Ethereum Price Signals

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Project Overview

Dear Management of J.P. Morgan Chase,

Hate or Love it, crypto currencies have been on the rise worldwide since 2020. The global market cap at this moment is measured at 1.4 Trillion Dollars. Ethereum makes up about 20% of that. This begs the question...
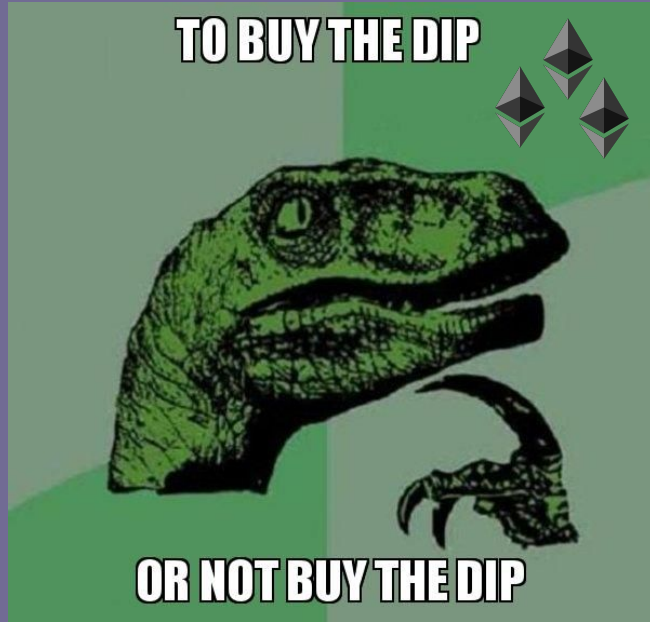
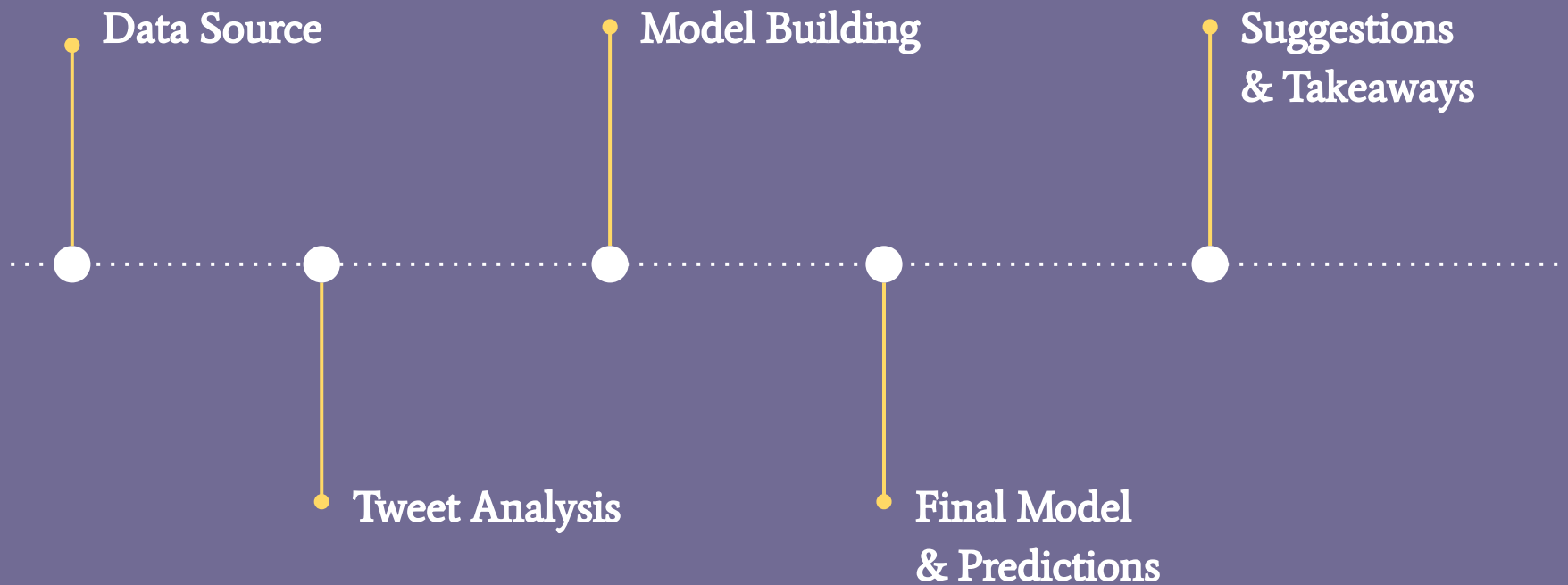# How do we, JP Morgan Chase, get a piece of the Ethereum pie?

Project Objective

To provide daily signals, whether to buy or to not buy Ethereum, using a machine learning classification model

Roadmap

Data Source

Model Building

Suggestions & Takeaways

Tweet Analysis

Final Model & Predictions

Data Source

1. Tweets from top 100 crypto users from last two years

2. Ethereum Data from Yahoo Finance

Tweet Analysis

NLP model to analyze topics from 1m+ tweets

- Topic 1: Other
- Topic 2: Market
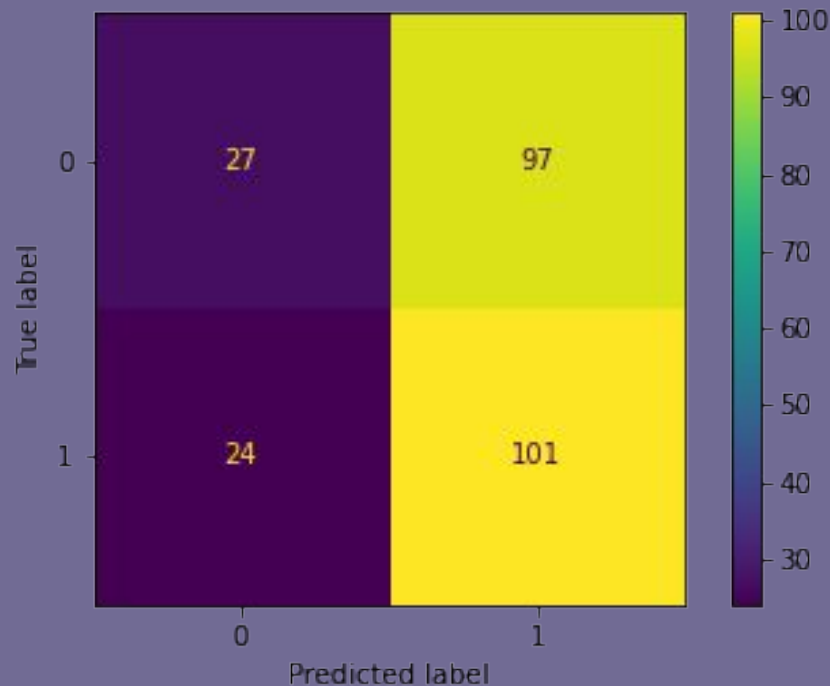- Topic 3: Technology

Best Coherency: 22.9
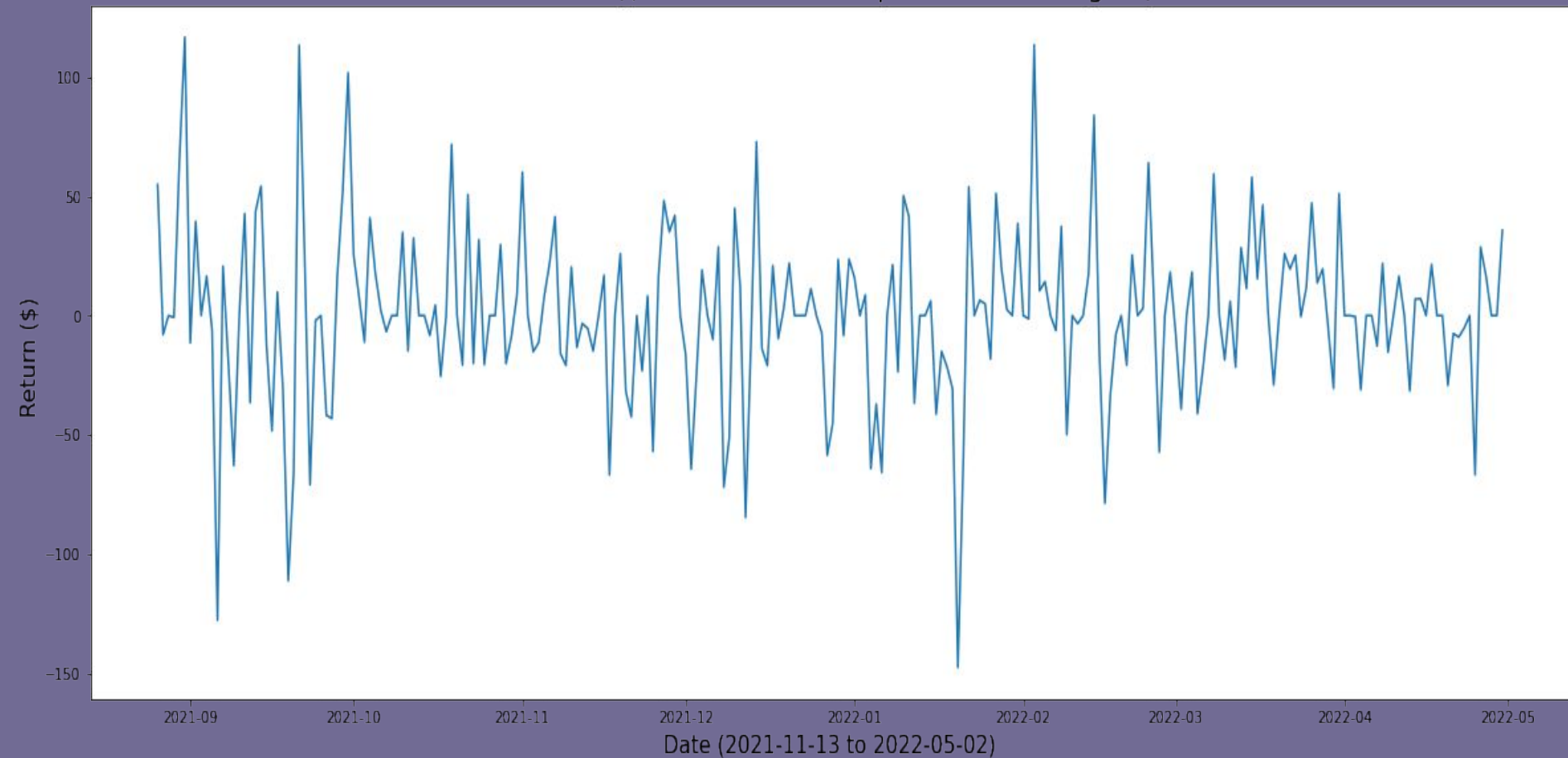
Classification Model Using Twitter Data

Predictors

- Topics
- Total Likes
- Total Retweets
- Total Quote Tweets

Best Accuracy: 52%

Returns ($1000 investment per Predicted Signal)
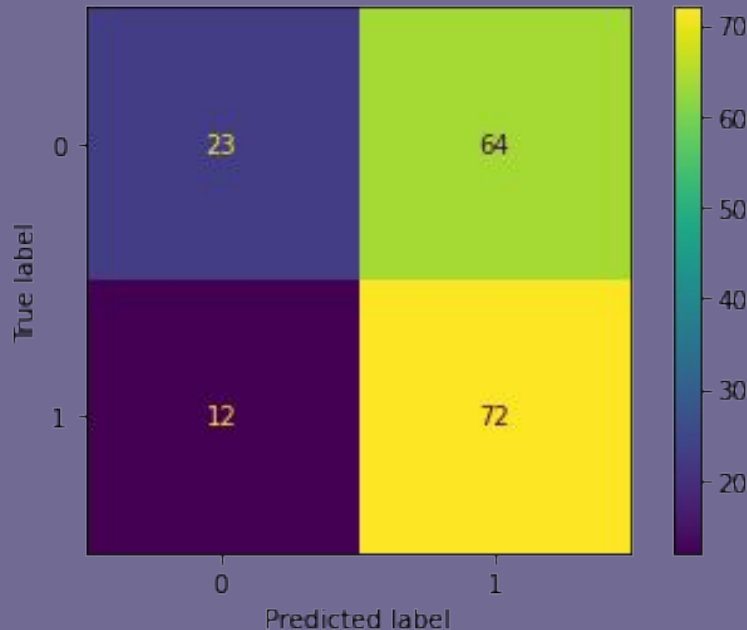
Average Returns: 75 cents per day

Classification Model
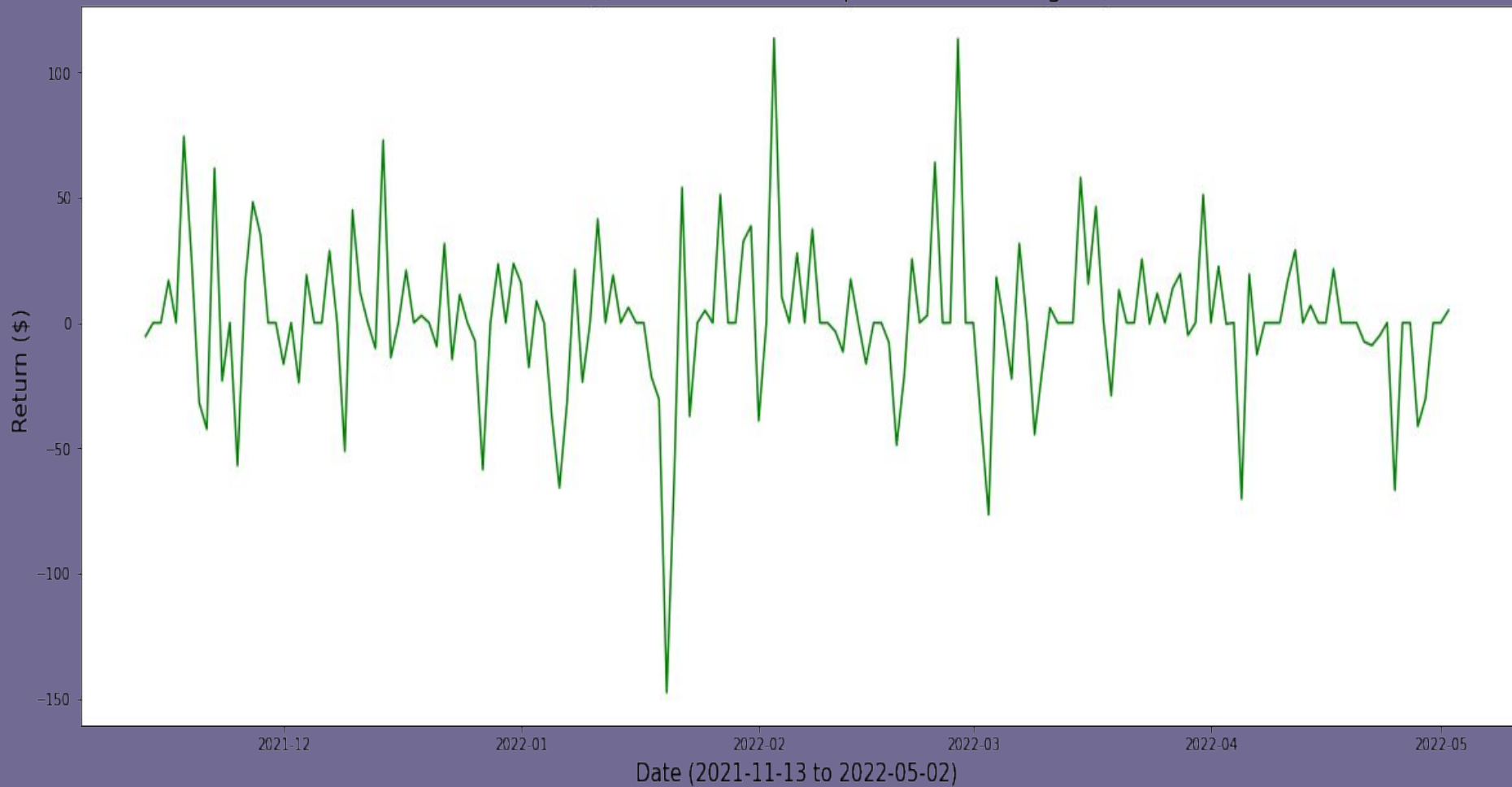
Financial metrics to predict Buy or Not Buy signal

Predictors

- RSI (Relative Strength Index)
- ADX (Average Directional Index)
- Correlation
- Percent Change
- Volatility

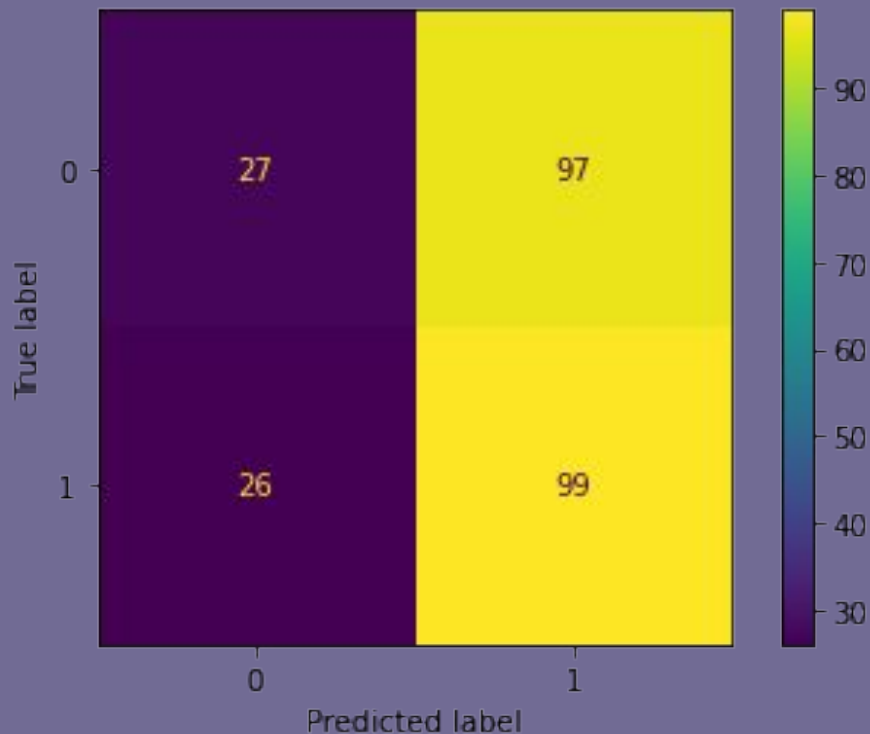Best Accuracy: 55.6

Returns ($1000 investment per Predicted Signal)

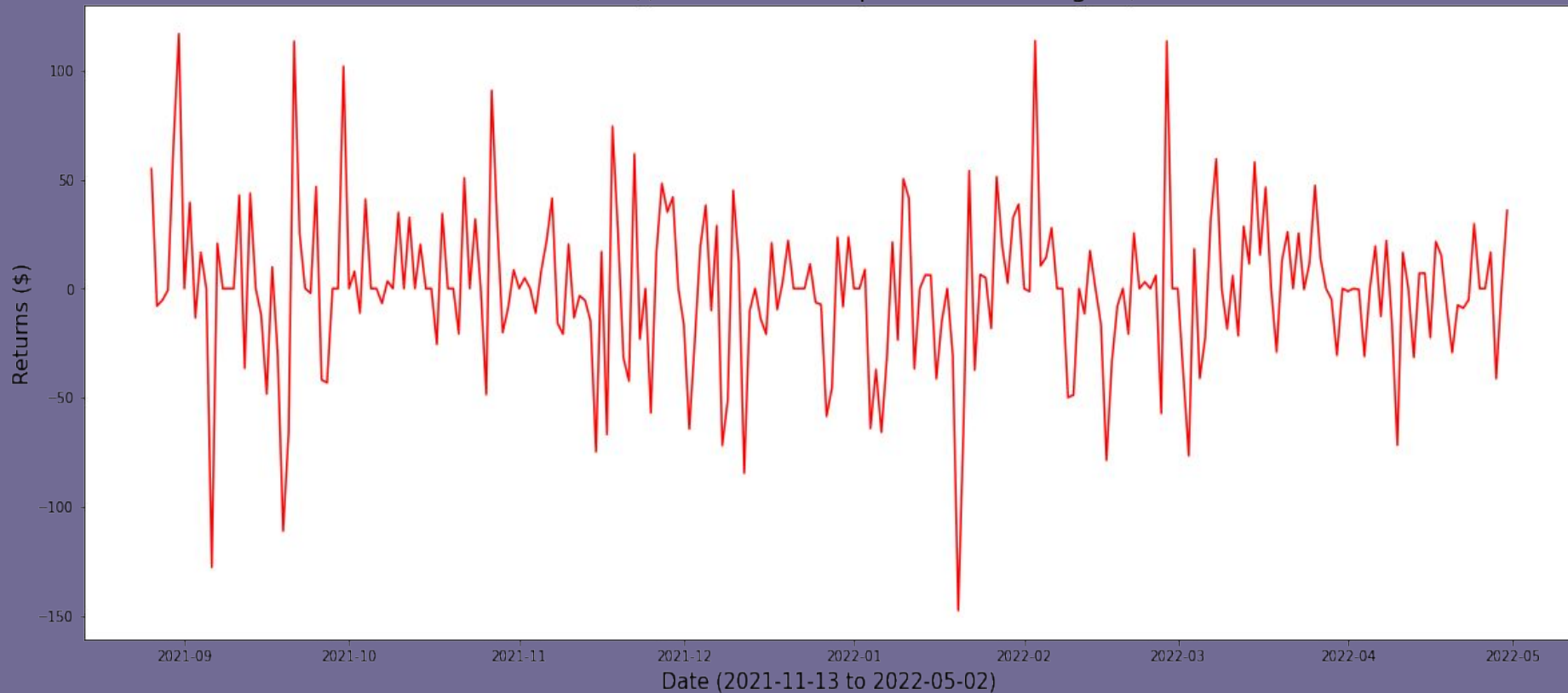Average Returns: $2.28 per day

Final Model

Combined daily sentiments with
pricing data to predict signal

Best Accuracy: 51%

Final Model

Returns ($1000 invested per Predicted Signal)

Average Returns: -0.30 cents per day

Suggestions and Conclusions

- Financial metrics model yields best results

- Contradicting our initial beliefs, using financial and sentiment data does not yield a good model
  - However, this does not necessarily mean its a bad idea

Future Improvements

- Better sampling of crypto tweets would lead to better topic modeling
- Different time variations:
  - Long term: 1 month, 1 week charts
  - Short term: 1 hour, 30 min charts
- Combining different sources of crypto sentiment:
  - Telegram, Instagram, etc
- Testing other technical strategies
- Improving classification models

Thank You