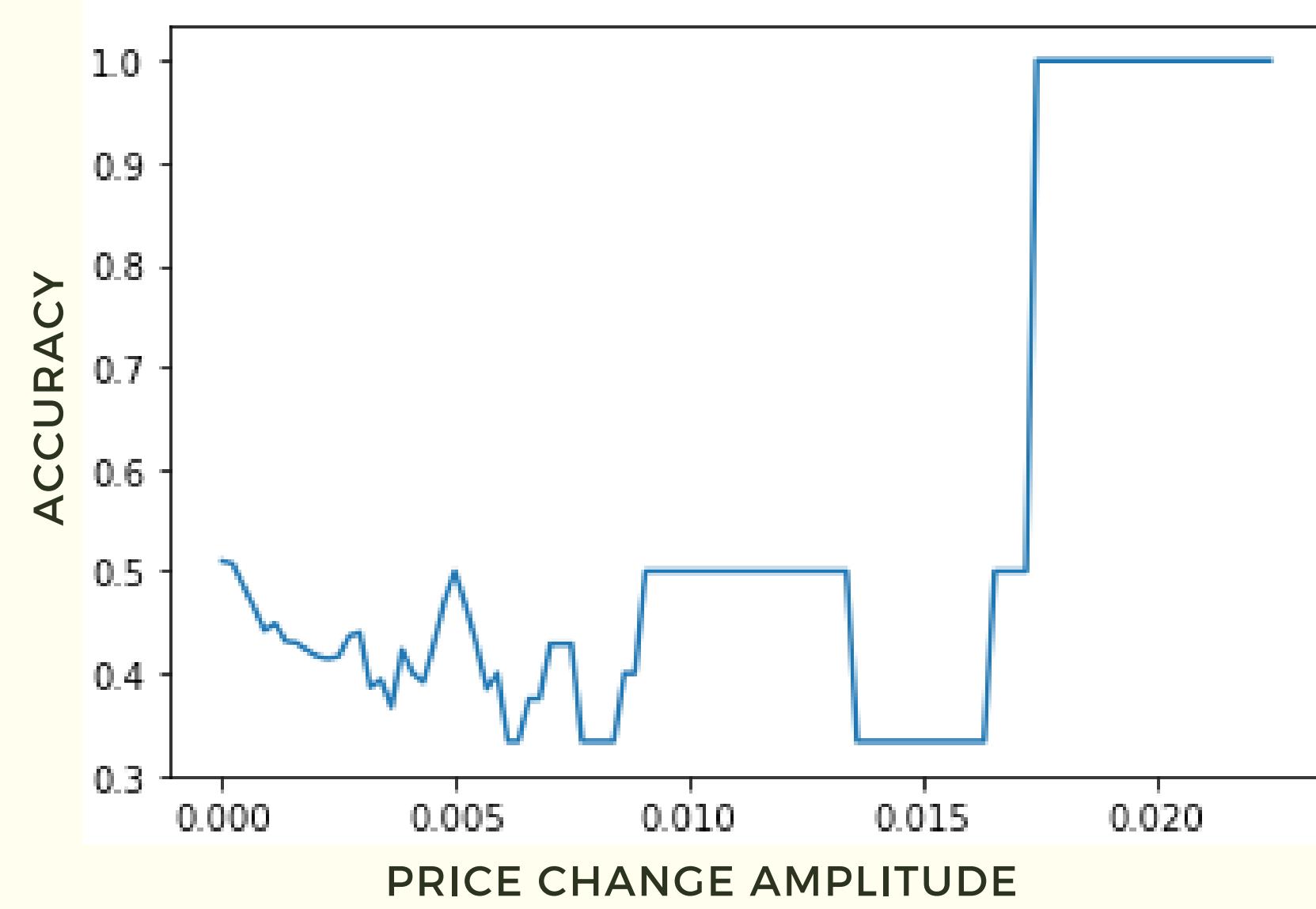
67.1% TRAIN SET

COHEN'S KAPPA SCORE

0.002

TEST SET **50.2%**

ACCURACY



Model 6: Basic GBR

Regression for classification

COHEN'S KAPPA SCORE

0.002

TEST SET 50.2%
ACCURACY

ACCURACY

52.6% TRAIN SET

Model 7: GBR

Regression for classification

GridSearchCV for parameter optimization

COHEN'S KAPPA SCORE

-0.02

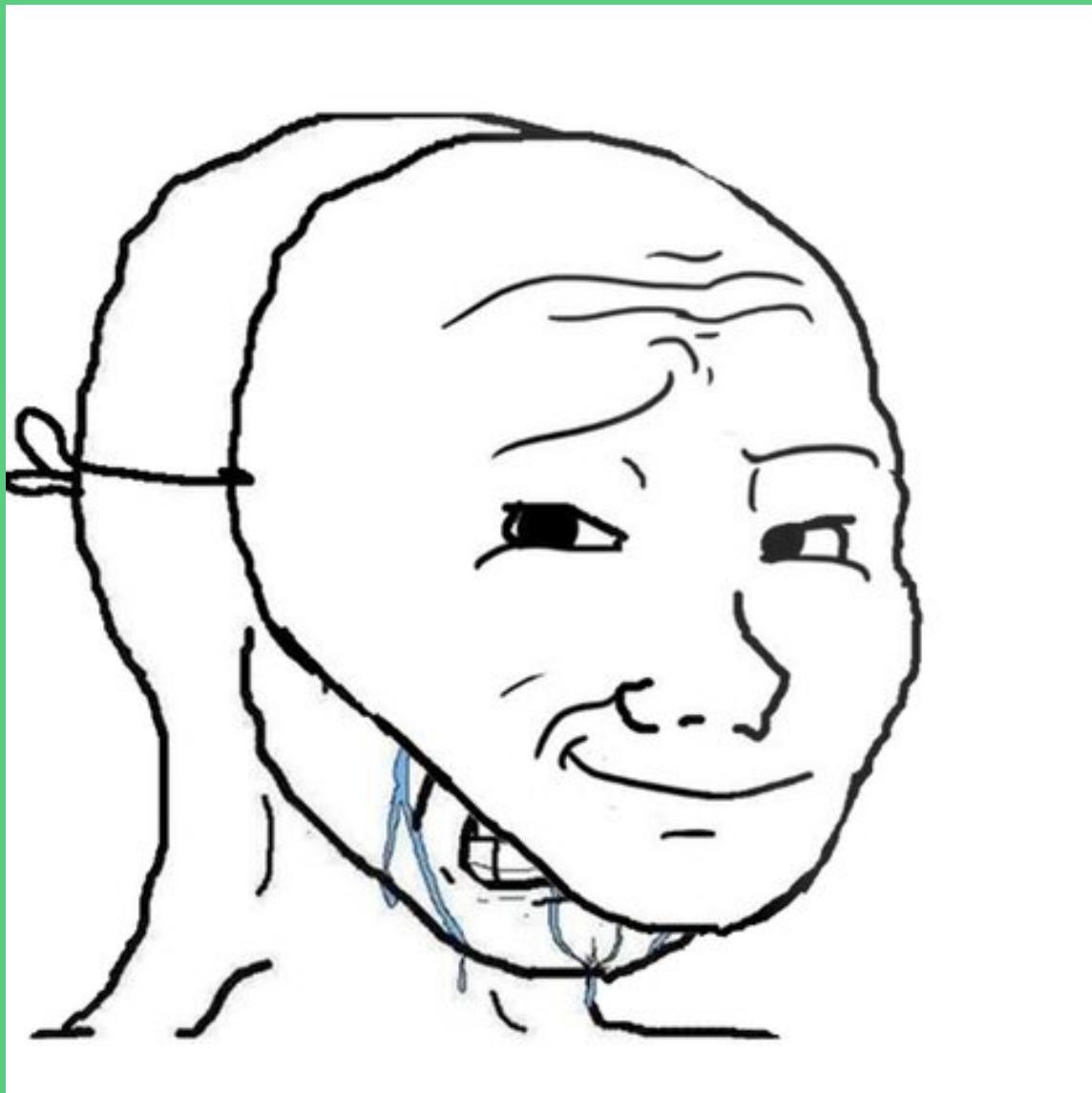
TEST SET

49.3%

ACCURACY

IGNACIO RUS PRADOS
DAFT MAR21

THANKS FOR WATCHING ME FAIL!



TRELLO

<https://trello.com/b/xZ84Ljv6/forex-prediction-final-project>

GITHUB

<https://github.com/IgnacioRus/FOREX-Prediction-Final-Project>

