Subreddit Classification ML Model

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The Problem

Investors struggle to distinguish cryptocurrency from equity forums, leading to imprecise market trend predictions and misinformed investment decisions

01

Workflow

Project Roadmap

Data Collection

- Extract data from two subreddit forums, 'wallstreetbets' and 'CryptoCurrency', using the Reddit API

EDA

- Preprocess and clean the text data
- Engineer new features like text length, word count, and composite sentiment scores

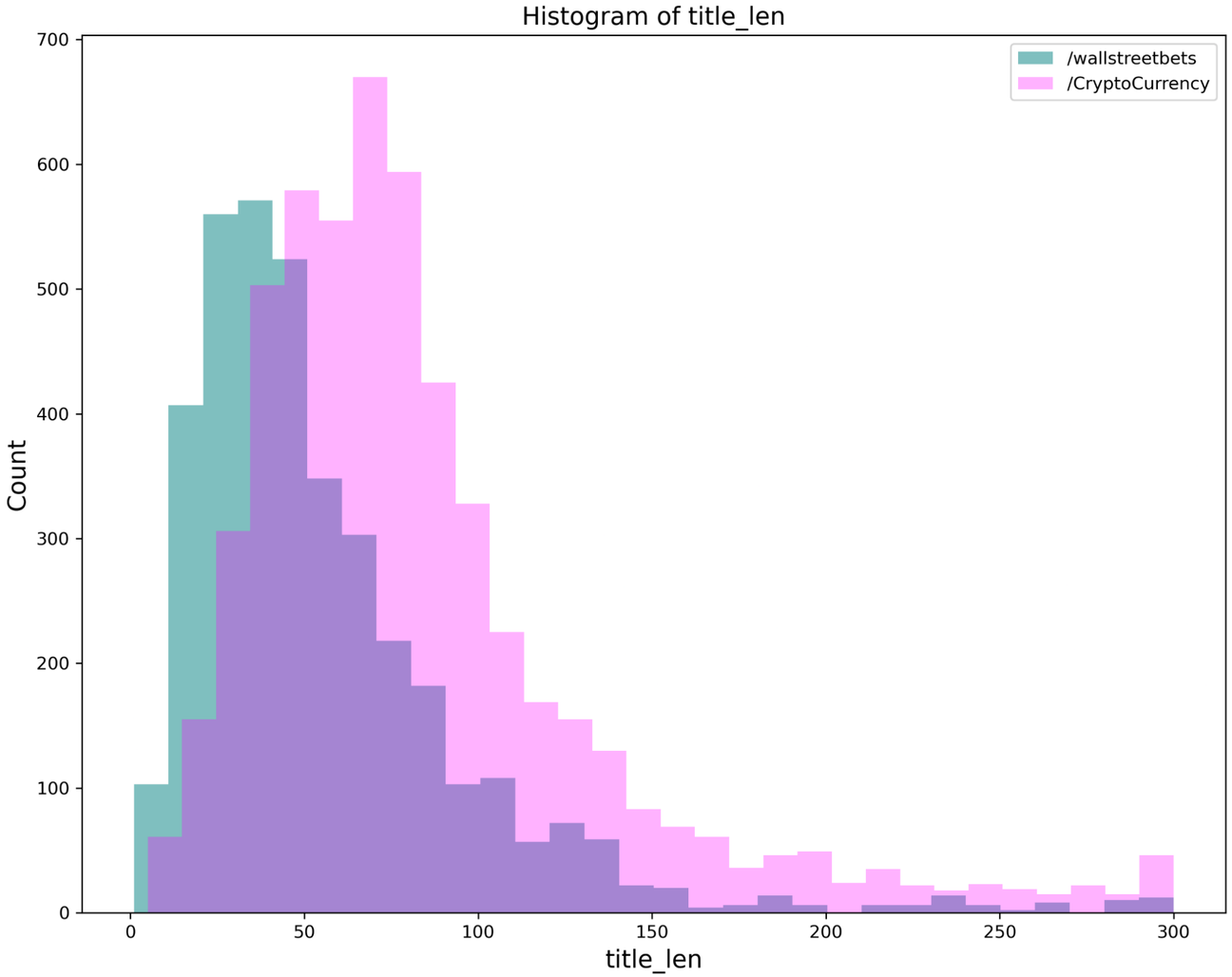
Modeling

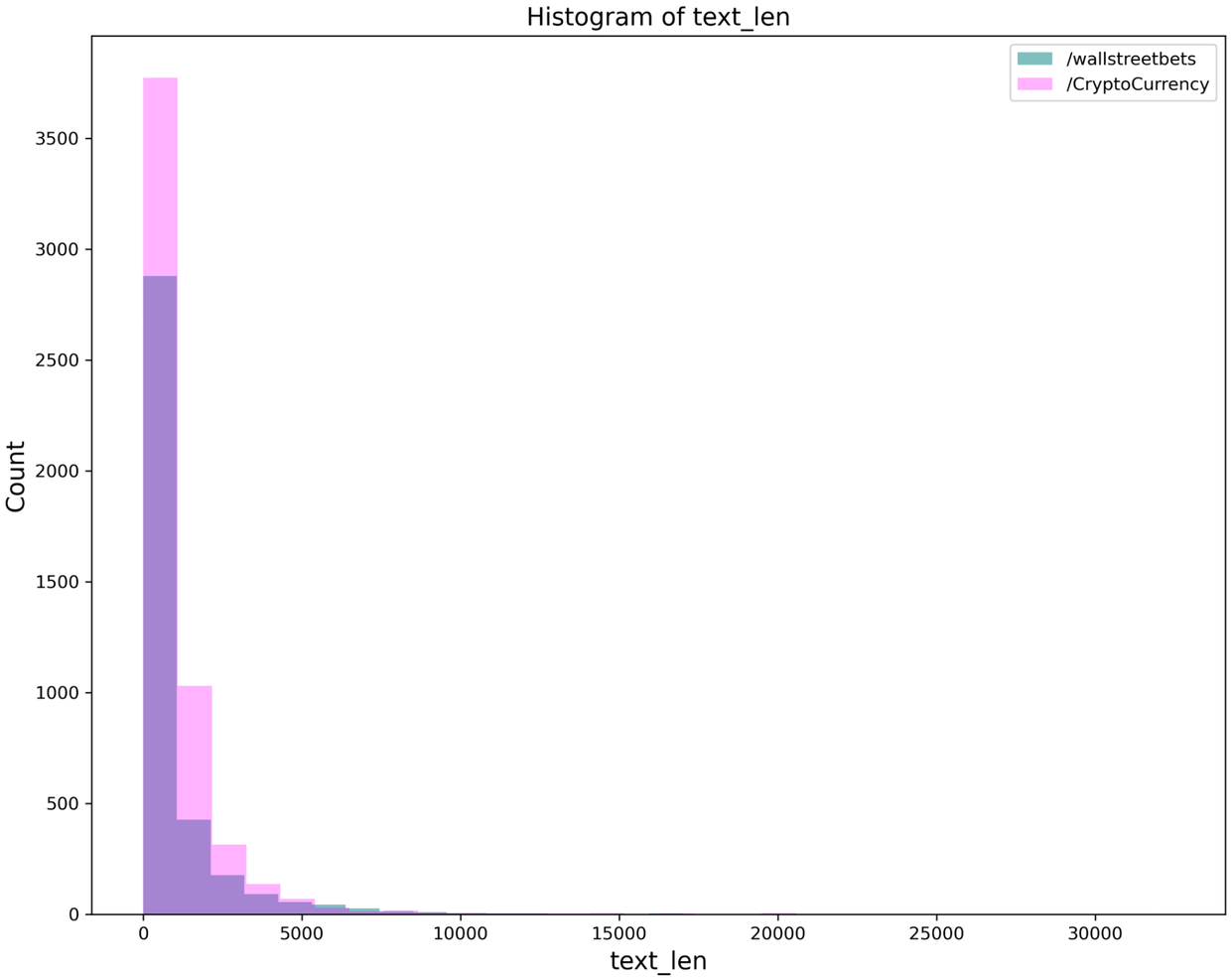
- Construct, optimize, and evaluate two different classification models.

02

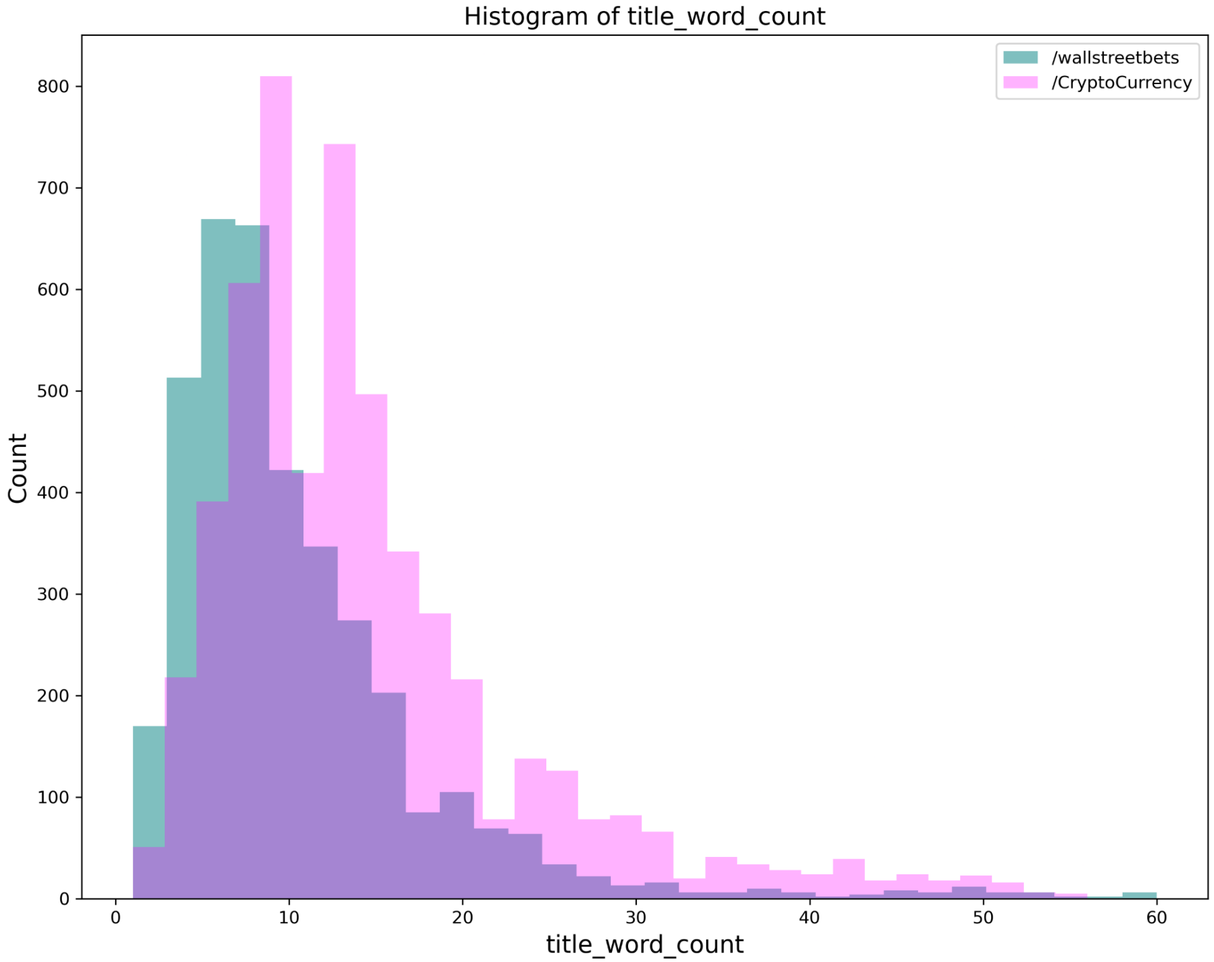
Visuals

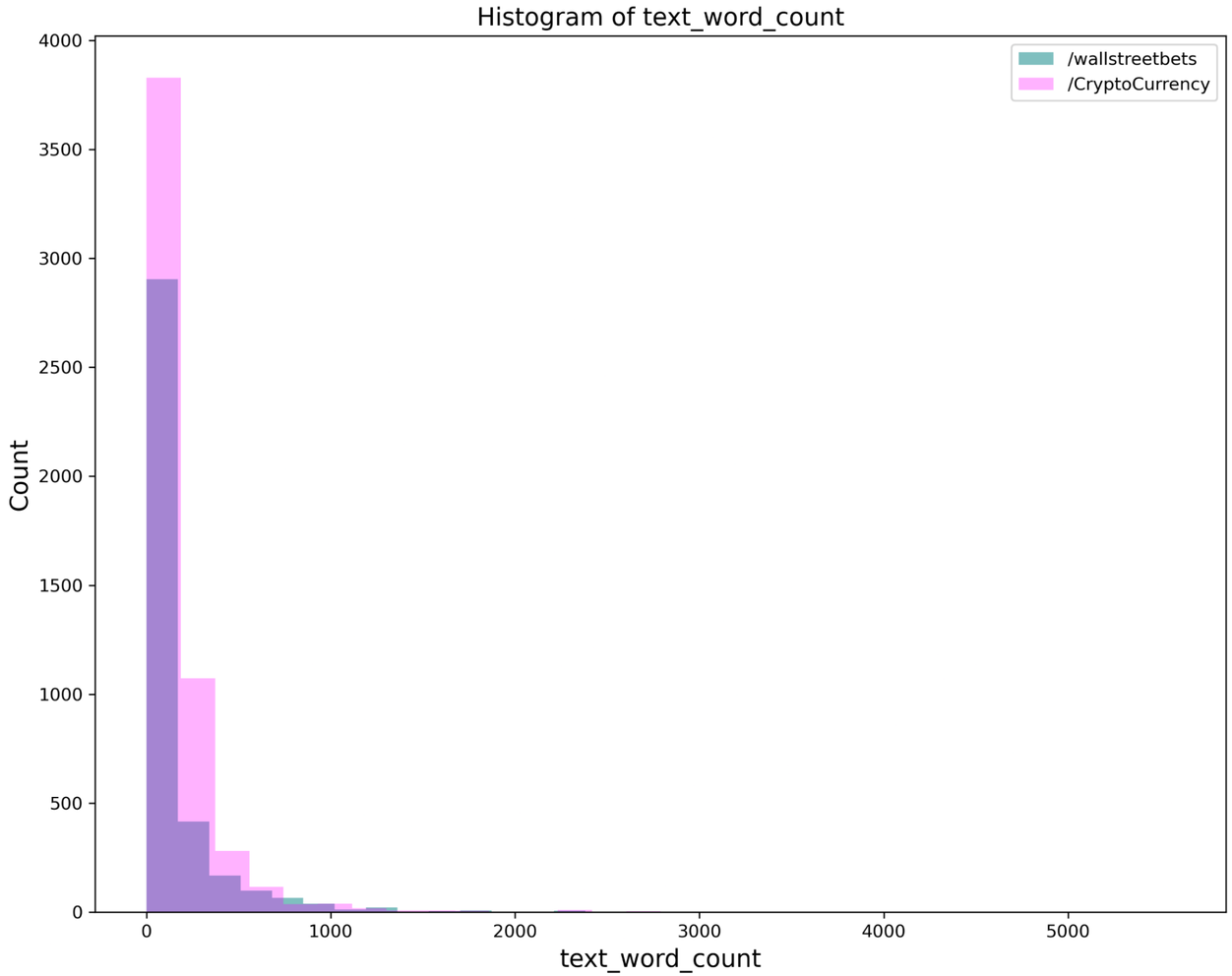
Text Length


Histogram of title_len
/wallstreetbets
/CryptoCurrency
Count
title_len
0
100
200
300
400
500
600
700
0
50
100
150
200
250
300

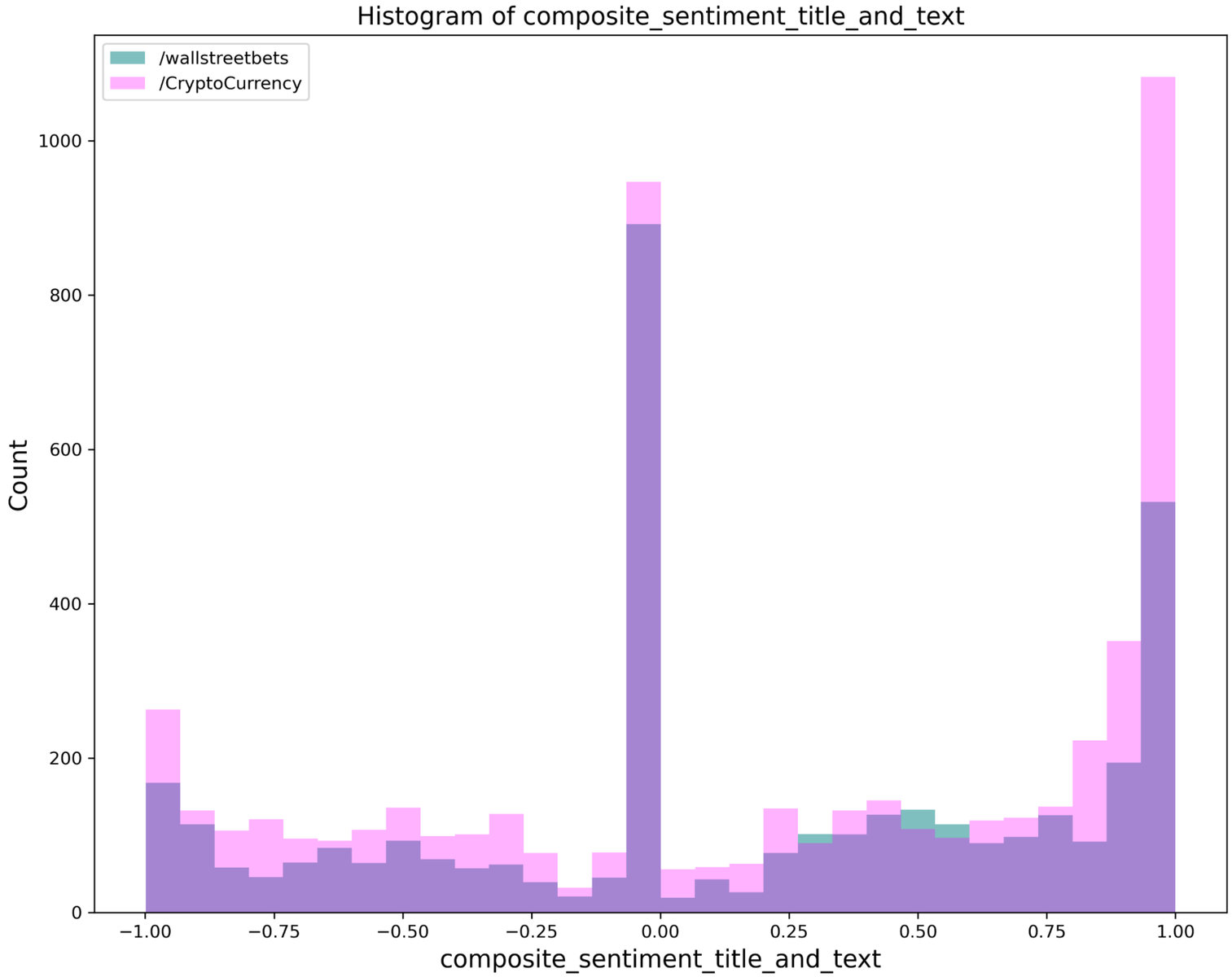

Histogram of text_len
/wallstreetbets
/CryptoCurrency
Count
text_len
0
500
1000
1500
2000
2500
3000
3500
0
5000
10000
15000
20000
25000
30000

Word Count


Histogram of title_word_count
/wallstreetbets
/CryptoCurrency
Count
title_word_count
0
100
200
300
400
500
600
700
800
0
10
20
30
40
50
60


Histogram of text_word_count
/wallstreetbets
/CryptoCurrency
Count
text_word_count
0
500
1000
1500
2000
2500
3000
3500
4000
0
1000
2000
3000
4000
5000

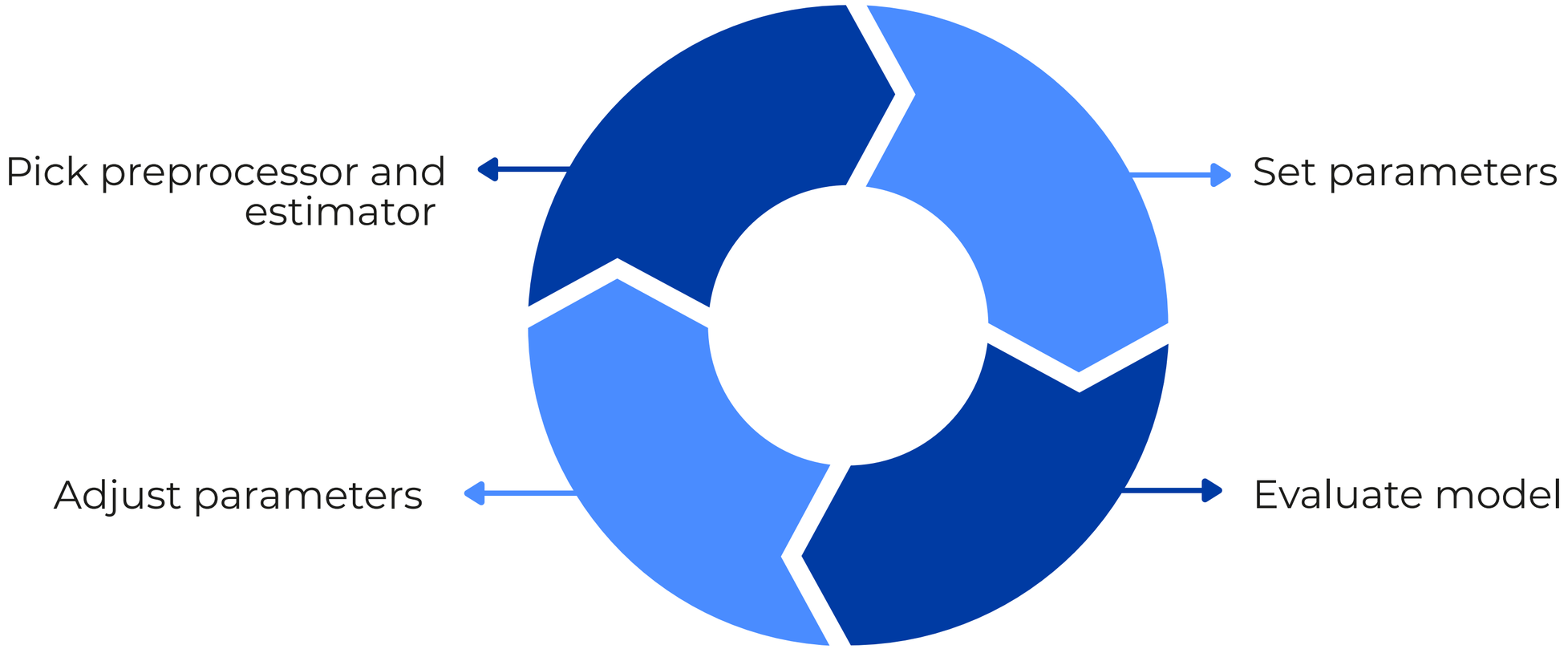
Sentiment Analysis



03

Modeling

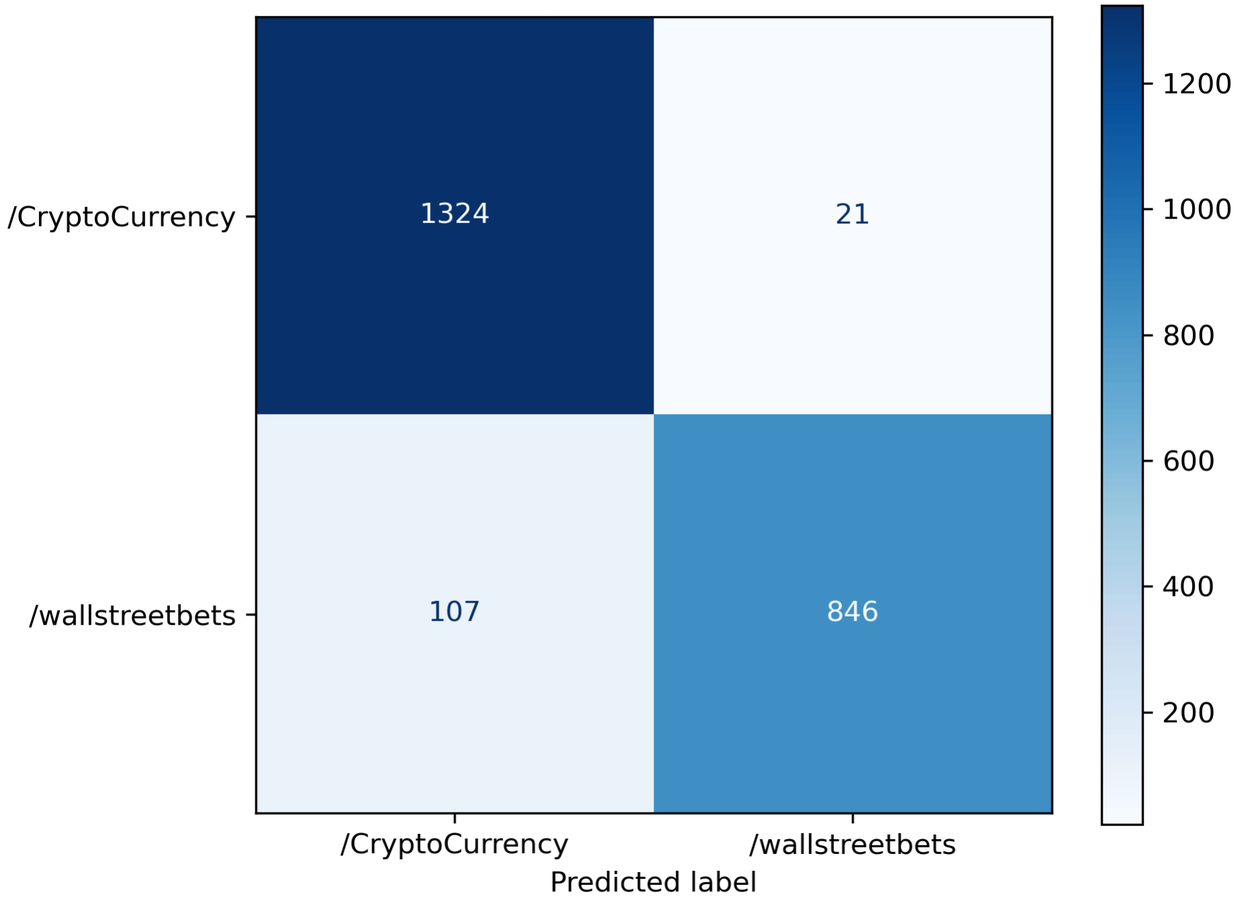
Modeling Flow



Model 1

Preprocessor: CountVectorizer
Estimator: NaiveBayes

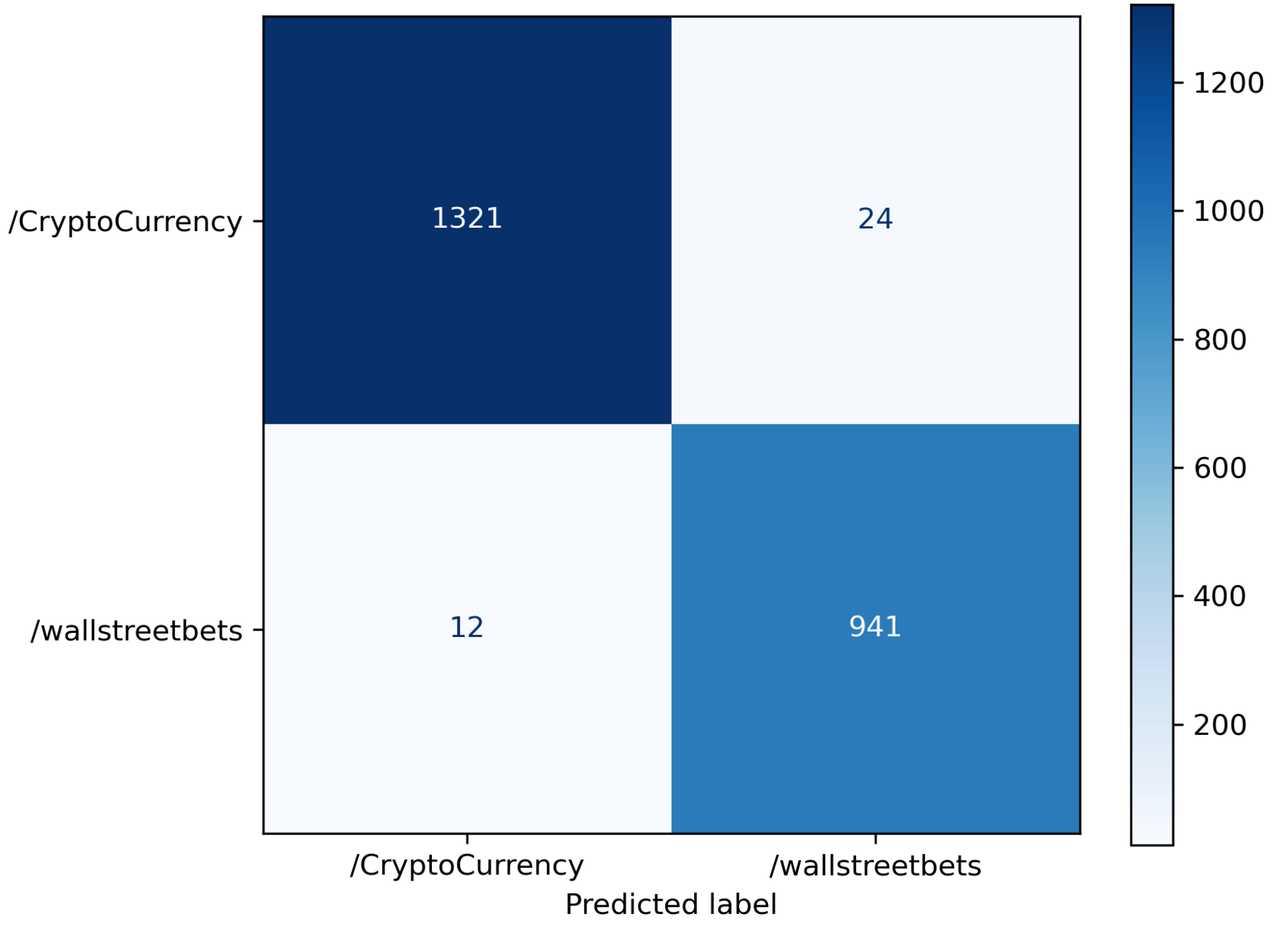
Parameters:
max df: 0.5
min df: 2
max features: 10,000
n-gram range: (1,1)
stop words: 'english'
strip accents: ascii
alpha: 0.12575



Model 2

Preprocessor: TFIDF
Estimator: SVC

Parameters:
SVC C: 2.50075
SVC Kernel: 'rbf'
max features: 4,000
max df: 0.7
min df: 2



Results

Model 1

Train 95.5%

Test 94.4%

Model 2

99.9% Train

98.4% Test

Thanks

Do you have any questions?