

Cryptocurrencies Price Prediction Using News and Social Networks Data

Arnaud Autef
Catherine Gu
Olivier Pham
Charbel Saad
Benoît Zhou

Overview

1. Problem description
2. Data Collection
3. Preliminary results
4. Future work

Problem description

- Low barrier to entry for trading cryptocurrencies
- Speculative market compared to stocks for instance
- Is there a relationship between social network/news data and cryptocurrencies price?

Roadmap

Data Collection

- Market Data from Coinbase
- Google Trends search volume
- Twitter (+other social media) textual data

Vanilla Textual features

- Google Trend volume // BTC volume
- BTC keyword lagged // BTC volume
- Keyword volume // volatility

Directional prediction

- Sentiment Analysis
- Look for directional imbalances
- More advanced techniques if needed

Strategy

- Build a basic strategy from the textual alphas

Roadmap

Data Collection

- Market Data from Coinbase
- Google Trends search volume
- Twitter (+other social media) textual data

Vanilla Textual features

- Google Trend volume // BTC volume
- BTC keyword lagged // BTC volume
- Keyword volume // volatility

Directional prediction

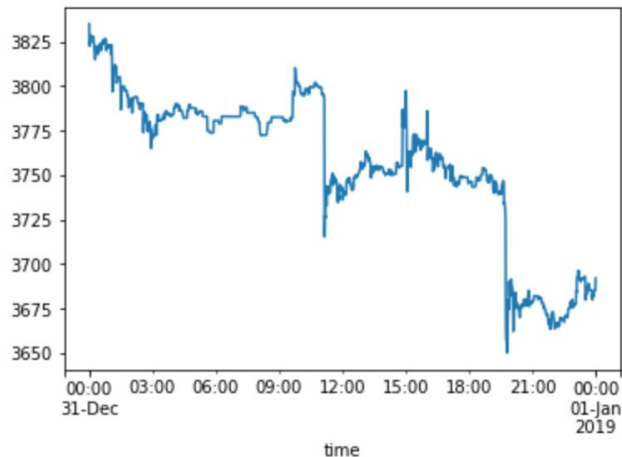
- Sentiment Analysis
- Look for directional imbalances
- More advanced techniques if needed

Strategy

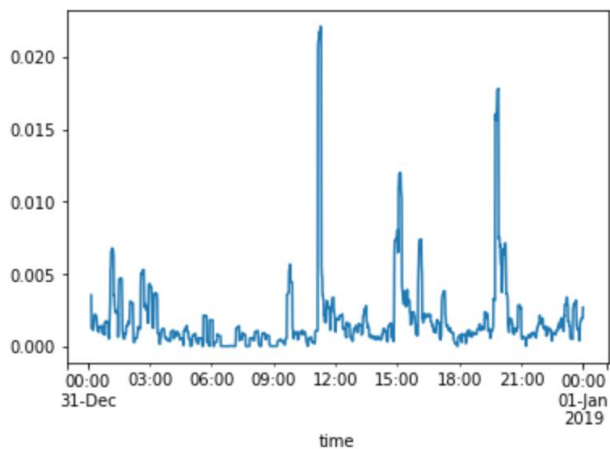
- Build a basic strategy from the textual alphas

Market Data Collection

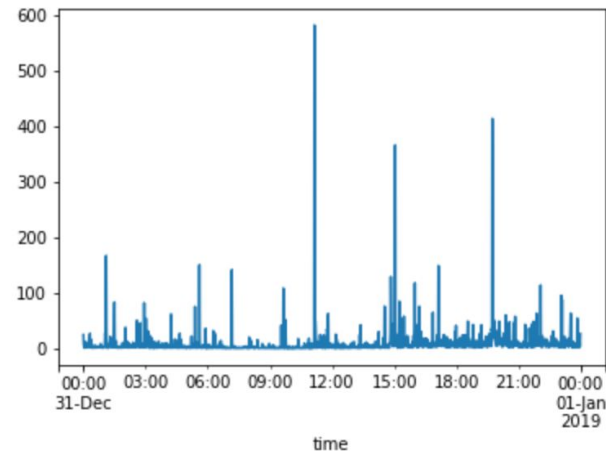
- LO high-frequency data from **Coinbase API** of currency pairs
- Returns, volume, volatility at various granularity level



Price



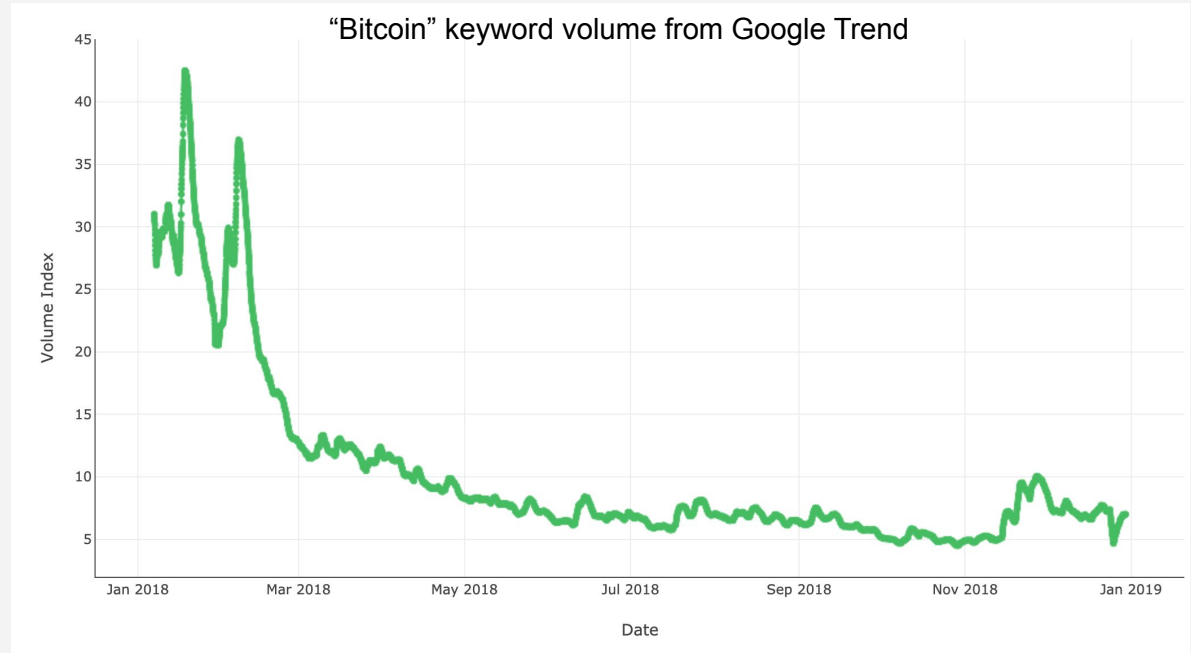
Volatility



Volume

Sentiment Indicator -- Google Trend, Twitter, Discord API

- Example: Google Trend on *“bitcoin”*



Roadmap

Data Collection

- Market Data from Coinbase
- Google Trends search volume
- Twitter (+other social media) textual data

Vanilla Textual features

- Google Trend volume // BTC volume
- BTC keyword lagged // BTC volume
- Keyword volume // volatility

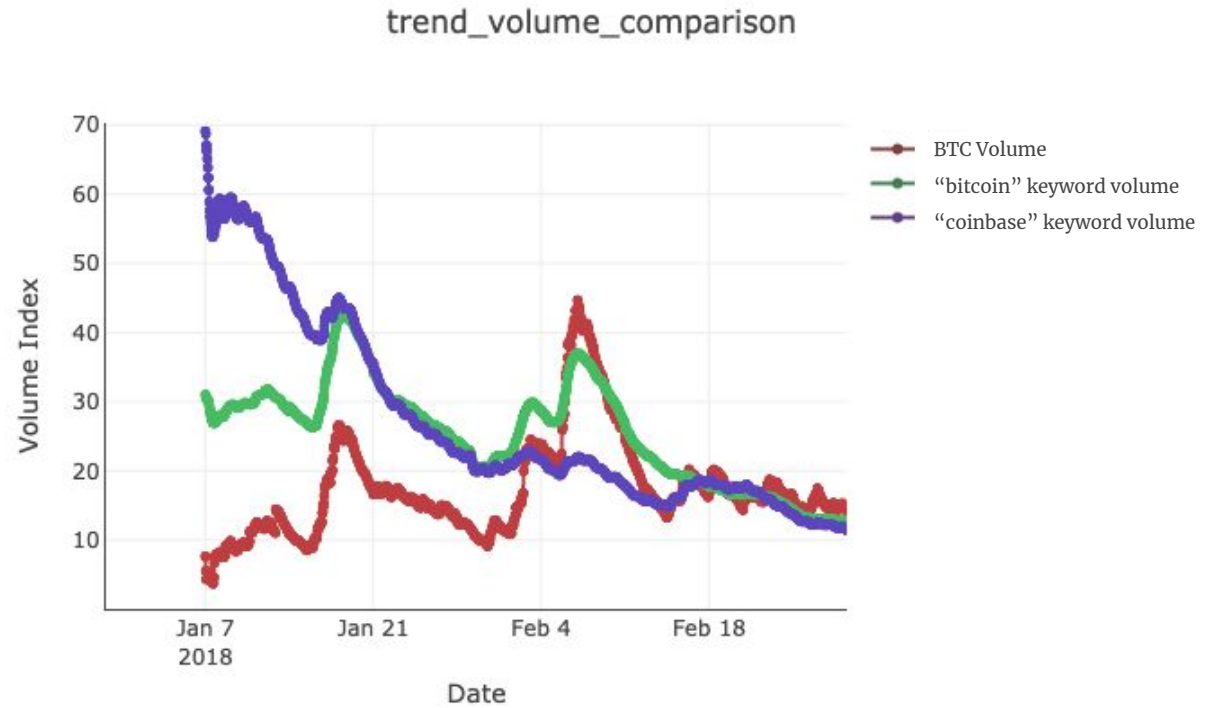
Directional Prediction

- Sentiment Analysis
- Look for directional imbalances
- More advanced techniques if needed

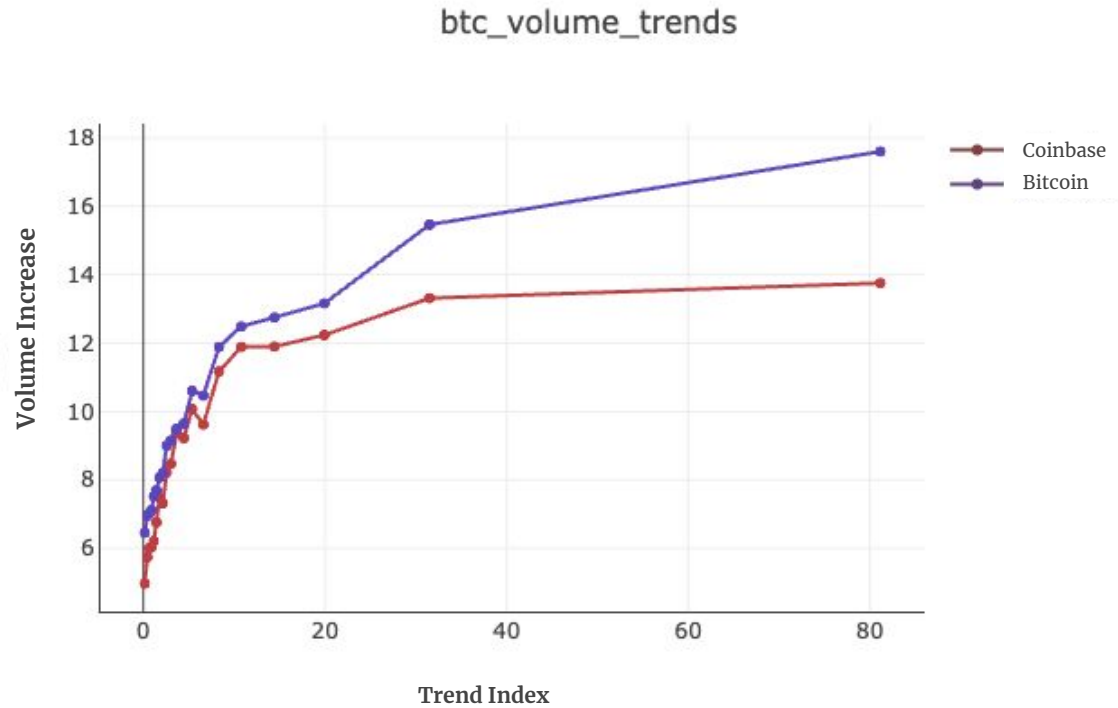
Strategy

- Build a basic strategy from the textual alphas

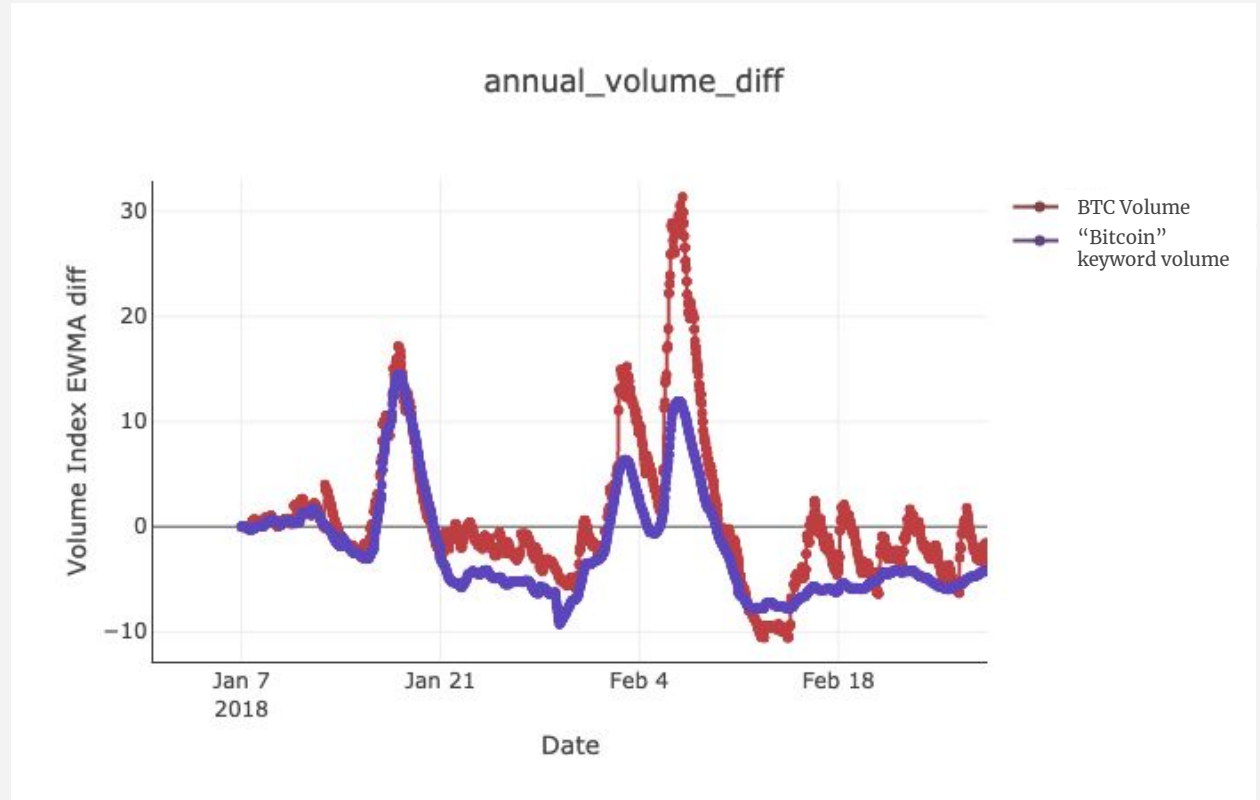
Preliminary results



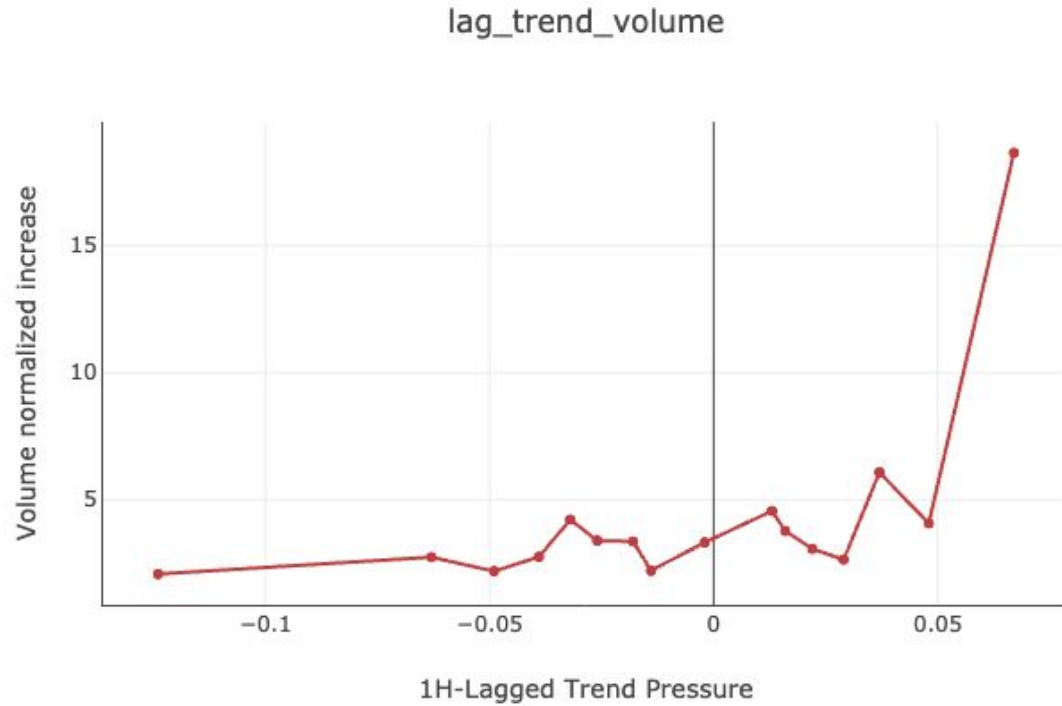
Preliminary results



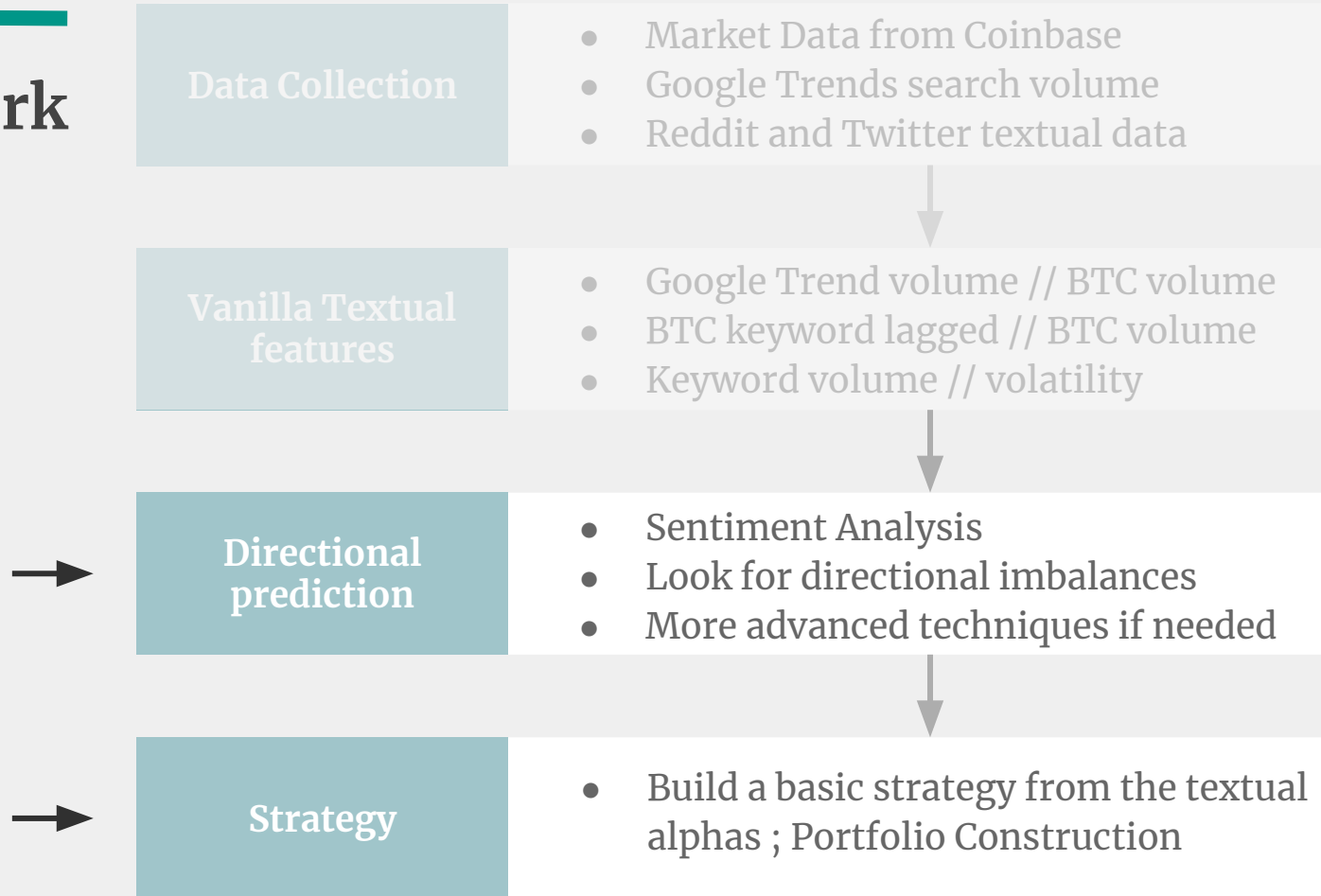
Preliminary results



Preliminary results



Future Work



Questions