The Battle of:
Main Street vs Wall Street
Agenda

1. What is the commercial case for DigitalMR?

2. Case Study: Main Street Vs Wall Street
   a. Can social intelligence predict stock fluctuation?
   b. Which specific time series show better correlation/causation?
   c. What periodic combinations between signal and predicted value work best?
   d. What time lag should be used?

3. Other Findings

4. Closing Thoughts
Commercial Case: SITID
Social Intelligence for Trading & Investment Decisions
The Alternative Data Market

Global Market

Alternative Data
US$7B

Social Sentiment
US$500M

“55% of funds spend $100K to $1M per year on alternative data”

- Lowenstein Sandler report, September 2019

Source: Opimas.com
The Problem

Signal lost in noise & Limited scope

- Irrelevant posts
- Low sentiment accuracy
- No topic annotation

USA US tickers
Hello! English language
News and Twitter

Client Use Cases:
Not just about the discovery of new alpha but perhaps more importantly about risk monitoring and deal sourcing
The Solution

Selected tickers from other large Stock Exchanges

Custom:
data cleaning models
sentiment annotation models
topic annotation models

Committed Accuracy:
≥90% relevance
≥80% semantic
≥75% sentiment
Go-to-Market Strategy

Leverage & Expand existing relationships
- Bloomberg
- Eagle Alpha

Discussions with New Partners
- Quandl
- Nasdaq
- Wolfe Research

Discussions with Funds
- Casdin Capital

New Funds
- Outbound & Inbound activity
- Lone Pine Capital
- Blueshift Asset Management
Value Proposition

→ High quality signals

→ Sentiment + topics

→ Tickers across all major stock exchanges

→ Better investment & trading decisions
Case Study:
Main Street Vs Wall Street
Case Study Overview

- **TIME PERIOD:** 1st Dec. 2020 – 31st Jan. 2021*
- **SOURCES:** Twitter, Reddit, Blogs, Forums, News (editorial), Reviews, Videos, Dark Web
- **TOTAL NUMBER OF POSTS:** 3,017,122
- **KEYWORDS GATHERED:** "gamestop" OR "robinhood" OR "melvin capital" OR ("GME" OR "AMC" OR "BB" OR "NOK" OR "EXPR" OR "PLTR") AND ("stock" OR "stocks" OR "shares" OR "share price" OR "NYSE" OR "nasdaq" OR "wallstreet" OR "trade" OR "trading" OR "short")

*Reddit data is available from 1st Jan. 2021 to 31st January 2021
*Data from all other sources is available from 1st Dec. 2020 to 31st Jan. 2021
Text Annotation Approach

Custom Sentiment Models

- Data Gathering
- Post Annotation: Sentiment
- Sentiment Model Creation
- Post Processing: Sentiment
- Precision Checks
- Model Improvements

Data Export
(CSV, Excel Tables, PPT, dashboard)

- ≥75% sentiment
- ≥80% semantic
- ≥90% relevance

Drill-down Topics

Company

- Products
- Customer Experience

- Availability
- Quality
- Store
- Website

- Price
- Offers
- Location
- Navigation

- In Store
- Online
- Facilities
- Convenience

Noise Elimination
Starling Bank

NOT
Starling Bird
### $GME - $ Time Series & Periodic Combinations

**Pearson Correlation**

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*Reddit data is available from 1st Jan. 2021 to 31st January 2021

*Data from all other sources is available from 1st Dec. 2020 to 31st Jan. 2021*
$GME - Highest Pearson Correlation Coefficient

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*Reddit data is available from 1st Jan. 2021 to 31st January 2021
*Data from all other sources is available from 1st Dec. 2020 to 31st Jan. 2021
### Pearson Correlation

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*Reddit data is available from 1st Jan. 2021 to 31st January 2021

*Data from all other sources is available from 1st Dec. 2020 to 31st Jan. 2021
High correlation between GameStop buzz and stock price

Pearson correlation ($r$): positive + neutral buzz fluctuation vs $GME$ stock price return (1 day lag) = 85%
High correlation between AMC buzz and stock price

Pearson correlation (r): total buzz fluctuation vs AMC stock price return (1 day lag) = 83%
High correlation between Express buzz and stock price

Pearson correlation ($r$): total buzz fluctuation vs $EXPR$ stock price return (1 day lag) = 82%

$EXPR$ 6 day total posts change compared to 6 day stock price return, 1 day lag
High correlation between Nokia buzz and stock price

Pearson correlation (r): total buzz fluctuation vs $NOK stock price return (1 day lag) = 85%
Other Findings
1. The “YOLO” attitude

NO. OF POSTS: 62,105

“@wallstreetbets if we could YOLO some BB tomorrow that would be great” (Twitter)

“I bought GME at the top. Don't care about making a profit, fuck it. YOLO” (Forums)

“At the moment, if I had a spare $50k cash to yolo on something, I'd throw it in GME shares or PLTR shares. PLTR for the long term, GME for the short term. Maybe split $20k GME / $30k PLTR, and once GME hits $150 or higher take my gains and dump them into more PLTR.” (Forums)

“I just cleared my debts, I have $500, I want to go YOLO, do I buy GME at the price that it's at?” (Reddit)

“BRB gonna yolo everything into GME! It can only go up!” (Twitter)

“YOLO into AMC tomorrow? or nah?” (Forums)

“HOLD THE LINE. YOLO THIS SHIT. AMC. GAMESTOP. NOKIA. LETS DO IT!” (Videos)
2. Other companies come up without searching for them

- AMC, BB
- BBBY madness (Twitter)
- AAL all in baby” (Reddit)
- “FWIW AAL is next reddit mob target” (Forums)
- “Check out this hot penny stock Naked (NAKD) and Express (EXPR)! (…)” (Videos)
- “I am in with NOK, AMC, SNDL …” (Reddit)
- “AAL all in baby” (Reddit)
- “Gogo nakd gme and amc are all high in short interest this will be interesting. AAL is going up too and thats great! I have little amount but i like it.” (Forums)
- “Hold amc but also buy sndl” (Twitter)
- “Gogo nakd gme and amc are all high in short interest this will be interesting. AAL is going up too and thats great! I have little amount but i like it.” (Forums)
- “@elomusk LETS BUY $AMC $NOK $GME $NAKD TRAP THE SUITS” (Twitter)
- “@TreJames_ I saw amc bed bath and beyond tanger outlet and some others that are gonna be targeted next” (Twitter)
- “#SNDL isn’t blocked yet, get it sent to the moon 🚀” (Twitter)

“I am in with NOK, AMC, SNDL …” (Reddit)

“my next bet is bed bath and beyond new management team and its also being shorted. its actually somewhat similar to GME restructuring. Just lmao.” (Forums)
3. Net Sentiment Score™

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<td>$AMC</td>
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<td>$PLTR</td>
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<td>$NOK</td>
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<tr>
<td>$BB</td>
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- “Melvin capital can eat shit. (…)” (Forums)
- “I'd say they bankrupted themselves by playing the game the way they were. The only thing that happened is that the market pivoted and reacted differently..” (Forums)
- “Maybe Melvin Capital doesn't have the leverage for that? Elon Musk went against them and he has decent connections. Perhaps they are really about to go down.” (Videos)
- “Or buy high and push higher to fuk bears & Melvin Capital” (Reddit)
- “That’s why I don’t care if I lose my few shares. I’m not selling until Melvin capital is out of business.” (Reddit)
- “Looks like my math so off by $500 mil loll. Melvin Capital is fucked. That also assuming GME is the only company they are shorting.” (Forums)
- “I’m extremely happy that Melvin Capital got caught on their bullshit here. (…)” (Twitter)
- “(…) HOLD THE FUCKING STONKS!! 🙌💎赞助商的链接 to the GROUND incoming tendies!!” (Reddit)
4. Some believe Elon Musk is involved, as payback to Melvin C.

“@wrestlingskum @N3rdC3ntral @People4Bernie Its also worth noting that Elon Musk is shilling Gamestop stock specifically because its Melvin Capital who repeatedly shorted Tesla for years eating the cost.” (Twitter)

“quote: Reddit Investors @redditinvestors Elon Musk is shilling GameStop because Melvin Capital shorted Tesla a long time ago and bragged about it.” (Forums)

“All I got is the people getting screwed the most (thus far) are the types of people who own multiple boats. And Melvin Capital tried to short Tesla multiple times Elon never forgot and now he seems to be the captain of the SS TAKE DOWN HEDGE FUNDERS” (Twitter)

“@AmiFFXIV After reading up on this it seems that one hedge fund in particular is the target here.. Melvin. They had a large short position on Gamestop which means they are losing billions now it is going up. This hedge fund shorted Tesla previously and Elon has been tweeting about it…” (Twitter)

“@Reuters Elon tweeted Gamestonk yesterday with a link and was in the reddit forum about Melvin hes buying a bunch of Game Stop apparently because Melvin was shorting Tesla for a while and this is payback.” (Twitter)
5. $NOK and $BB are stocks to keep an eye on

NO. OF POSTS: 954,946

“🚀 NOKIA (NOK) STOCK | MASSIVE POTENTIAL | ARE YOU BUYING?” (Videos)

“BUY AND HOLD AMC THIS DUDE IS TRYING TO SWAY US OFF THE SHIP, BUY GME, BUY AMC, BUY BB, BUY NOK AND FUCKING HOLD” (Reddit)

“@GerberKawasaki BUY NOK!!” (Twitter)

“@business BUY $NOK $BB $AMC lets get this done!!!” (Twitter)

“@blackopium HOLD THE LINE #AMC #GME #NOK #BB BUY THE DIPS. DO NOT SELL” (Twitter)

“@redittrading Buy $NOK please and hold!” (Twitter)

“Ladies buy BB when the market opens while its still low, it will go up” (Forums)

“Let’s not lose this fight, buy all the shares you can and hold your shares with diamond hands, let’s goooy $GME $AMC $BB $NOK” (Forums)

“BUY BB HOLD BB TOMORROW 🚀🚀🚀” (Reddit)

“LET’S GOO GUYS!! BUY NOK BB & AMC, KEEP THEM BUSY” (Reddit)
6. “FOMO” is one of the reasons to buy

“Market is insane on $GME, everyone is FOMO. Germany market propped it up 310 a share. Melvin Capital is dead in the water.” (Forums)

“@uhWizard i sold amc and now i have fomo still in nok” (Twitter)

“@breakneck_tv I think I hopped into AMC a bit late, but fomo after staring at GameStop the last couple days made it so I couldn’t sit out anymore” (Twitter)

“I will feel sad if anyone go broke because they FOMO GME” (Reddit)

“Well I FOMOed into BB this morning.” (Forums)

“the fear of missing out has surpassed the fear of losing money " - some dude” (Reddit)

“YOLO IM BUYING TOMORROW. FOMO IS TOO REAL. TO THE MOON 🚀🦍” (Reddit)

“Am I the only one with FOMO buying GME today? I bought one share yesterday and am getting five when the market opens today...not the biggest loss if it goes badly I guess.” (Forums)

“I believe there is definitely a strong element of FOMO with this stock, especially with what we’ve seen in stocks like GME and AMC.” (Forums)

“the fear of missing out has surpassed the fear of losing money " - some dude” (Reddit)

“YOLO IM BUYING TOMORROW. FOMO IS TOO REAL. TO THE MOON 🚀🦍” (Reddit)

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"Guys I'm speaking literally, retail exchanges are removing the ability to buy AMC, GME and BB"

"@If you missed GameStop.. Buy Blackberry and Nokia and Silver. (...)"

"I've heard it's about to spike like GameStop did"

"Melvin Capital lost about 53% in January on GameStop Corp. after the firm found itself on the receiving end of a short squeeze started by retail investors motivated on Reddit. (...)"

"We'll list every single #stock that @RobinhoodApp delists as a tokenized stock. Blockchain is the real way we democratize the financial system together. Trade $GME, $BB, $SLV, $NOK, $AMC and other tokenized stocks on Bittrex Global now."

"Robinhood is automatically selling GME shares without user consent now."

"(…) it's important to realize that the eventual winners of this scenario aren't going to be the Redditors holding on to $GME shares, but the wealthy short-sellers who manage to either predict the pop or simply have enough assets to hold on long enough for it to happen. (…)"

"Melvin Capital has a very real chance of going insolvent. (...)"

"Billionaires can remain solvent longer than you can remain irrational. Melvin Capital lost about 53% in January on GameStop Corp."

"buy gamestop stock and hold the line soldier"

"(…) it's important to realize that the eventual winners of this scenario aren't going to be the Redditors holding on to $GME shares, but the wealthy short-sellers who manage to either predict the pop or simply have enough assets to hold on long enough for it to happen. (…)"

"Guy's I'm speaking literally, retail exchanges are removing the ability to buy AMC, GME and BB"
Closing Thoughts

1. Accuracy of annotation
2. The most important DS skillset
3. Sales
4. YOLO meets FOMO
Question Time!

Would you like to know more?
Visit the link below for a demo or a free trial of listening247:

https://listening247.com/

or apply for an internship at DigitalMR


Michalis A. Michael | mmichael@digital-mr.com | @DigitalMR_CEO

www.digital-mr.com