Squeeze Me Baby One More Time

HOW NOT TO BE A "FOMO" INVESTOR

Fear Of Missing Out

RETAIL INVESTORS GET IN TOO LATE

Popular Stocks Seem Too Expensive

FAANGS, TESLA, ADOBE ARE EXPENSIVE

- Is there a relatively easy way for retail investors to spot big moves in popular stocks?

- Would this method stand up to testing in logistical regression and machine learning models?

- Is there a way for retail investors to take $1000 and profit from big moves?

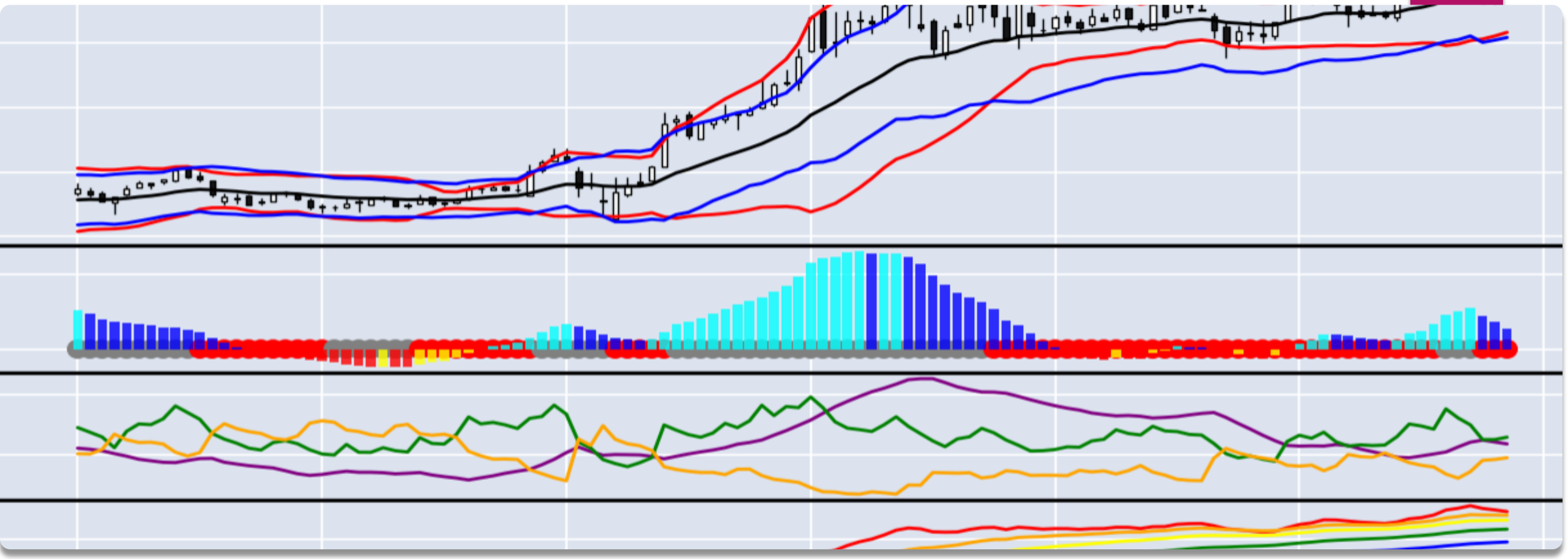
It is not in the thinking that the money is made. It is in the sitting and waiting."

- Jesse Livermore
  Legendary Stock Trader

TIMING IS A KEY TO SUCCESSFUL STOCK OR COMMODITY TRADING

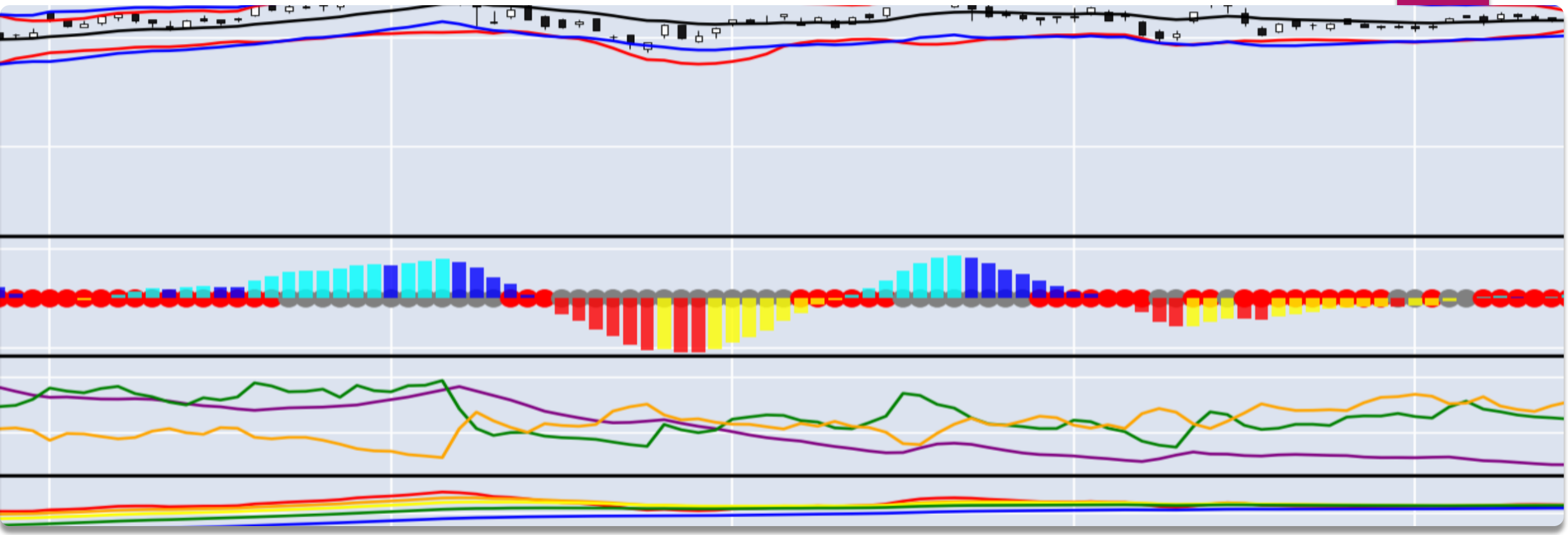
The TTM Squeeze

COMBINES BOLLIGER BANDS KELTNER CHANNELS AND A MOMENTUM HISTOGRAM

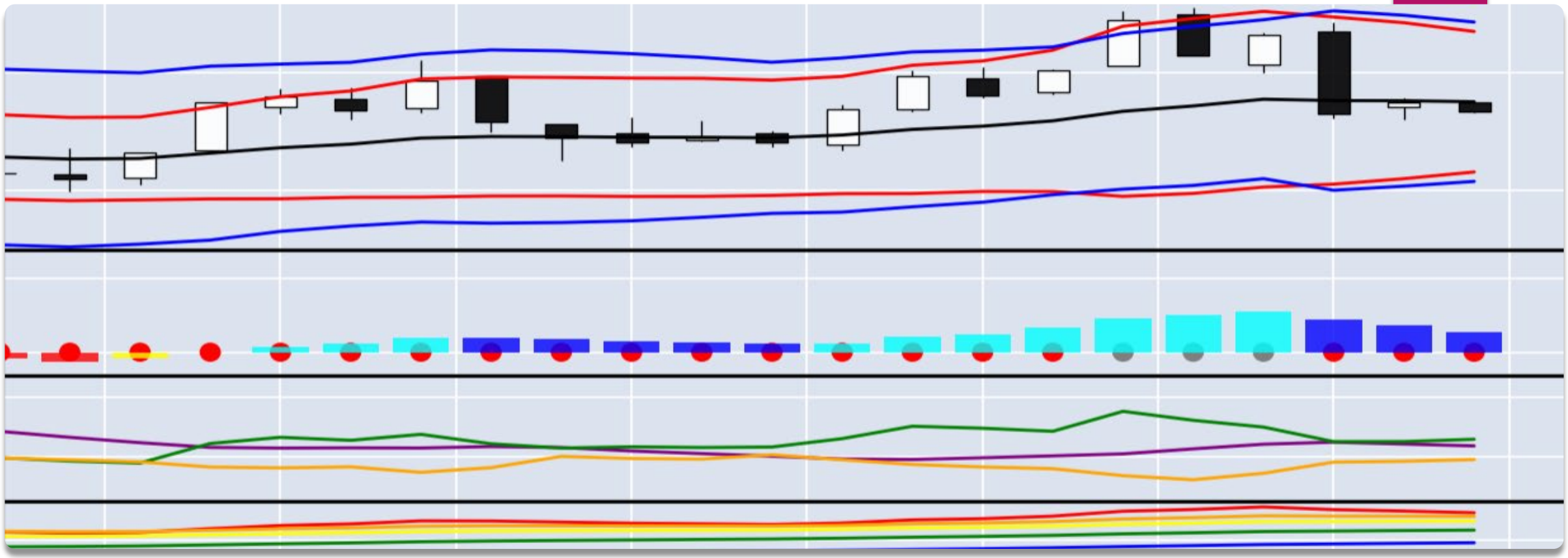


The Squeeze

Allows you to anticipate a Big Move



Allows you to find entry points and exit points



You can spot the signal

Then we ran through a Random Forest model

```
[274]: # List the features sorted in descending order by feature importance
       importances = rf_model.feature_importances_
       listed = sorted(zip(rf_model.feature_importances_, X.columns), reverse = True)
       listed
```

```
[274]: [(0.7452950056496229, 'pct_change'),
        (0.026867059074916808, 'Close'),
        (0.022922686089089442, 'Volume'),
        (0.02124566719079823, 'Open'),
        (0.015862133611401038, 'lower_KC'),
        (0.015788049538463564, 'atr'),
        (0.013335944608178812, 'value'),
        (0.012601612619136338, 'Low'),
        (0.012430888858084403, 'm_avg_89'),
        (0.012241603101021546, 'adx'),
        (0.012050502141253144, 'm_avg_21'),
        (0.01181998202146395, 'High'),
        (0.011450000394244798, 'lower_BB'),
        (0.011338517811697937, 'upper_KC'),
        (0.011292934392208154, 'm_avg_08'),
        (0.011158715660672822, 'm_avg_34'),
        (0.01112325458204114, 'upper_BB'),
        (0.011047640963740987, 'Moving average'),
        (0.008522829288711592, 'm_avg_55'),
        (0.001604972403252354, 'squeeze_on')]
```

RANDOM FOREST SHOWED US WHICH FEATURES ARE MOST IMPORTANT TO TEST

Our results were

```
cm
```

```
[272]: array([[65,  1],
              [ 0, 73]], dtype=int64)
```

```
[273]: # Print the imbalanced classification report
       print(classification_report_imbalanced(y_test, predictions))
```

```
                   pre       rec       spe        f1       geo       iba       sup

          0       1.00      0.98      1.00      0.99      0.99      0.98        66
          1       0.99      1.00      0.98      0.99      0.99      0.99        73

avg / total       0.99      0.99      0.99      0.99      0.99      0.98       139
```

```
[274]: # List the features sorted in descending order by feature importance
       importances = rf_model.feature_importances_
       listed = sorted(zip(rf_model.feature_importances_, X.columns), reverse = True)
       listed
```

We ran the squeeze using three years of Amazon Data

And tested it with a Linear Regression Model

STOCK DATA IS TIME SERIES DATA WHICH TENDS TO WORK WELL WITH LINEAR REGRESSION

A fairly close correlation between the Actual Prices and Predicted Prices

We also ran though an Easy Ensemble model

Our results were:

```
[279]: # Display the confusion matrix
       cm = confusion_matrix(y_test, predictions)
       cm
```

```
[279]: array([[65,  1],
              [ 0, 73]], dtype=int64)
```

```
[280]: # Print the imbalanced classification report
       print(classification_report_imbalanced(y_test, predictions))
```

```
                   pre       rec       spe        f1       geo       iba       sup

          0       1.00      0.98      1.00      0.99      0.99      0.98        66
          1       0.99      1.00      0.98      0.99      0.99      0.99        73

avg / total       0.99      0.99      0.99      0.99      0.99      0.98       139
```

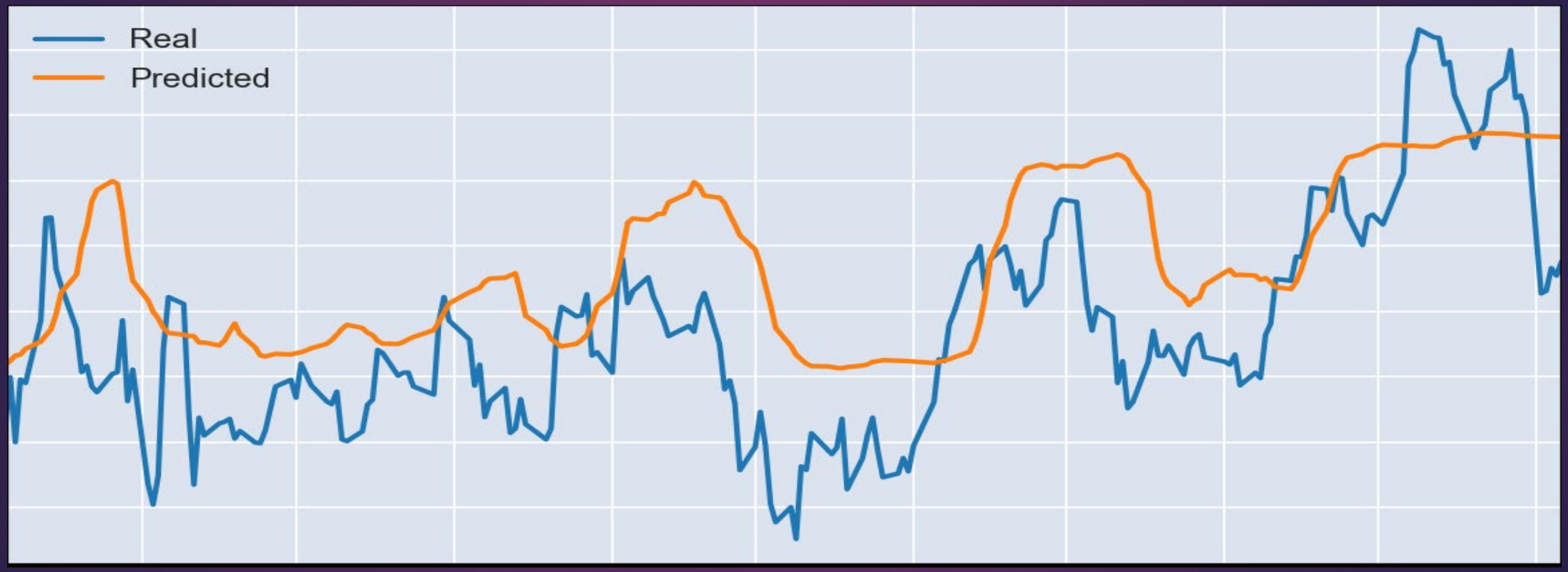
```
[33]: #Add other classifier models
```

We ran the squeeze through a Long Short-Term Memory (LSTM) Machine Learning Model

USING THESE PARAMETERS:

```
Model: "sequential"
_________________________________________________________________
Layer (type)                 Output Shape              Param #
=================================================================
lstm (LSTM)                  (None, 10, 5)             140
_________________________________________________________________
dropout (Dropout)            (None, 10, 5)             0
_________________________________________________________________
lstm_1 (LSTM)                (None, 10, 5)             220
_________________________________________________________________
dropout_1 (Dropout)          (None, 10, 5)             0
_________________________________________________________________
lstm_2 (LSTM)                (None, 5)                 220
_________________________________________________________________
dropout_2 (Dropout)          (None, 5)                 0
_________________________________________________________________
dense (Dense)                (None, 1)                 6
=================================================================
Total params: 586
Trainable params: 586
Non-trainable params: 0
_________________________________________________________________
```

We got the following results:



But Amazon trades at over $3000 a share, how can a retail investor trade Amazon?

Instead of buying the stock buy and sell options.

AN OPTION CAN CONTROL 100 SHARES OF A STOCK AT A FRACTION OF THE PRICE OF THE ACTUAL STOCK SHARES. THE PRICE OF THE OPTIONS WILL VARY BASED UPON THE LENGTH OF THE OPTION PURCHASED.

We created an algorithmic trading model to predict results

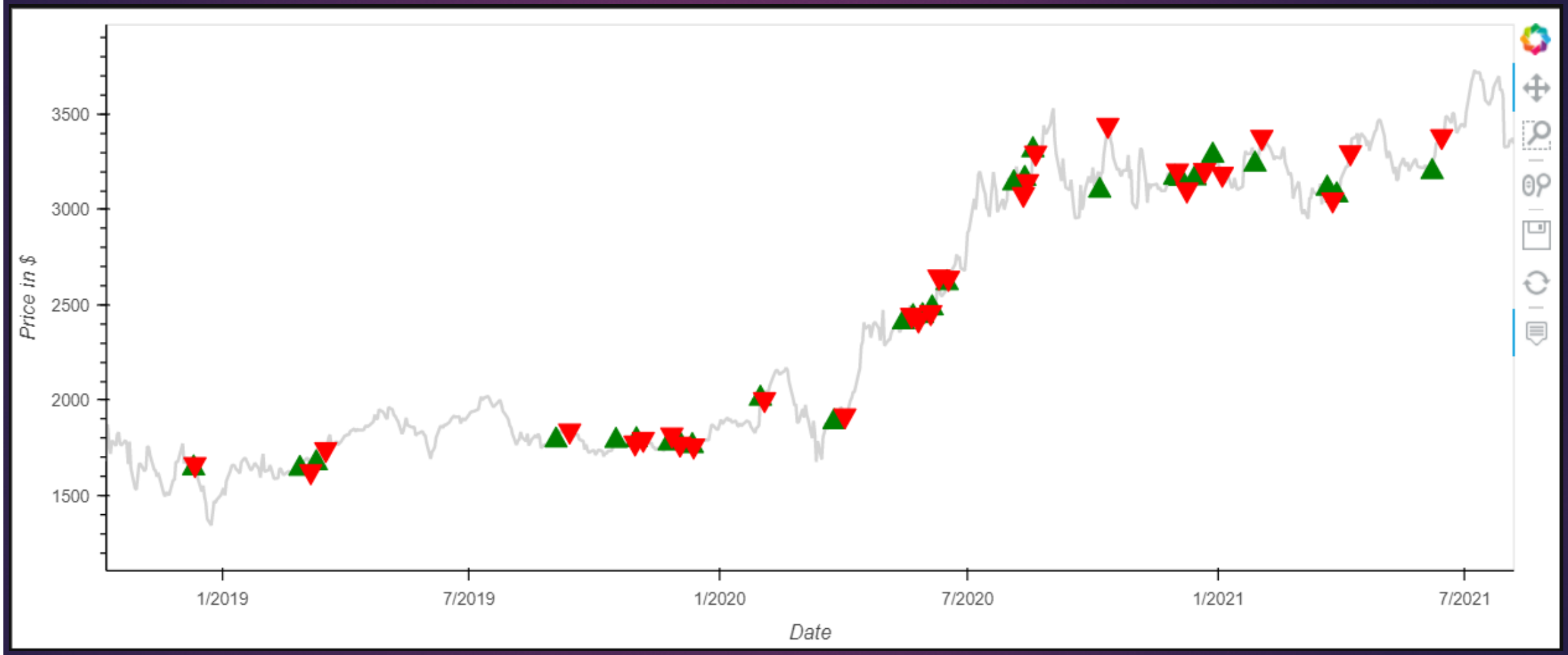
WHAT WOULD HAVE HAPPENED IF A RETAIL INVESTOR HAD FOLLOWED THIS MODEL STARTING OUT WITH $ 1000 AT THE BEGINNING OF 2021

The formula for the trading strategy is:

WE CALCULATED IN AND OUT POINTS BASED ON THE SQUEEZE MODEL, DESIGNED TO ENTER AT THE START OF AN UPWARD SQUEEZE AND OUT AT A RISE OF 2 X AVERAGE TRUE RANGE (ATR).

IT WOULD WORK FOR A DOWNWARD SQUEEZE, BUT MOST RETAIL INVESTORS ARE NOT COMFORTABLE WITH SHORT SELLING, SO WE KEPT IT SIMPLE.

Our results:


3500
3000
2500
2000
1500
Price in $
1/2019
7/2019
1/2020
7/2020
1/2021
7/2021
Date

Conclusions

- IS THERE A RELATIVELY EASY WAY FOR RETAIL INVESTORS TO SPOT BIG MOVES IN POPULAR STOCKS?
- WOULD THIS METHOD STAND UP TO TESTING IN LINEAR REGRESSION AND MACHINE LEARNING MODELS?
- IS THERE A WAY FOR RETAIL INVESTORS TO TAKE $1000 AND PROFIT FROM A BIG MOVE?

Is there A relatively easy way for retail investors to spot big moves in popular stocks?

ANSWER:

YES, THE TTM SQUEEZE MODEL CAN HELP RETAIL INVESTORS ANTICIPATE A BIG MOVE

Would this method stand up to testing in linear regression and machine learning models?

ANSWER:

YES, THE TTM SQUEEZE HELD UP REASONABLY WELL WHEN RUN THROUGH, RANDOM FOREST, EASY ENSEMBLE, LINEAR REGRESSION, AND LSTM MODELS

Is there a way for retail investors to take $1000 and profit from a big move?

ANSWER:

WE WERE ABLE TO SPOT AN OPPORTUNITY WHERE A WELL-TIMED OPTIONS TRADE OF AMAZON , USING THE SQUEEZE STRATEGY, WOULD HAVE TURNED $ 1000 INTO $ 30,000.

THAT WAS FOR A SINGLE TRADE IN JUNE-JULY OF 2021.

The two- week time constraint did not allow us a finish writing some code that could be helpful.

The proposed code would calculate what the return on an initial $ 1000 would be for an investor executing the squeeze/options strategy over the course of 2021, so far.

That may be for a subsequent project.