Trading Team 2

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SUMMARY

Initial step

- Set up GitHub
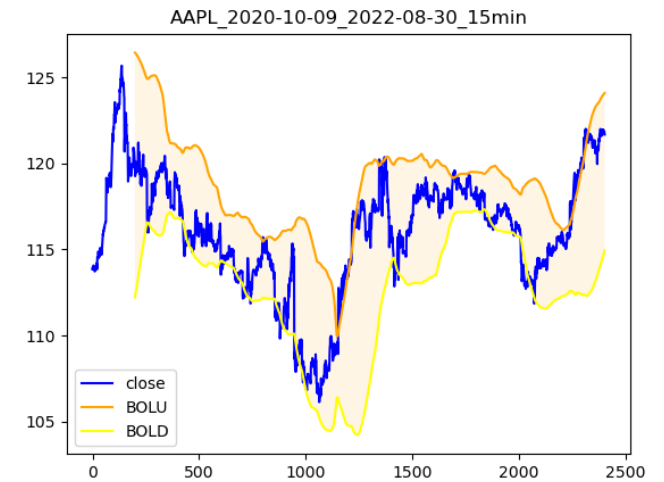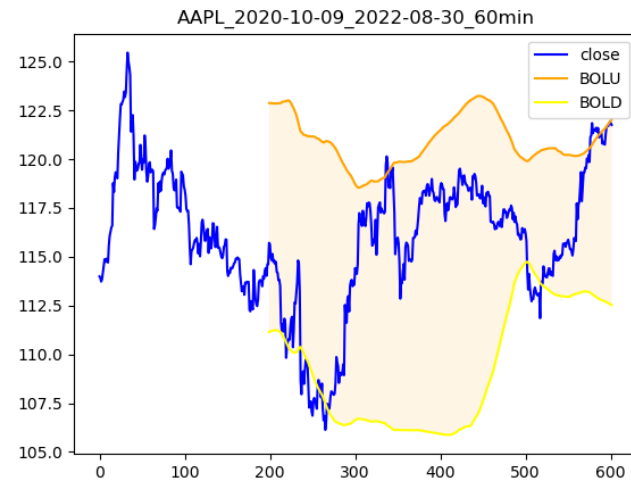- Research on Range trading

Mid Term

- Visualise different indicators
- Dive into machine learning
- Explore linear regression and KNN

Final step

- Machine learning model failed
- Retreat to backup traditional trading model

Volatility in different intervals

Shorter intervals => Larger volatility!

Larry Connors' %b Strategy

Strategy

1. The close must be above the 200-day moving average.

2. The %b must be below 0 for the last two or three (consecutive) days.

3. If 1 and 2 are true, buy on the close.

4. Exit when the %b closes above 0.8.

Reasons:

- Safety measurements (Only trade long, reduce short risk)
- Decent entry and closing consideration

Back-test base model

Base model backtesting results
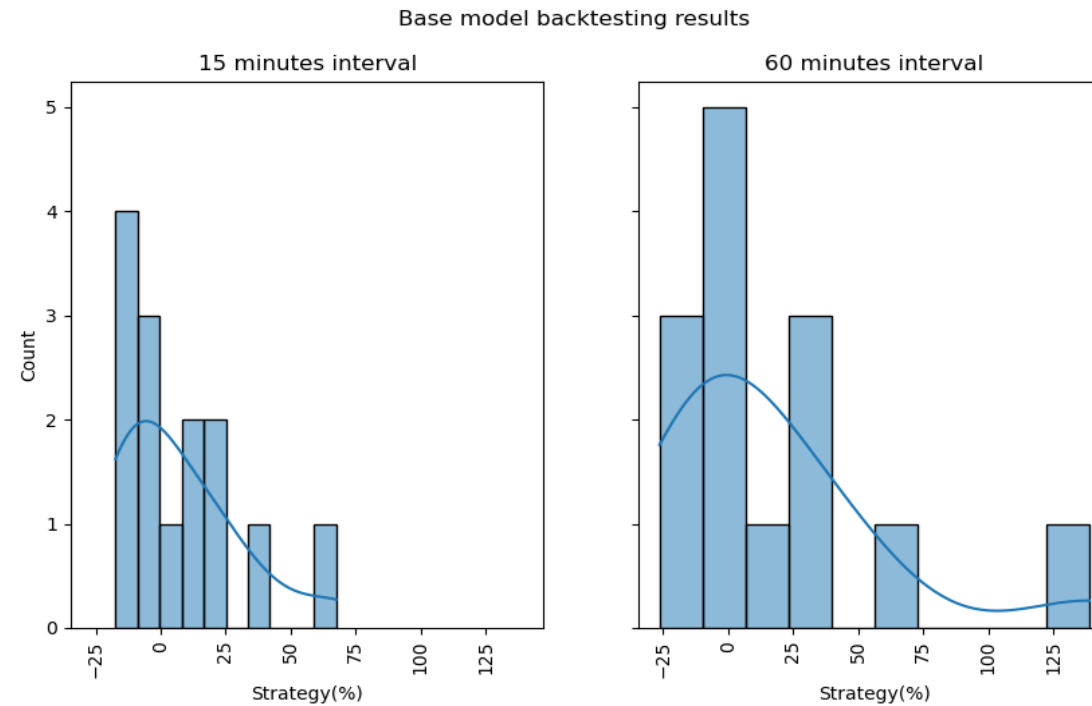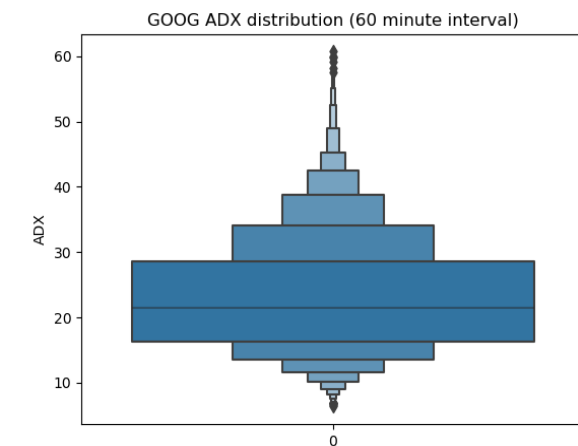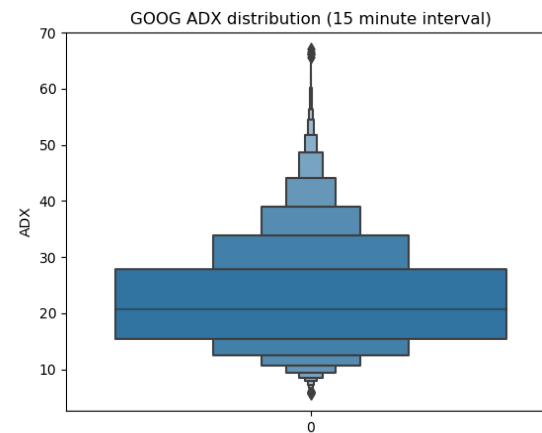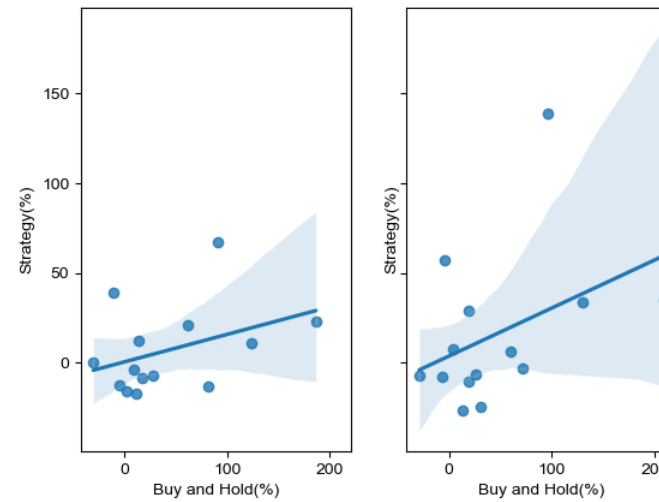
Observations:

- Most Stocks sits between ± 25 %

- 60 mins interval has an exceptional trade

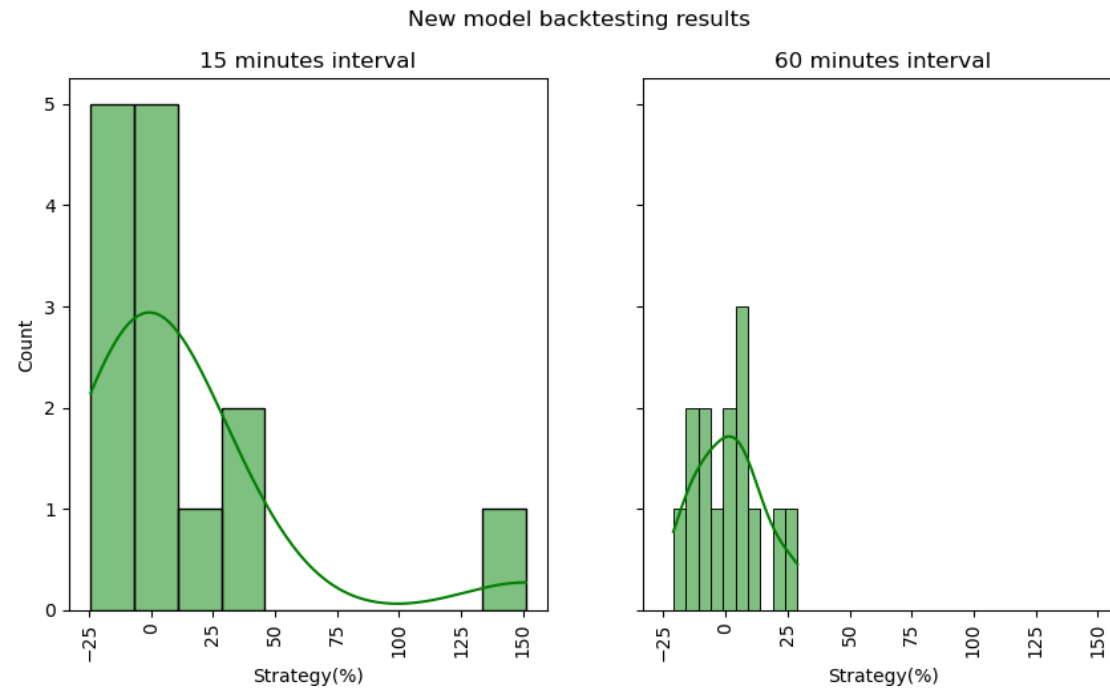# Implement range trading

Can the base model beat Buy and Hold ?

15 min — 60 min

GOOG ADX distribution (15 minute interval)

GOOG ADX distribution (60 minute interval)

Set 20 as the threshold for ranging markets (ADX < 20)
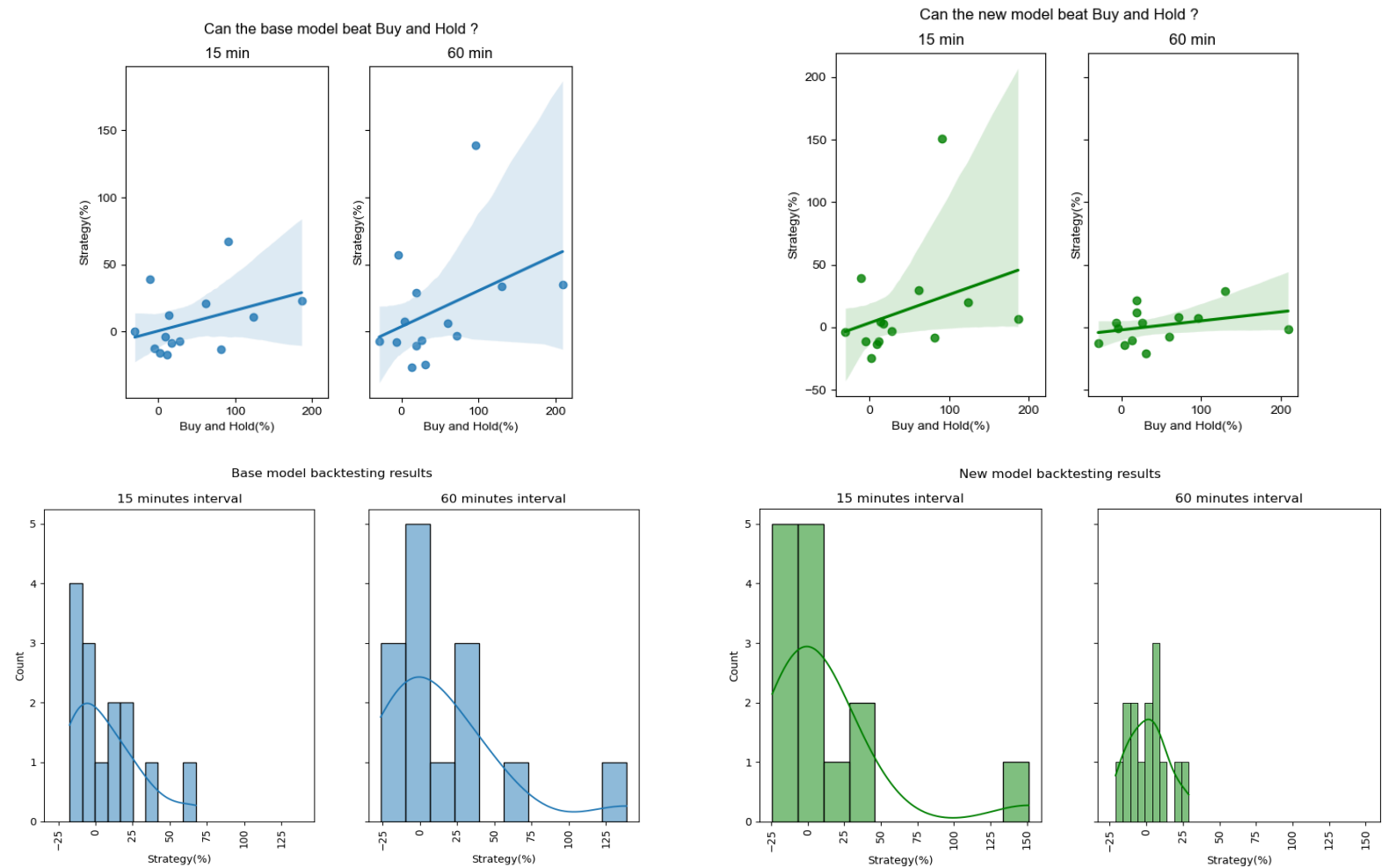
Back-test new model

New model backtesting results

Observations:

- 60 mins interval behave strangely
- 15 mins interval has an exceptional trade

Initial-Comparison

Observations:

- Most stocks sits between ± 25 %

- Stocks that profits in 15 mins in the new model profits more than the old model

- (Most importantly) Neither of them beats Buy and Hold!

Feature Engineering

The aim of feature engineering is to prepare an input data set that best fits the machine learning algorithm as well as to enhance the performance of machine learning models.

Factors:
- ATR15Min_wav
- ATRHour_wav
- 5Candle
- 50Candle

Strategy

Once we had generated an expected return (EV) we bought and sold based of this return.

-BUY when EV is larger than 0.025 (or 2.5%) and it has been at least 90 periods since last sold
-SELL when EV is smaller than 0 and it has been at least 180 periods since last bought.

We had to add the 90 and 180 period condition due to long periods of constant buy signals – simulating buy and hold and leaving us overly exposed.

Comparison
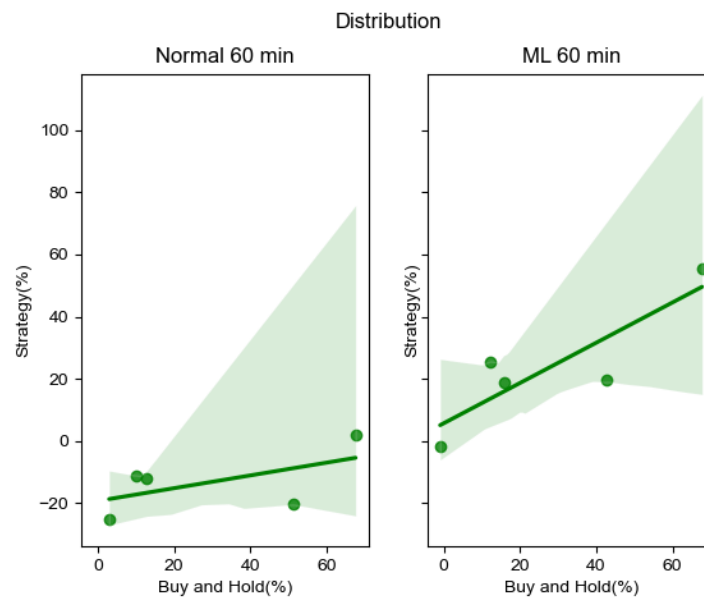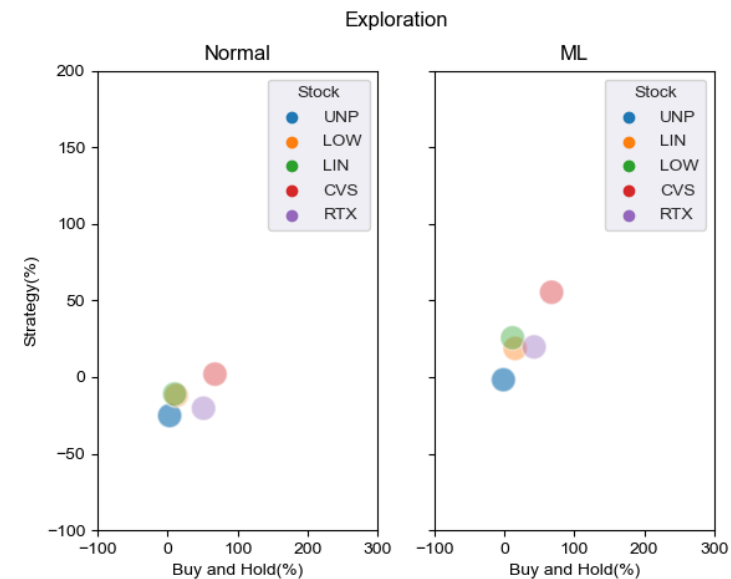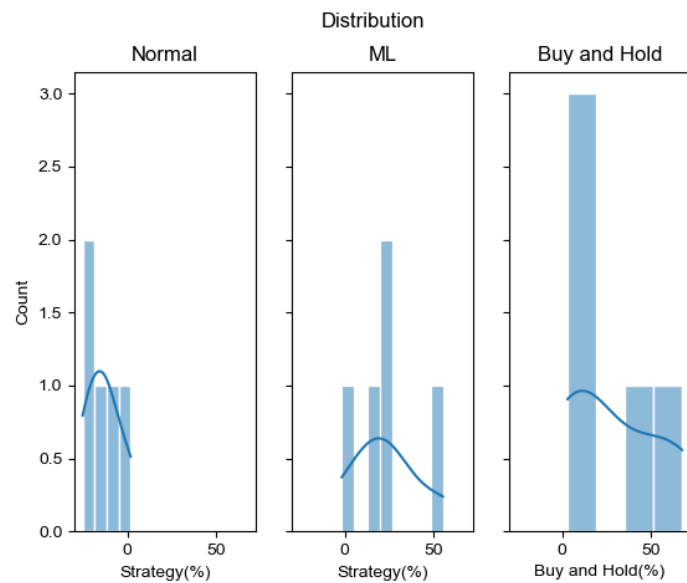
Future-exploration

Exploration
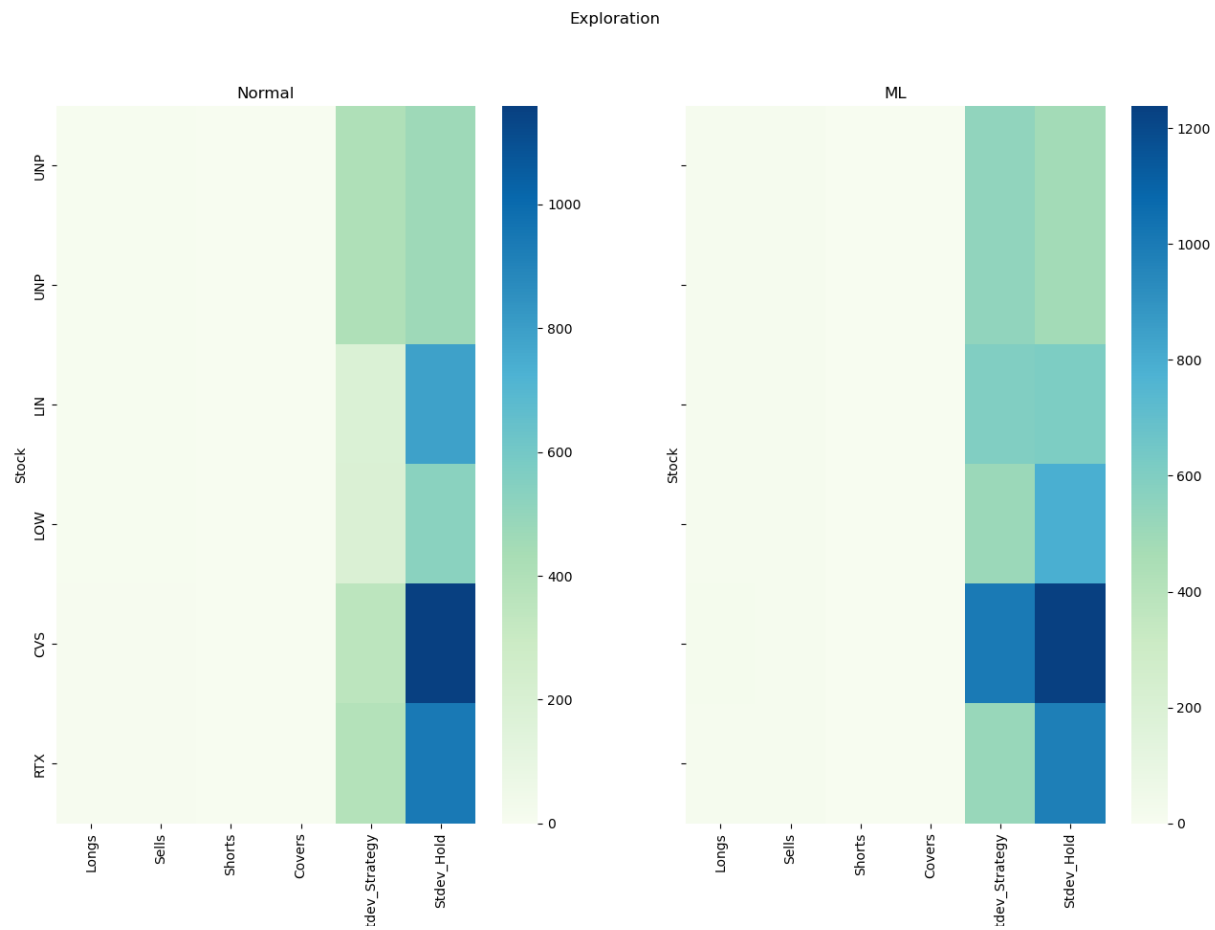
Limitations/ Challenges

- Crashes/Algorithm running time

- Using backup model since previous machine learning model failed (Time limitations)

- Huge communication problem