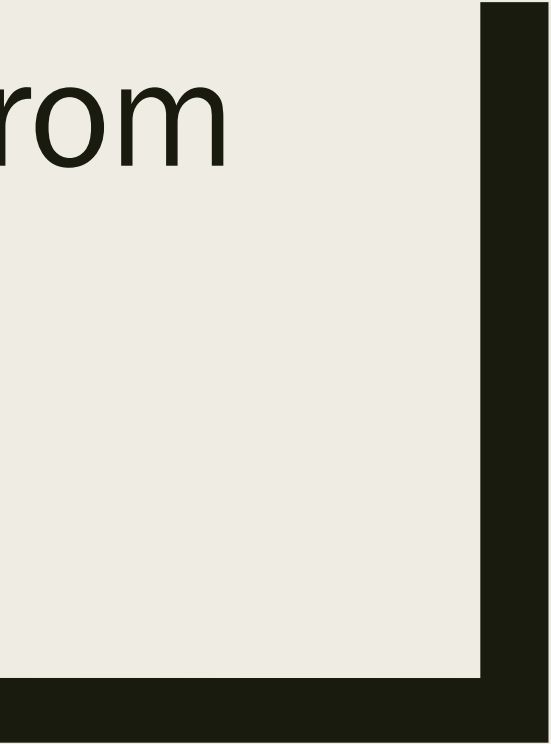




# Deriving Alpha from News: GDELT

Ty Painter  
Capstone Update #7  
4/7/22



# NLP

- Sentiment scores
  - *Roberta is producing many neutral scores*
    - Single sentence could skew results
    - Focus on mean/median rather than max/min?

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## Fintech stocks fall amid report of Apple's financial services plans

**Ines Ferré** · Markets Reporter  
Wed, March 30, 2022, 3:10 PM · 1 min read

**In this article:**

Symbol	Change
MQ	+0.80%
V	-0.63%
GPN	-0.86%
PYPL	-1.09%
SQ	-1.17%
AFRM	+2.14%
AAPL	-1.01%

Block (SQ), PayPal (PYPL), Marqeta (MQ) Visa (V), and other payment companies' shares fell on Wednesday afternoon after Bloomberg reported Apple (AAPL) is working on a plan dubbed "Breakout" aimed at bringing financial services in-house.

The report states the tech giant is building a payment processing technology and infrastructure as part of an effort to decrease its dependence on outside partners. The strategy is aimed at future financial products instead of existing ones.

Shares of Block, formally known as Square, fell by more than 4% an hour before the closing bell on Wednesday. PayPal shares were down about 2%. Visa and Global Payments (GPN) was also lower.

pos_mean	pos_median	pos_min	pos_max	neg_mean	neg_median	neg_min	neg_max	neu_mean	neu_median	neu_min	neu_max	net_mean	net_median	net_min	net_max
0.23	0	0	1	0.46	0.01	0	1	0.31	0	0	1	-0.23	0	-1	1

# NLP – Sentence by Sentence

sentence	positive	negative	neutral
Block (SQ), PayPal (PYPL), Marqeta (MQ) Visa (V), and other payment companies' shares fell on Wednesday afternoon after Bloomberg reported Apple (AAPL) is working on a plan dubbed "Breakout" aimed at bringing financial services in-house	0.0004	0.9983	0.0013
The report states the tech giant is building a payment processing technology and infrastructure as part of an effort to decrease its dependence on outside partners	0.9972	0.0003	0.0026
The strategy is aimed at future financial products instead of existing ones	0.0000	0.0001	0.9999
Shares of Block, formally known as Square, fell by more than 4% an hour before the closing bell on Wednesday	0.0004	0.9983	0.0013
PayPal shares were down about 2%	0.0004	0.9967	0.0028
Visa and Global Payments (GNP) was also lower.Payment companies stock price action on March 30, 2022 The reported plan would expand Apple's pretense into the financial services industry	0.9879	0.0091	0.0030
The Cupertino, California,Äbased company has been growing its services businesses	0.9995	0.0002	0.0004
The tech giant already offers an Apple Card in connection with Goldman Sachs	0.0000	0.0001	0.9999
It also runs Apple Pay and a peer-to-peer payment service	0.0000	0.0001	0.9999
Apple Pay is available in around 70 countries, while the Apple Card and the company's peer-to-peer payment features are only accessible in the U.S	0.0000	0.0001	0.9999
Fintech companies have been volatile along with the broader markets over the past several months amid higher interest rates and rising inflation	0.0009	0.9980	0.0011
Marqeta (MQ) is down 38% since the beginning of January	0.0004	0.9979	0.0016
Affirm (AFRM) is down 53% year-to-date, while PayPal is down 37% since the start of the year	0.0005	0.9984	0.0011

# NLP



## ■ Article Tags

- *Fuzzywuzzy package*
- *Used company names, not tickers*
- *Token\_set\_ratio() > 90*
- *Dropped articles with no tags*
- *Issues with AT&T*
- *How to label tags?*
  - Multiple rows? Merge tables?

## ■ Readability scores

- *Readability package*
- *All 'readability grades'*
  - Filter?
- *Sentence info*
  - Word count
  - Complex words

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```
[('Apple', 100), ('Global Payments', 100), ('Goldman Sachs', 100), ('PayPal', 100), ('Visa', 100), ('PNC Financial Services', 90), ('S&P Global', 89), ('DXC Technology', 83), ('SVB Financial', 82), ('TJX Companies', 82), ('Air Products', 80), ('Lincoln Financial', 69), ('AT&T', 67), ('Republic Services', 64), ('Ameriprise Financial', 62),.....]
```

# Next Steps

- AWS EC2
- Merge historical stock price and market cap data with sentiment scores, article tags, and readability scores
- Begin modeling