Project 2 – Project Plan

ML MODEL TEST/TRAIN REPORTS

CHANGED THE WAY WE GET SIGNAL TO SIMPLE > 0 implying by, <0 sell

WSJ DATA ONLY
Short Window = 10, Long Window =100
LOGISTIC REGRESSION BTC-USD

	precision	recall	f1-score	support
-1.0	0.43	0.37	0.40	89
1.0	0.54	0.60	0.57	111
accuracy			0.50	200
macro avg	0.49	0.49	0.49	200
weighted avg	0.49	0.50	0.49	200

SVC Model BTC-USD

	precision	recall	f1-score	support
-1.0	0.47	0.29	0.36	89
1.0	0.57	0.74	0.64	111
accuracy			0.54	200
macro avg	0.52	0.52	0.50	200
weighted avg	0.52	0.54	0.52	200

Short Window = 10, Long Window =100

LOGISTIC REGRESSION ETH-USD

	precision	recall	f1-score	support
-1.0	0.43	0.54	0.48	96
1.0	0.45	0.35	0.39	104
accuracy			0.44	200
macro avg	0.44	0.44	0.44	200
weighted avg	0.44	0.44	0.43	200

SVC Model ETH-USD

	precision	recall	f1-score	support
-1.0	0.44	0.59	0.51	96

```
        1.0          0.45       0.31     0.37         104

    accuracy                             0.45         200
    macro avg        0.45       0.45     0.44         200
    weighted avg     0.45       0.45     0.43         200
```

Short Window = 6, Long Window =100
LOGISTIC REGRESSION BTC-USD

```
              precision    recall  f1-score   support

      -1.0          0.49       0.53     0.51          91
       1.0          0.58       0.54     0.56         109

    accuracy                             0.54         200
    macro avg        0.53       0.53     0.53         200
    weighted avg     0.54       0.54     0.54         200
```

SVC Model BTC-USD

```
              precision    recall  f1-score   support

      -1.0          0.50       0.49     0.50          91
       1.0          0.58       0.59     0.58         109

    accuracy                             0.55         200
    macro avg        0.54       0.54     0.54         200
    weighted avg     0.54       0.55     0.54         200
```

LOGISTIC REGRESSION ETH-USD
```
              precision    recall  f1-score   support

      -1.0          0.39       0.41     0.40          88
       1.0          0.52       0.50     0.51         112

    accuracy                             0.46         200
    macro avg        0.45       0.45     0.45         200
    weighted avg     0.46       0.46     0.46         200
```

SVC Model ETH-USD
```
              precision    recall  f1-score   support

      -1.0          0.40       0.38     0.39          88
       1.0          0.53       0.56     0.55         112

    accuracy                             0.48         200
    macro avg        0.47       0.47     0.47         200
    weighted avg     0.48       0.48     0.48         200
```

Short Window = 6, Long Window =80
LOGISTIC REGRESSION BTC-USD

	precision	recall	f1-score	support
-1.0	0.49	0.44	0.46	96
1.0	0.53	0.59	0.56	104
accuracy			0.52	200
macro avg	0.51	0.51	0.51	200
weighted avg	0.51	0.52	0.51	200

SVC Model BTC-USD

	precision	recall	f1-score	support
-1.0	0.52	0.40	0.45	96
1.0	0.54	0.66	0.60	104
accuracy			0.54	200
macro avg	0.53	0.53	0.52	200
weighted avg	0.53	0.54	0.53	200

LOGISTIC REGRESSION ETH-USD

	precision	recall	f1-score	support
-1.0	0.45	0.52	0.49	94
1.0	0.51	0.44	0.47	106
accuracy			0.48	200
macro avg	0.48	0.48	0.48	200
weighted avg	0.48	0.48	0.48	200

SVC Model ETH-USD

	precision	recall	f1-score	support
-1.0	0.46	0.54	0.50	94
1.0	0.51	0.42	0.46	106
accuracy			0.48	200
macro avg	0.48	0.48	0.48	200
weighted avg	0.49	0.48	0.48	200

SEEING IMPROVEMENTS IN THE ACCURACY SCORES AS YOU TUNE THE WINDOWS FOR SMOOTHING OUT

BELOW REPORTS ARE WITH OLDER SIGNAL CREATION LOGIC

TWITTER

BTC – LogisticRegression with Resampling

	precision	recall	f1-score	support
-1	0.79	0.31	0.45	183
0	0.22	0.33	0.27	45
1	0.05	0.38	0.09	13
accuracy			0.32	241
macro avg	0.35	0.34	0.27	241
weighted avg	0.65	0.32	0.39	241

BTC – SVC Model with Resampling

	precision	recall	f1-score	support
-1	0.75	0.26	0.38	183
0	0.16	0.24	0.19	45
1	0.05	0.38	0.08	13
accuracy			0.26	241
macro avg	0.32	0.30	0.22	241
weighted avg	0.60	0.26	0.33	241

ETH – LogisticRegression with Resampling

	precision	recall	f1-score	support
-1	0.78	0.22	0.35	171
0	0.19	0.40	0.26	42
1	0.11	0.39	0.17	28
accuracy			0.27	241
macro avg	0.36	0.34	0.26	241
weighted avg	0.60	0.27	0.31	241

ETH – SVC Model with Resampling

```
              precision    recall  f1-score   support

         -1       0.79      0.26      0.39       171
          0       0.22      0.40      0.28        42
          1       0.12      0.46      0.19        28

   accuracy                           0.31       241
  macro avg       0.38      0.38      0.29       241
weighted avg      0.61      0.31      0.35       241
```

REDDIT

BTC – LogisticRegression with Resampling

```
              precision    recall  f1-score   support

         -1       0.86      0.25      0.39       189
          0       0.24      0.52      0.32        31
          1       0.10      0.57      0.17        21

   accuracy                           0.32       241
  macro avg       0.40      0.45      0.30       241
weighted avg      0.71      0.32      0.36       241
```

BTC – SVC Model with Resampling

```
              precision    recall  f1-score   support

         -1       0.91      0.28      0.43       189
          0       0.27      0.39      0.32        31
          1       0.11      0.71      0.19        21

   accuracy                           0.33       241
  macro avg       0.43      0.46      0.31       241
weighted avg      0.76      0.33      0.39       241
```

ETH – LogisticRegression with Resampling

```
              precision    recall  f1-score   support

         -1       0.62      0.18      0.28       168
          0       0.23      0.49      0.31        43
          1       0.08      0.27      0.12        30

   accuracy                           0.24       241
  macro avg       0.31      0.31      0.24       241
weighted avg      0.49      0.24      0.26       241
```

ETH — SVC Model with Resampling

	precision	recall	f1-score	support
-1	0.68	0.19	0.30	168
0	0.21	0.35	0.26	43
1	0.10	0.40	0.16	30
accuracy			0.24	241
macro avg	0.33	0.31	0.24	241
weighted avg	0.52	0.24	0.27	241

ONLY WSJ SENTIMENT

ETH — LogisticRegression with Resampling

	precision	recall	f1-score	support
-1	0.57	0.02	0.04	209
0	0.14	0.59	0.22	37
1	0.09	0.28	0.14	40
accuracy			0.13	286
macro avg	0.27	0.30	0.13	286
weighted avg	0.45	0.13	0.08	286

ETH — SVC Model with Resampling

	precision	recall	f1-score	support
-1	0.00	0.00	0.00	209
0	0.14	0.59	0.22	37
1	0.10	0.33	0.16	40
accuracy			0.12	286
macro avg	0.08	0.31	0.13	286
weighted avg	0.03	0.12	0.05	286

ONLY TWITTER SENTIMENT

ETH — LogisticRegression with Resampling

	precision	recall	f1-score	support
-1	0.69	0.24	0.36	174
0	0.18	0.34	0.24	41
1	0.20	0.63	0.30	35
accuracy			0.31	250

```
     macro avg       0.36      0.40      0.30        250
  weighted avg       0.54      0.31      0.33        250
```

ETH – SVC Model with Resampling

```
              precision    recall  f1-score   support

          -1       0.62      0.20      0.30       174
           0       0.17      0.34      0.23        41
           1       0.18      0.60      0.28        35

    accuracy                           0.28       250
   macro avg       0.33      0.38      0.27       250
weighted avg       0.48      0.28      0.28       250
```

BTC – LogisticRegression with Resampling

```
              precision    recall  f1-score   support

          -1       0.90      0.21      0.34       207
           0       0.10      0.40      0.16        25
           1       0.08      0.44      0.13        18

    accuracy                           0.25       250
   macro avg       0.36      0.35      0.21       250
weighted avg       0.76      0.25      0.31       250
```

BTC – SVC Model with Resampling

```
              precision    recall  f1-score   support

          -1       0.87      0.23      0.37       207
           0       0.11      0.32      0.17        25
           1       0.06      0.39      0.10        18

    accuracy                           0.25       250
   macro avg       0.35      0.31      0.21       250
weighted avg       0.74      0.25      0.33       250
```

ONLY REDDIT SENTIMENT

ETH – LogisticRegression with Resampling
```
              precision    recall  f1-score   support

          -1       0.72      0.19      0.30       177
           0       0.14      0.31      0.20        36
           1       0.14      0.49      0.22        37

    accuracy                           0.25       250
```

```
   macro avg      0.34      0.33      0.24        250
weighted avg      0.55      0.25      0.28        250
```

ETH – SVC Model with Resampling

```
              precision    recall  f1-score   support

          -1       0.71      0.17      0.27       177
           0       0.18      0.36      0.24        36
           1       0.15      0.54      0.23        37

    accuracy                           0.25       250
   macro avg       0.35      0.36      0.25       250
weighted avg       0.55      0.25      0.26       250
```

BTC – LogisticRegression with Resampling
```
              precision    recall  f1-score   support

          -1       0.80      0.22      0.35       195
           0       0.17      0.41      0.24        37
           1       0.06      0.33      0.09        18

    accuracy                           0.26       250
   macro avg       0.34      0.32      0.23       250
weighted avg       0.65      0.26      0.31       250
```

BTC – SVC Model with Resampling

```
              precision    recall  f1-score   support

          -1       0.75      0.22      0.33       195
           0       0.18      0.41      0.25        37
           1       0.04      0.22      0.06        18

    accuracy                           0.24       250
   macro avg       0.32      0.28      0.22       250
weighted avg       0.61      0.24      0.30       250
```

Neural Network Training and Test

The neural netwok testing with various neural networks also didn't coem up
 with any dependable results. See the csv files attached
[BTC-twitter]('twitter_btc.pdf')