

TESIA – S Class

**Twitter Engagement for
Stock Price Analysis –
Sentiment Classification**





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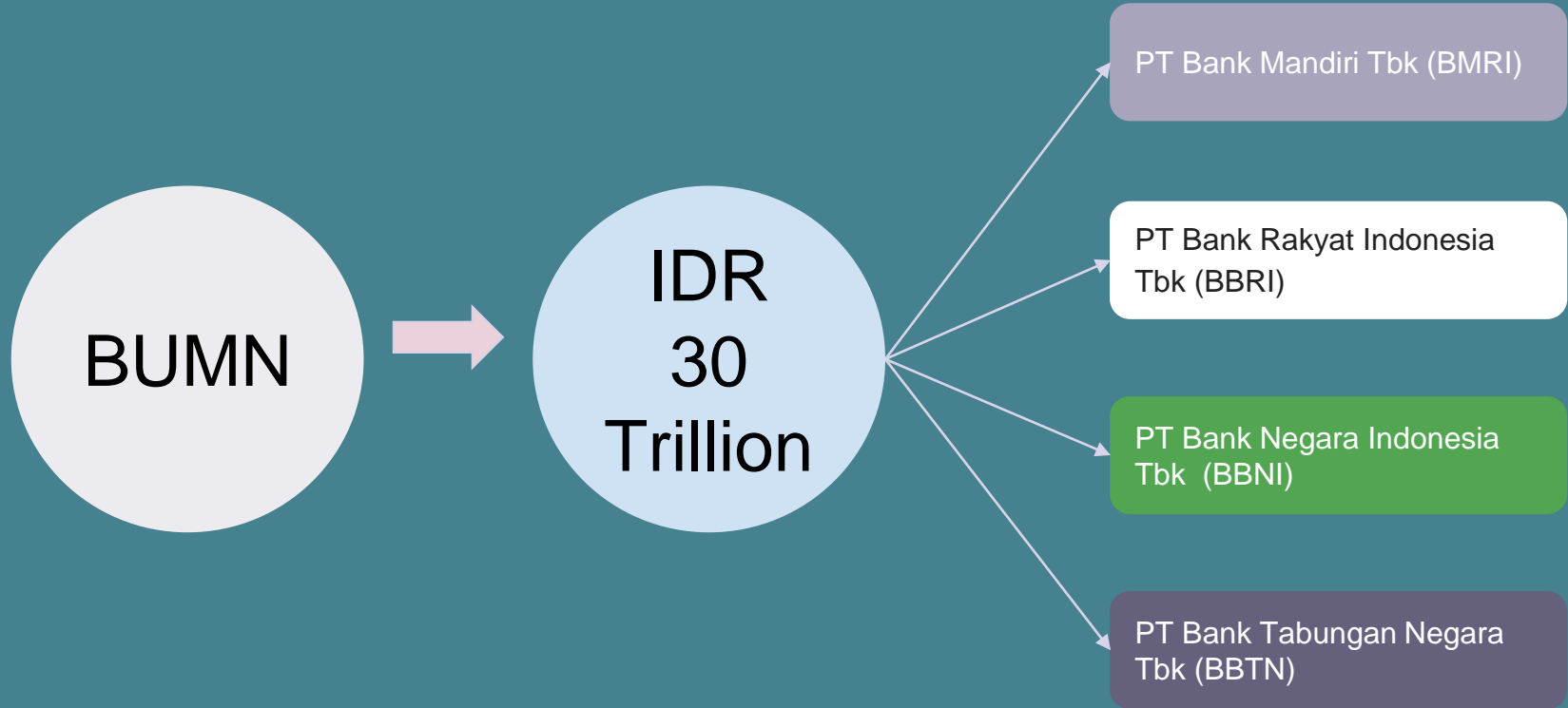
Group 3

“Financial specialists make decisions based on rumors wagering on the validity of the media that unveil them, indeed even though knowing that the information isn't continuously dependable.”

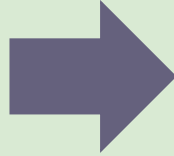
Cruz and Gomez, 2013.



Indonesia experiences a strengthening of the financial sector

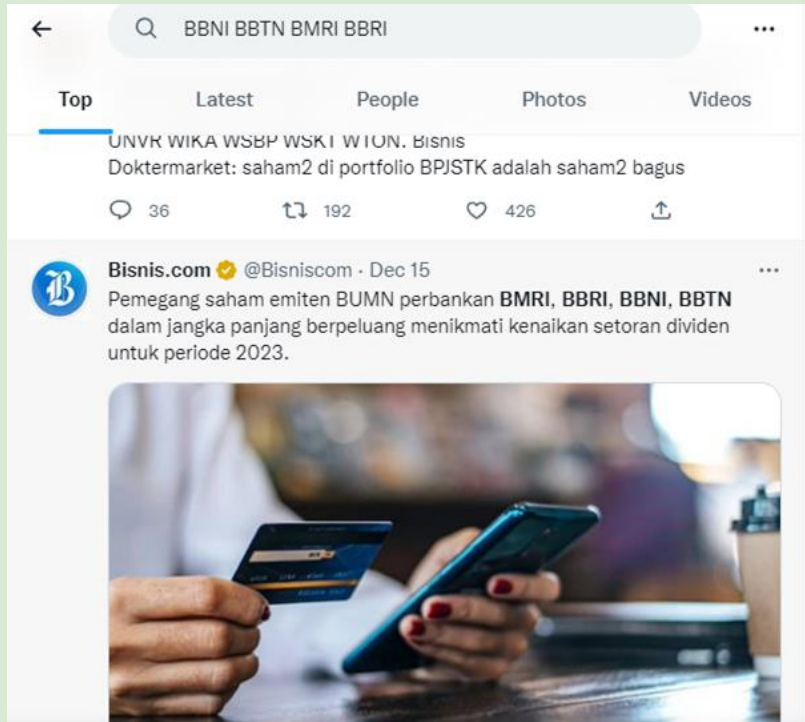


Which stocks do we need to purchase?

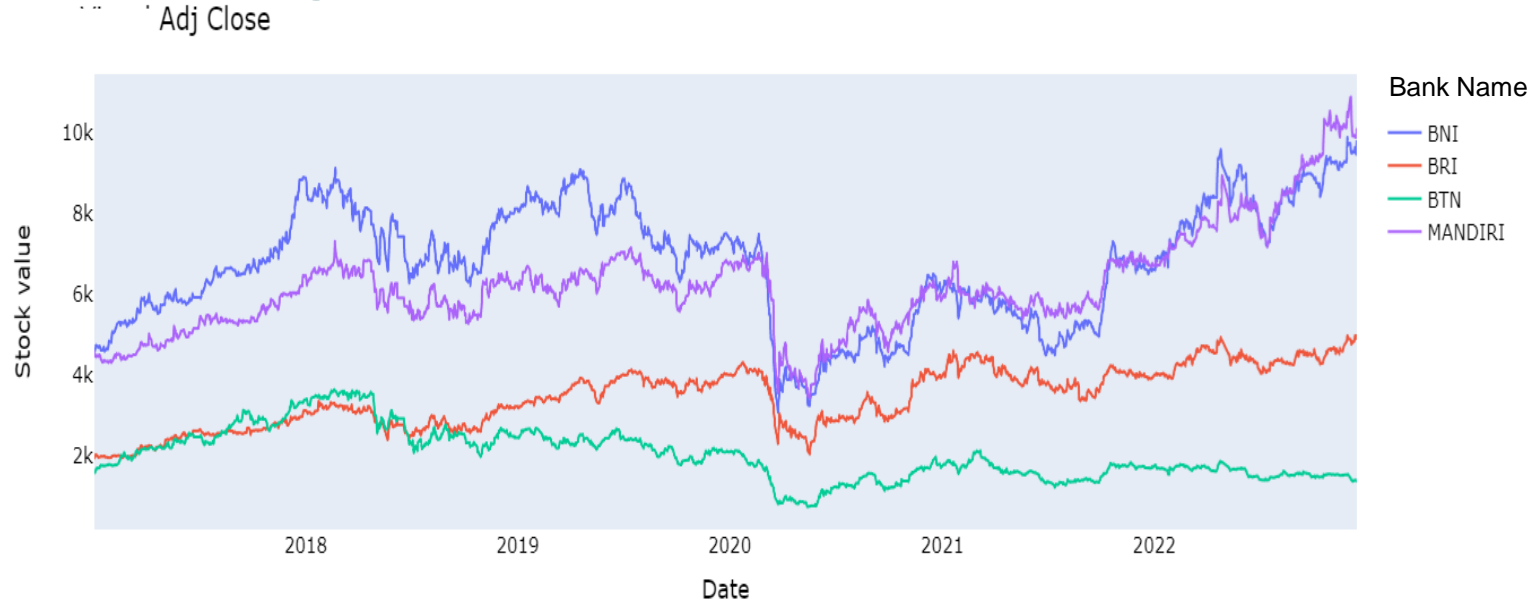


Twitter Engagement for Stock price Analysis – Sentiment CLASSification (TESIA – S Class)

Twitter Sentiment

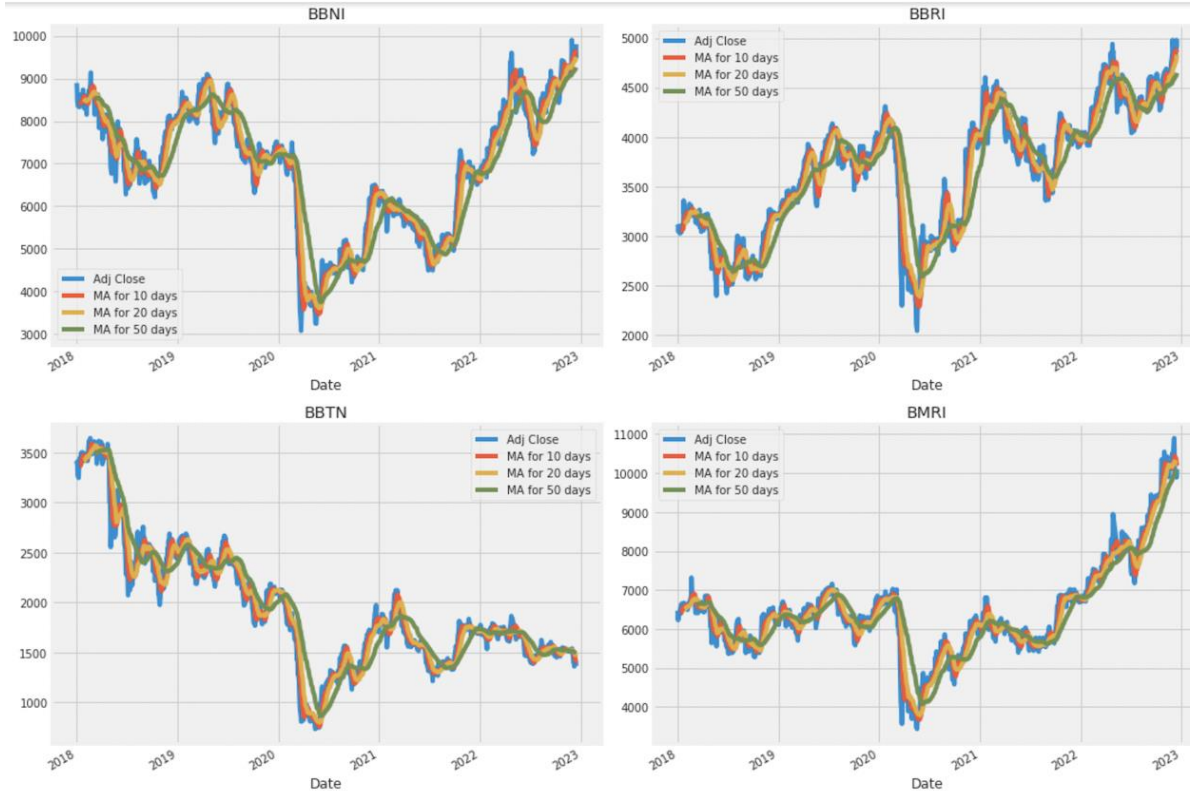


Change in price of the stock



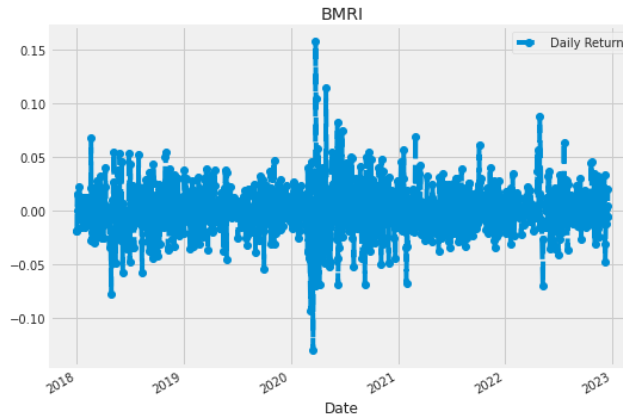
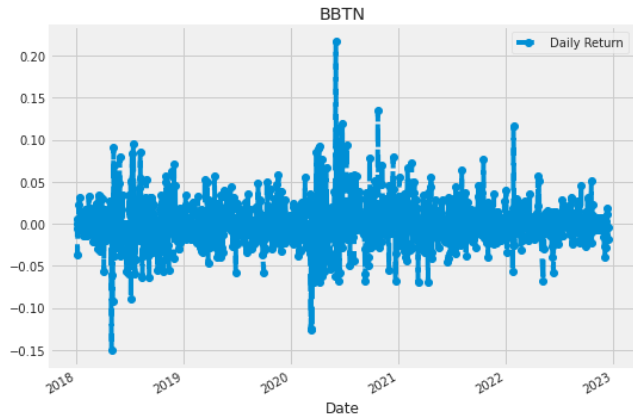
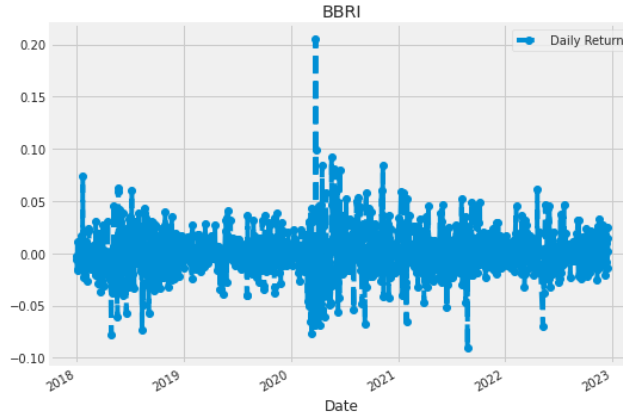
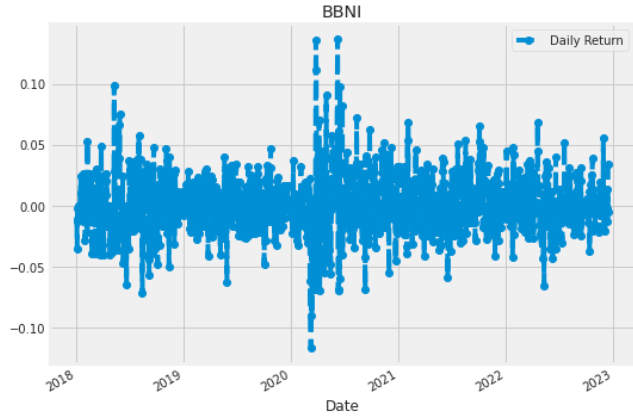
- Stock price movements decreased for all banks in March 2020 due to the reduction of national transactions; which we also known caused by covid-19.
- Stock prices of BNI, BRI, Mandiri stocks movement are increased expect for BTN; and BNI and Mandiri are having higher stock price than BTN and BRI.

Moving Average



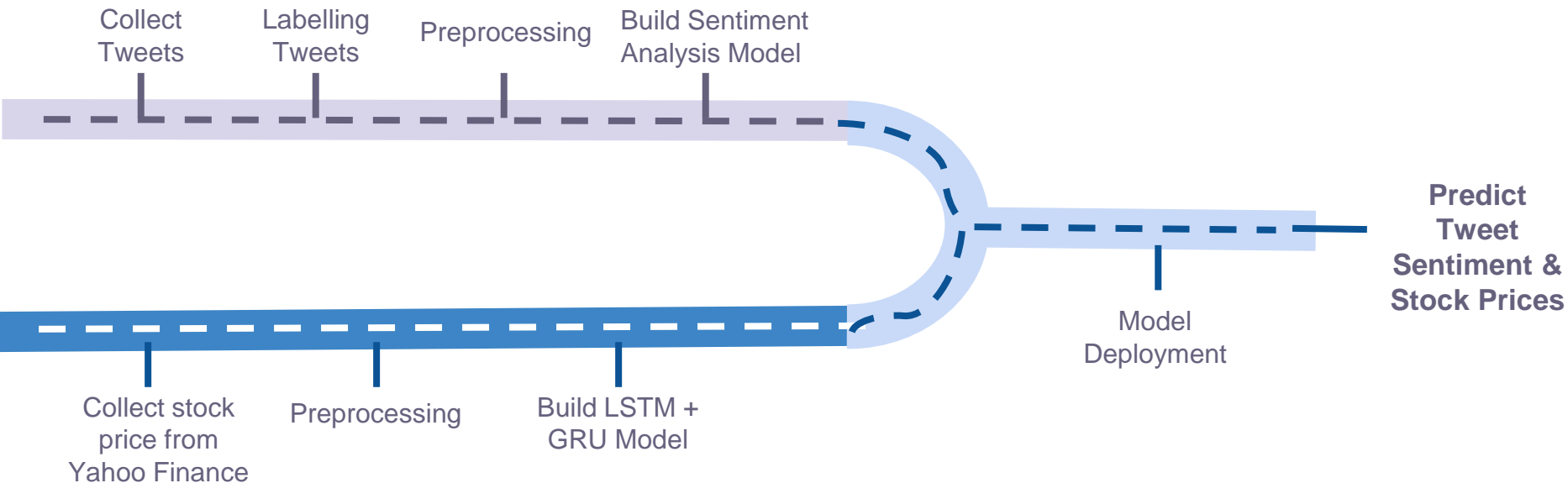
The best values of time to measure the moving average are 10 and 20 days since we still capture patterns within the information without commotion.

Daily Return on Average



Every day return dissemination has long overwhelming tail on both sides. Which implies speculators can be exceptionally beneficial or misfortune.

Sentiment from Social Media



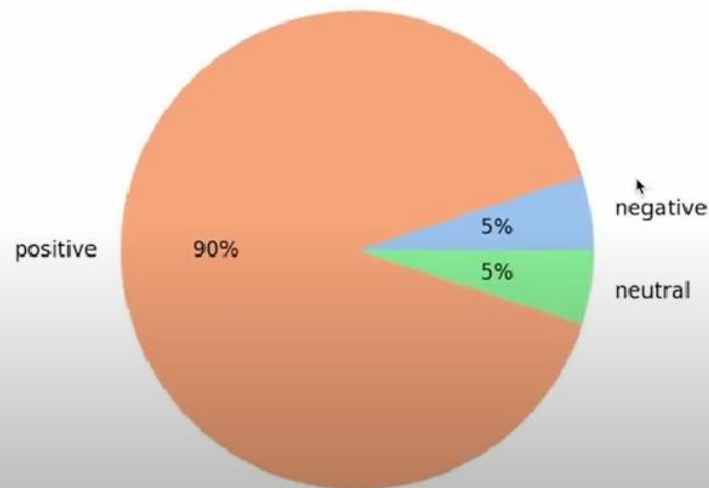
Stock Price

Roadmap

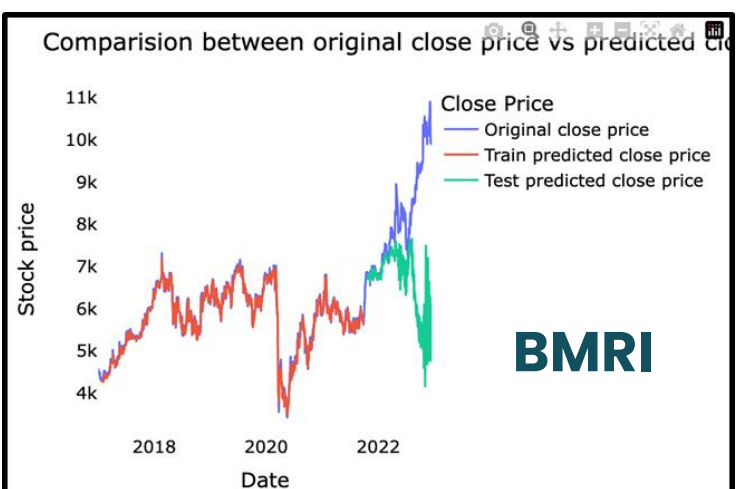
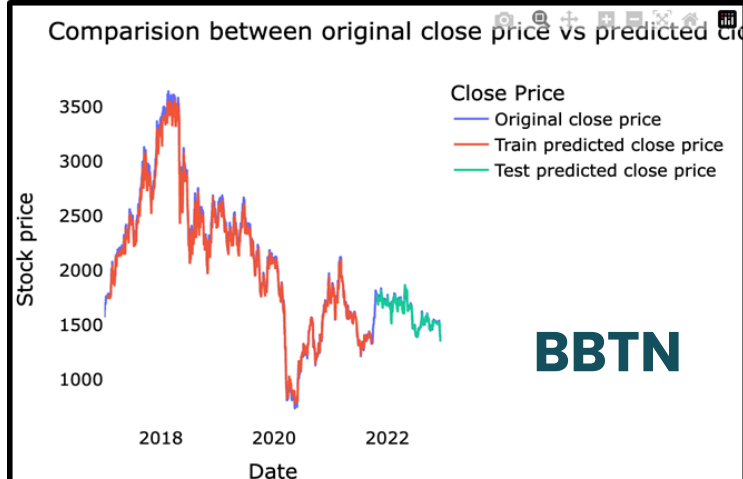
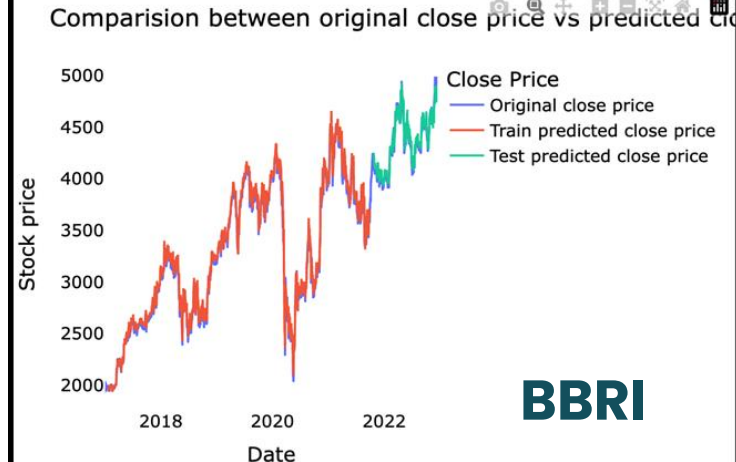
Today's Tweet

19	ataru, BRI Tetap Siaga Layani Kebutuhan Nasabah https://t.co/AJbLWYni1v #agenbrilink #atm #BBRI #
20	I SAHAM BBRI BANK BRI REALISASI KUR CAPAI RP 345,55 Triliun https://t.co/lkZpug6QnL #saham #tra
23	rbaru: Siaga Layani Kebutuhan Nasabah, BRI Siapkan Rp25 Triliun untuk Natal https://t.co/OgpESzB6Y
24	arga Saham Gabungan (IHSG) rebound pada perdagangan sesi 2 dan tutup menguat tipis sebesar +0.1
26	Id serok BBRI
28	ap mngandalkan kamu BBRI meski besok bisa turun lagi 4700-4800 bisa kali ya nahan kamu longsor l
29	ess 50% di BBRI 50% di SEABAN (bisa ditsrik kapan aja)
31	rbaru: BRI Jadi Indonesia Best Companies in Creating Leaders from https://t.co/Wtn3zfR9TG #BBRI #B
32	ess Kurangin ITMG, tambahin BBRI
33	i Ini Ditutup Terkoreksi, BBRI dan GOTO Teraktif Diperdagangkan https://t.co/KhnOCumhAP

Sentiment Percentage



Tweet Sentiment Result



Advantages

- Our NLP model uses manual labelling for training datasets.
- The time series model generally predicts stock prices well with low errors, shown by the previous graph.



Drawbacks

- Our NLP model uses limited amount of datasets (~ 1000 tweets) due to limited time for labelling activity.
- Model improvements are still needed.
- Time series model is still not good to predict the stock price of MRI.



Constrains

- The tweets use Indonesian language that contain many slang words
- Prediction is limited to only four state-owned banks stock.



Improvements

- Add more tweet datasets
- Add more stocks
- Add the prediction probability for stock price



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Demo



Thanks!

Any Questions?

