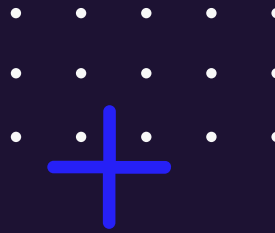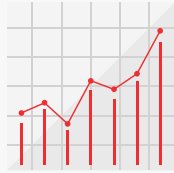# Trading on Sentiment

Brendan Ferris

Business Problem

Build a classifier to predict Apple stock direction over a short period in order to inform decision making for an asset management firm.
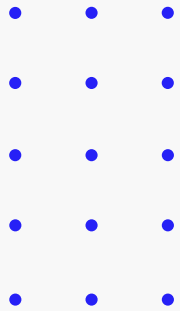
Two Possible Routes

Technical Analysis

Focused on quantitative stock indicators.

Fundamental Analysis

Focus on qualitative information and human behavior.

Efficient Market Hypothesis

- • •
- • •
- • •
- • •
- • •

Current market prices reflect the information that shareholders have at the time.

No stock is undervalued, there is no 'edge' that would lead to large gains.

No point in either Fundamental or Technical Analysis. Either invest in riskier companies or hold long positions in stable companies.

The Data

- ✅ 39,000 Full Text News Articles.

- ✅ 445 News Outlets.

- ✅ Time Span: 2015 - Present

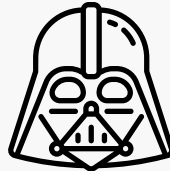- ✅ Historical Pricing information.

twelvedata

NEWSLOOKUP.com

Process

Newspaper3k

 pandas
NumPy

scikit learn

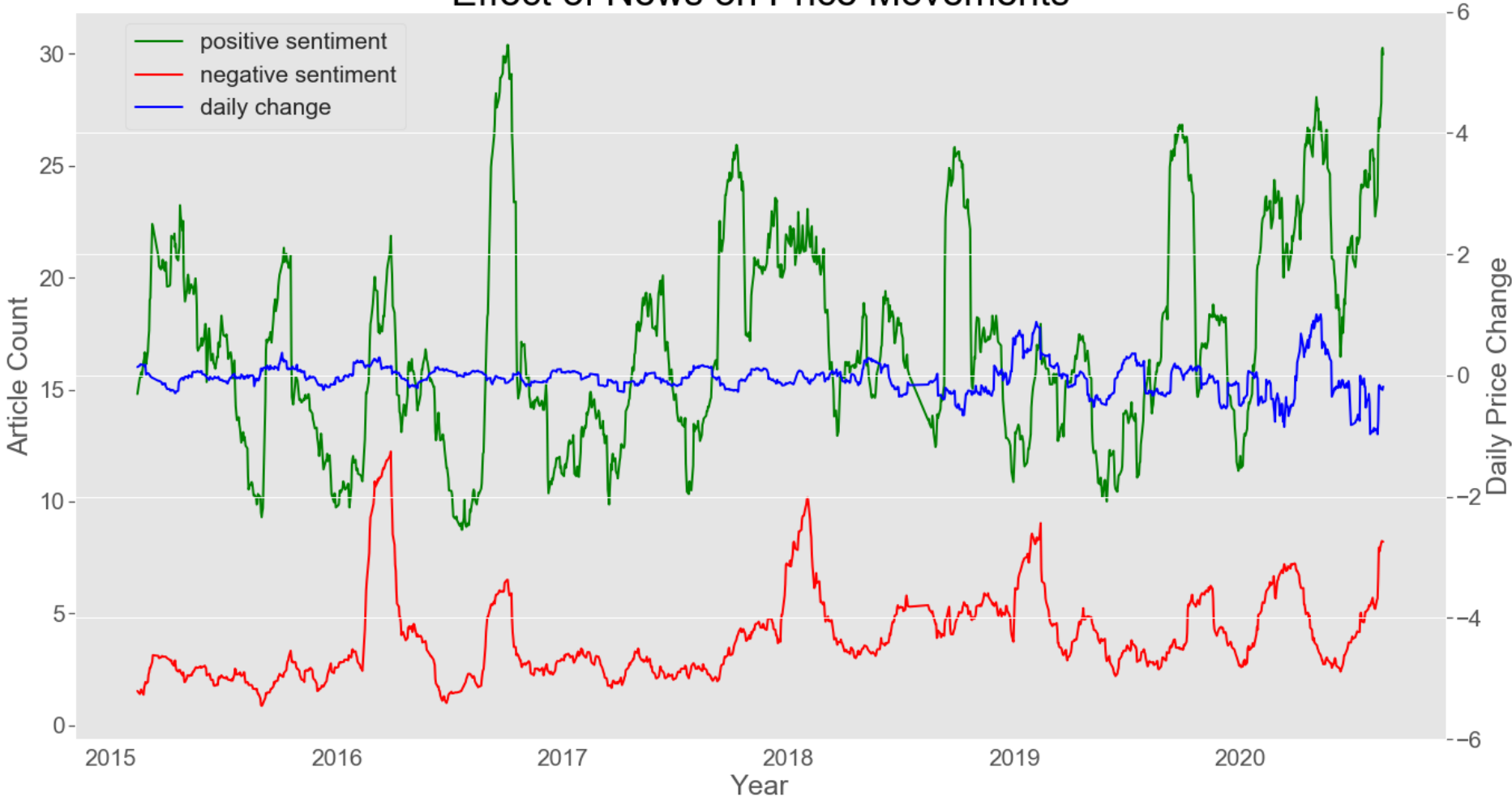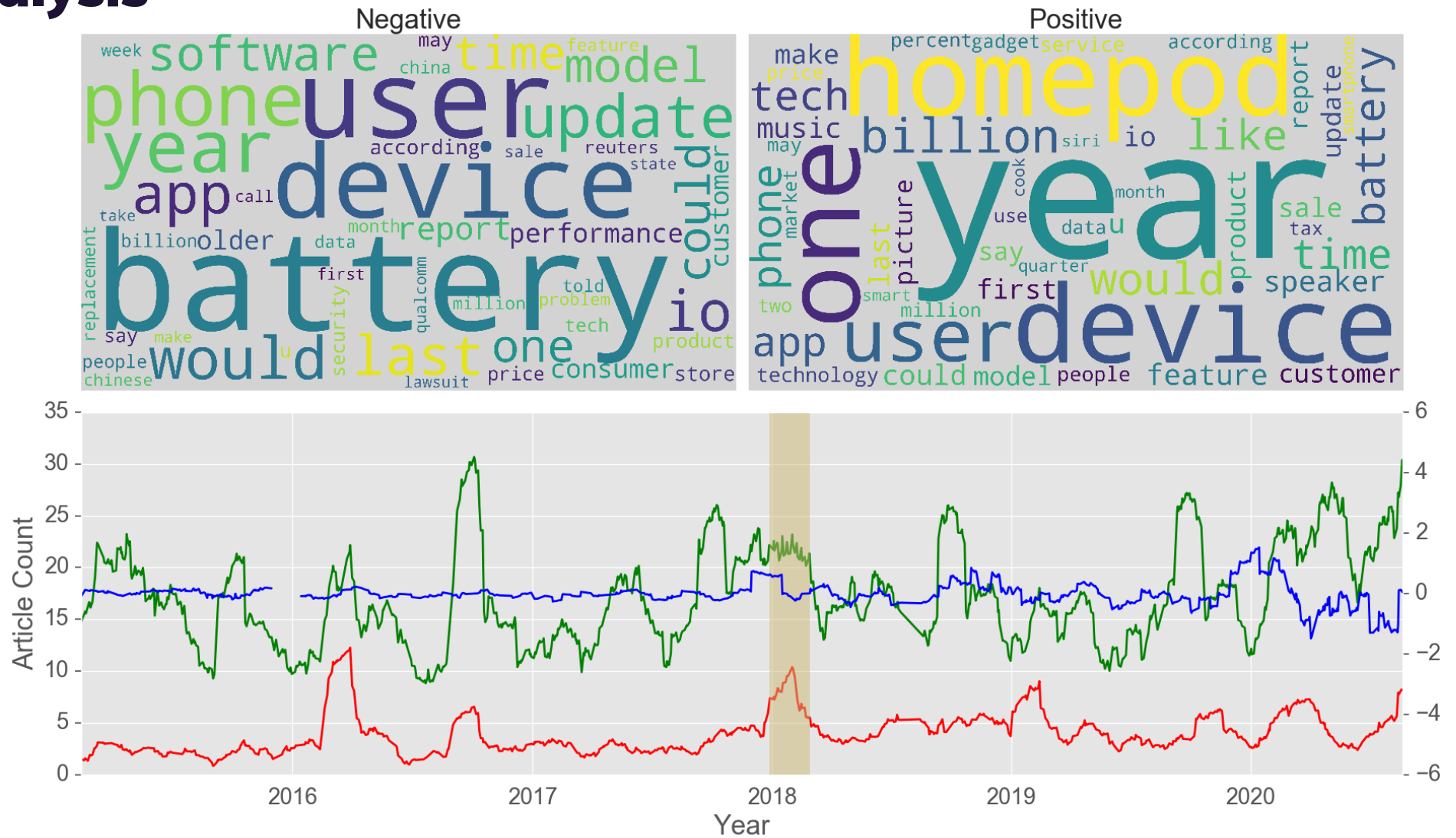|	
1	**Text Mining**
2	**Data Cleaning**
3	**Supervised Learning**
4	**Model Evaluation**

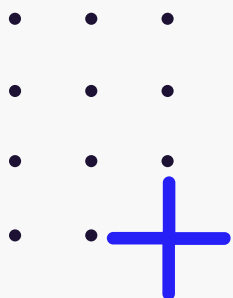# Analysis

Effect of News on Price Movements
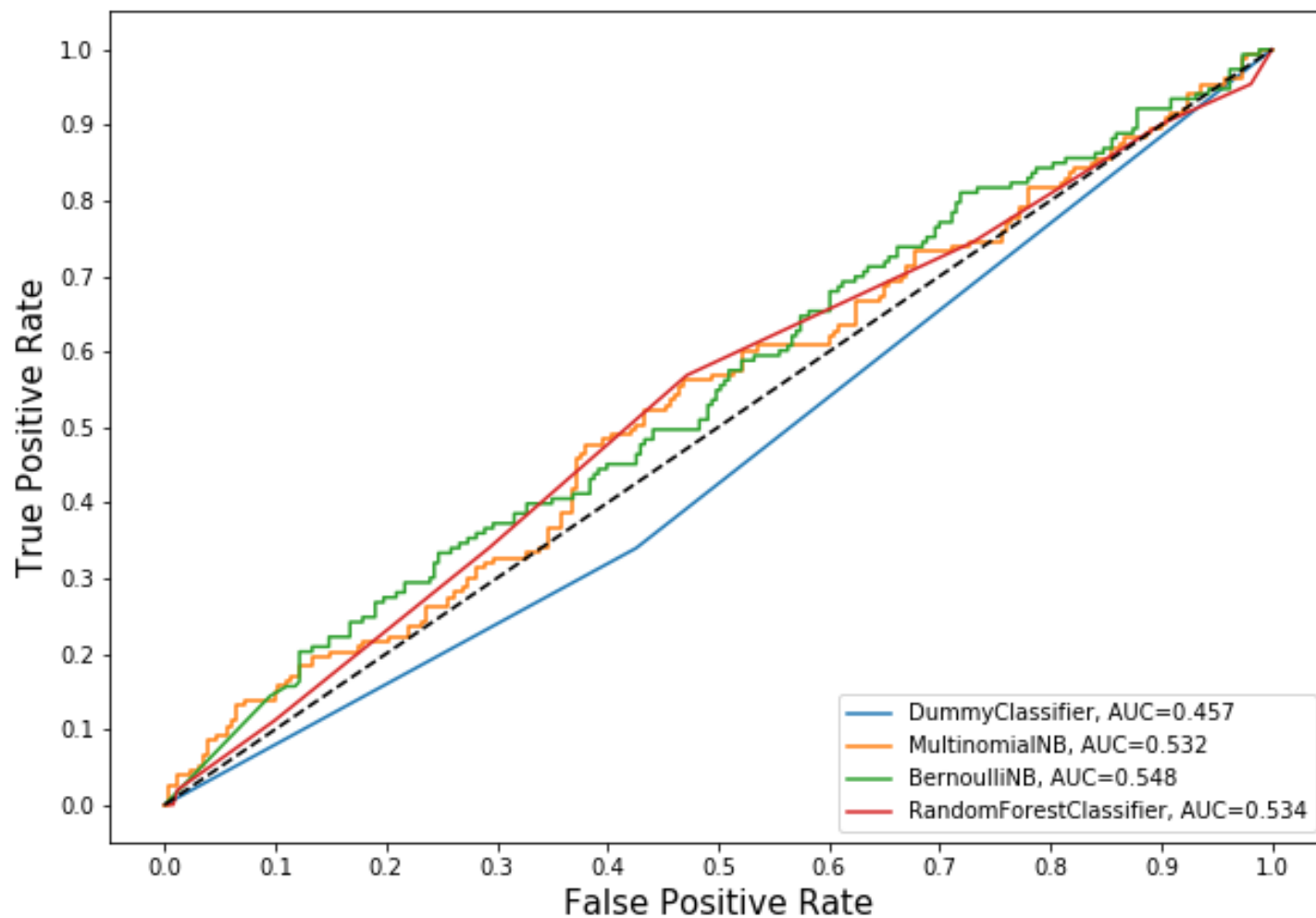
Analysis

Analysis
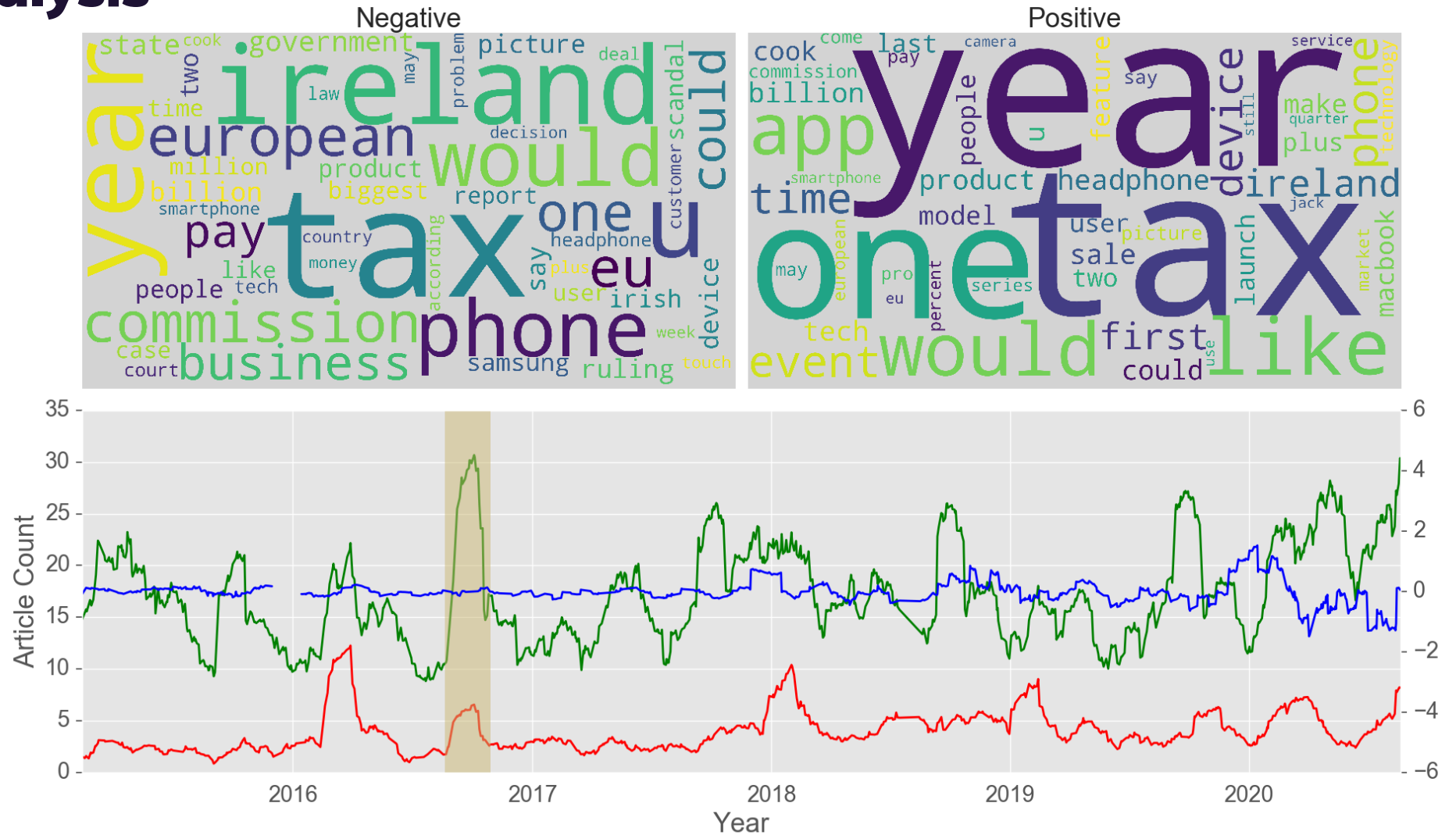
Dummy Classifier (Baseline)

Naive Bayes (Final Model)

F1: 0.39
AUC: 0.457

F1: 0.50
AUC: 0.548

Modeling

Next Steps

Expand

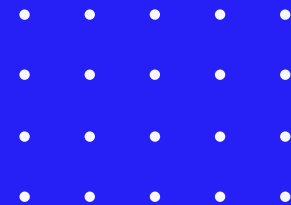Gather and train on data for all 30 stocks in the Dow Jones Industrial Index.

Social Data

Incorporate social media data into the pipeline.

Pipeline

Develop a data pipeline that would allow for online learning in real time. (or close to real-time)

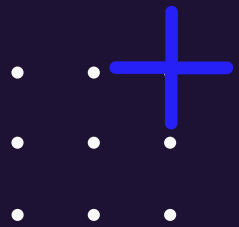brendanfrrs@gmail.com

linkedin.com/in/brendangferris/

Thank You!