



Case Studies on Corona Virus Outbreak

DataScienceSeed Meetup

13th May 2020



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At a Glance

Brain is a Research Company that develops proprietary signals and algorithms for investment strategies on financial markets.

Brain also supports Clients in developing, optimizing and validating their own proprietary models.



SKILLS

Currently **100% of R&D** team are **PhDs in Physics**

LOCATIONS - CLIENTS

Global scope

Signals: Quantitative Global HFs

Models – Strategies: Global Investment Companies



Brain Sentiment Indicator (BSI)

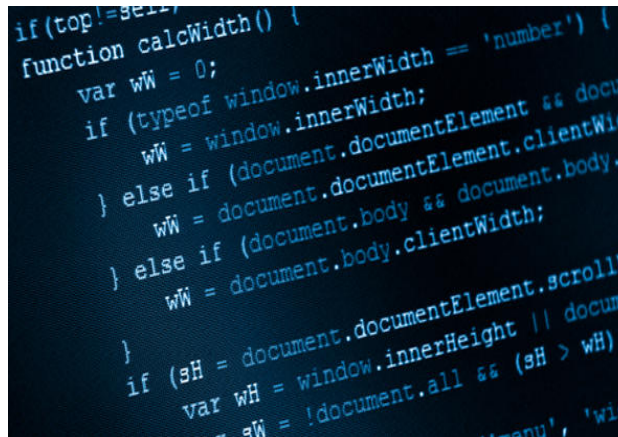
Financial News Flow

Financial news are collected every few minutes from financial media (approx 2000 sources)



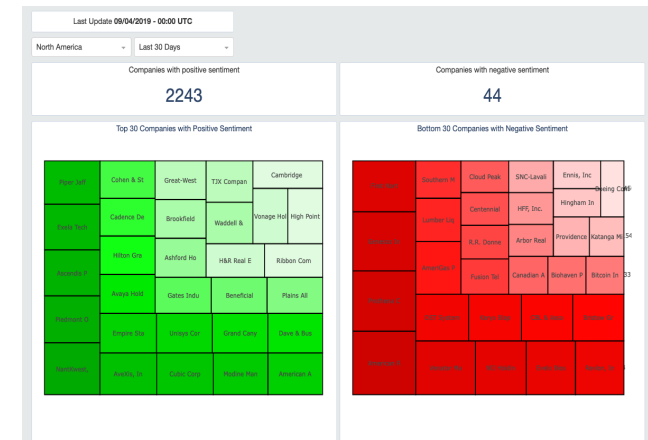
Sentiment Analysis Engine

Brain proprietary algorithm categorizes the news and assigns a sentiment score to each one



Dashboard

The results are visualized on a dashboard by company, index and sector



Demo at [this link](#) (menu section *Stocks*)



Brain Alternative Datasets to Track C-Virus Outbreak

Brain has a proprietary NLP platform to extract topics and their sentiment in financial news aggregated from about 2000 sources:

- The platform is applied to monitor financial sentiment at market level (Brain Market Sentiment) or at company level (Brain Sentiment Indicator).
- The platform can be easily **customized to monitor a specific topic**, in this case has been customized to monitor news and **topics in financial media related to Corona virus**.



March 2020 - Top 20 Companies by Mentions of C-Virus Financial Media

Name	Country	Percentage of news mentioning C-virus
CHINA SOUTHERN AIRLINES CO-A	China	38%
CHINA EASTERN AIRLINES CO-A	China	37%
DBS GROUP HOLDINGS LTD	Singapore	33%
BURBERRY GROUP PLC	United Kingdom	30%
SINGAPORE AIRLINES LTD	Singapore	30%
NORWEGIAN CRUISE LINE HOLDIN	United States	30%
ROYAL CARIBBEAN CRUISES LTD	United States	23%
ALIBABA GROUP HOLDING-SP ADR	United States	22%
GILEAD SCIENCES INC	United States	22%
CHINA PETROLEUM & CHEMICAL-A	China	21%
YUM CHINA HOLDINGS INC	United States	20%
UNITED AIRLINES HOLDINGS INC	United States	20%
AMERICAN AIRLINES GROUP INC	United States	20%
CHINA PETROLEUM & CHEMICAL-H	Hong Kong	19%
CARNIVAL PLC	United Kingdom	19%
HYUNDAI MOTOR CO	South Korea	19%
AIR CANADA	Canada	18%
ADIDAS AG	Germany	18%
TENCENT HOLDINGS LTD	Hong Kong	17%
BAIDU INC	China	17%



April 2020 - Top 20 Companies by Mentions of C-Virus in Financial Media

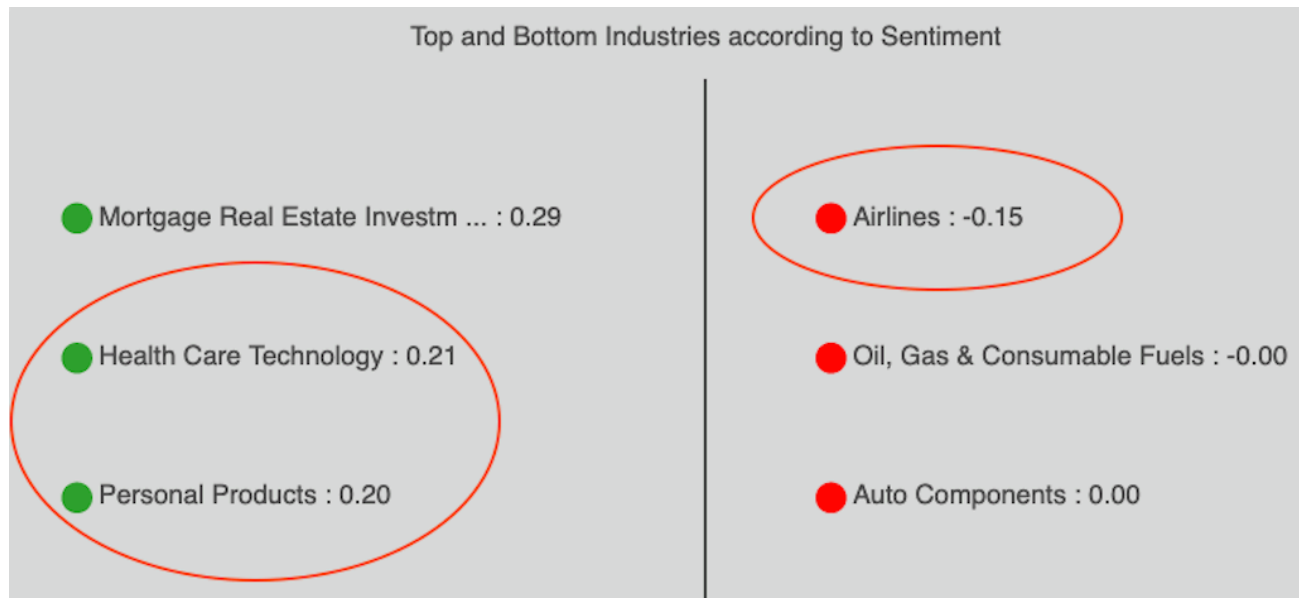
Name	Industry	Country	Percentage of News Mentioning C-Virus
VIR BIOTECHNOLOGY INC	Healthcare technology	United States	32,4%
GILEAD SCIENCES INC	Healthcare technology	United States	27,5%
NISSAN MOTOR CO LTD	Automotive	Japan	26,2%
TYSON FOODS INC-CL A	Farm Products	United States	25,5%
TESCO PLC	Grocery Stores	United Kingdom	24,4%
MOODY'S CORP	Financial Services	United States	22,3%
SANOFI-ADR	Healthcare technology	United States	22,0%
GLAXOSMITHKLINE PLC	Healthcare technology	United Kingdom	22,0%
ROCHE HOLDING	Healthcare technology	Switzerland	21,2%
BAYER AG-REG	Healthcare technology	Germany	20,8%
MODERNA INC	Healthcare technology	United States	19,1%
COSTCO WHOLESALE CORP	Discount Stores	United States	18,7%
FORD MOTOR CO	Automotive	United States	18,9%
GLAXOSMITHKLINE PLC-SPON ADR	Healthcare technology	United States	18,8%



Focus on Industry Sentiment

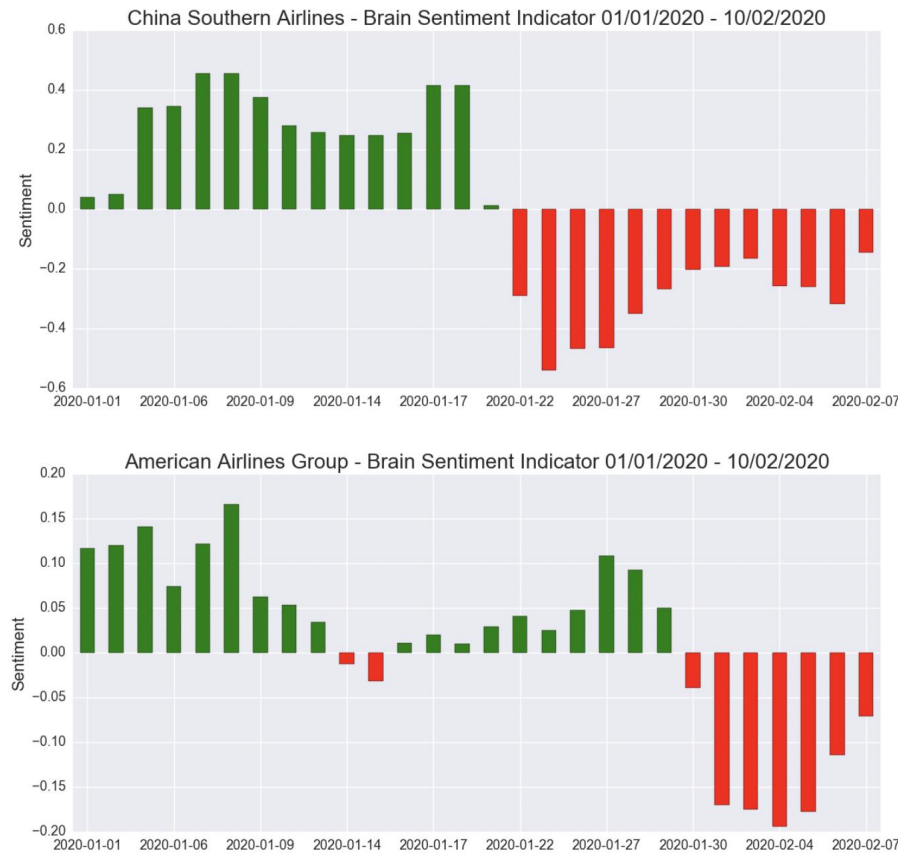
Our Brain Sentiment Indicator that applies NLP to financial news of various industries is detecting the following main trends related to the corona virus outbreak:

1. Healthcare technologies is the second industry by ranked sentiment in the financial news: many articles related to increasing research on c-virus protection
2. The Personal Product is the third one: many articles related to the the hand sanitizers companies that are ramping up production
3. The bottom industry by sentiment is the Airlines one hit hard by the huge number of cancellations / flights cut



Focus on Sentiment of Single Companies - Airlines Example

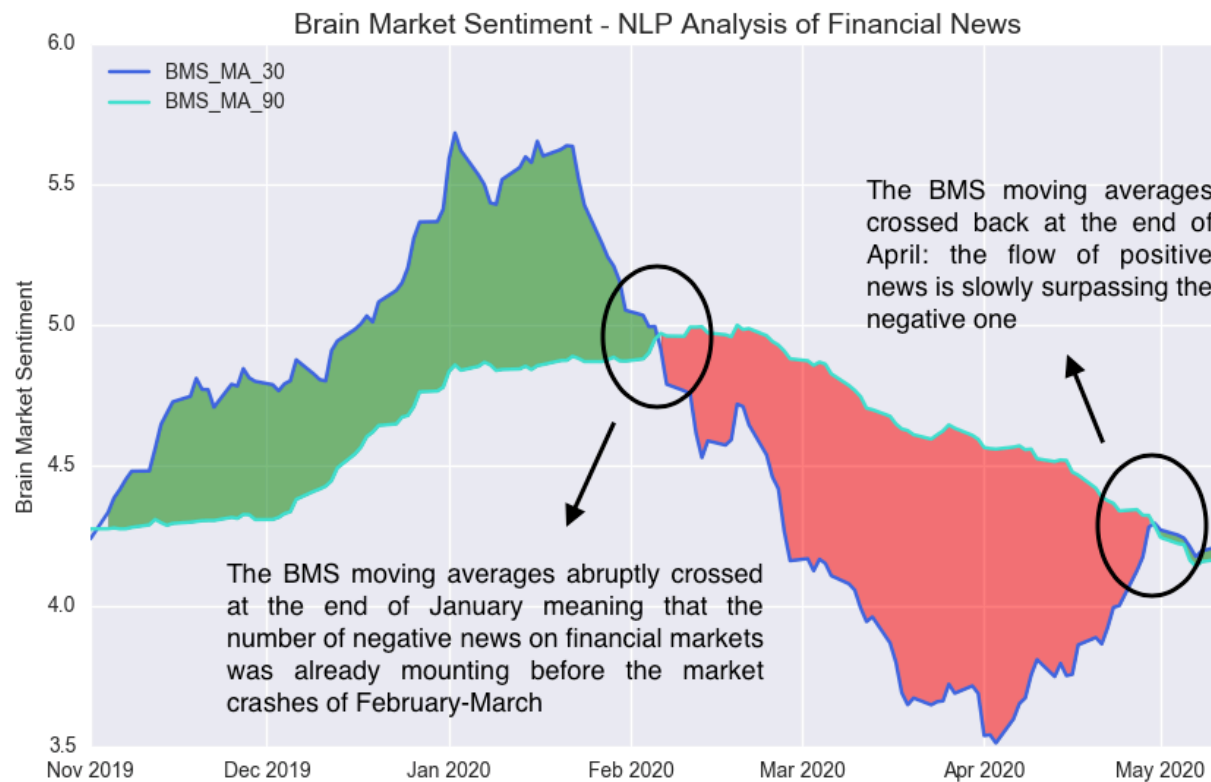
The Brain Sentiment Indicator tracking the sentiment in financial news abruptly reverted to negative for the Chinese airlines after the virus outbreak **around 20th Jan** (e.g. China Southern Airlines). The same reversion happened few days later also to other global airlines (e.g. American Airlines) in relation to the growing number of flight cancellations to China.





Market Sentiment from Financial News

After the evident crossing of Brain Market Sentiment moving averages at the end of January anticipating the market crash of Feb-March, the number of positive news on markets is slowly increasing since the end of April.





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