# Getting into the financial world

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### Résumé



### **Engineer in Computer Science** 2008-2013

- Text Summarization
- Wireless sensor network

### Master in Computer Science 2013-2015

- Optimization
- Text Summarization



### Ph.D. in Computer Science 2015-2018

 Compressive Cross-Language Text Summarization

**ATER** 2018-2019





#### Post-doc in Computer Science 2019-2021

Natural Language Processing:

- Named entity linking
- Text summarization



Historical Newspapers





#### Data Scientist 2021-today

Natural Language Processing:

- Deep learning
- Finance



# Offices

Sophia Antipolis





















 Financial market is a market in which people trade financial securities and derivatives at low transaction costs

- Stocks exchanges:
  - New York Stock Exchange
  - Euronext
  - London Stock Exchange
- Types of financial markets:
  - Stock markets
  - Commodity markets
  - Foreign exchange markets
  - Cryptocurrency







# Trading Central

BYTRADING CENTRAL

- Global leader of financial market research
- Goals:
  - Improve the way of investors consume data
  - Provide concise analytics
    - Simple to understand
    - Easy to apply to investment strategies



### Powerful and robust AI (Felix)

- Scans the Internet for:
  - Raw data, news coverage and individual blogs
- Extract relevant information to make investment decisions

#### Data-driven insights

Provide new and innovative solutions for investment solutions:

- Alpha generation
- Risk mitigation
- Ability to easily track global markets

#### **Premium Analytics**

- Innovations aren't just informative - they're visually stunning.
- Provide clear, accessible and actionable analysis

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# Natural language processing

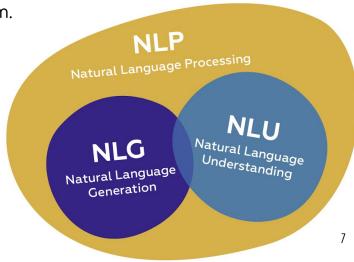
Natural language processing (NLP) is a subfield of:

- Linguistics,
- Computer science
- Artificial intelligence

The goal is a computer capable of "understanding" the contents of documents, including the contextual nuances of the language within them.

#### Some tasks:

- Speech recognition
- Word sense disambiguation
- Named entity recognition
- Co-reference resolution
- Sentiment analysis
- Natural language generation

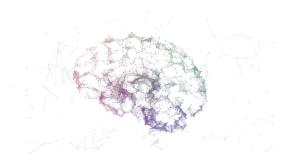






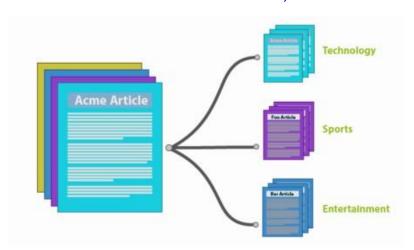






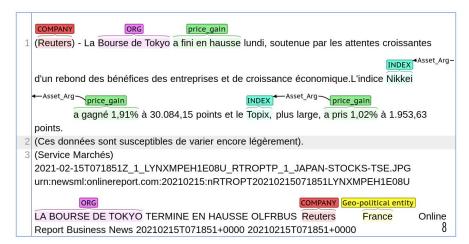
#### Document classification

WebCrawler sent ~ 20k articles/day



#### Named Entity and Event Recognition

- Entity linking is a challenge
- Around 200 events

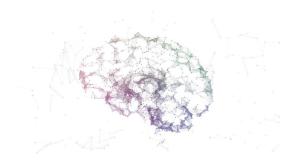




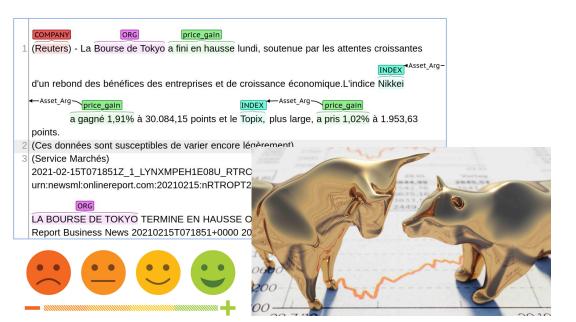








#### Sentiment analysis



#### Multilingual





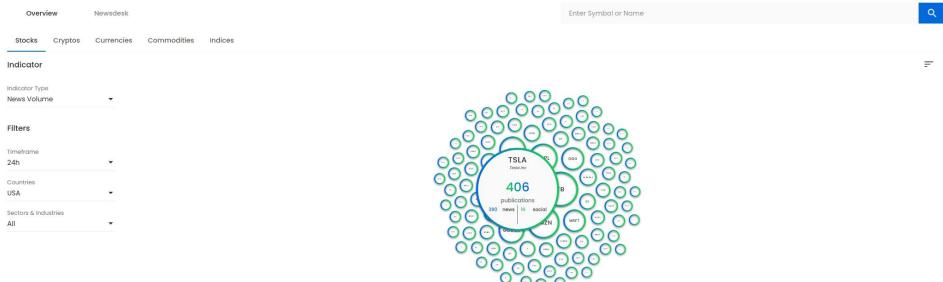






## TC Market Buzz

#### TC Market Buzz®





Fed Meeting In Focus :: 2021-11-02 16:24

Dividend Increase Revenue Estimate Increase Earnings Decrease



### TC Market Buzz

09/10

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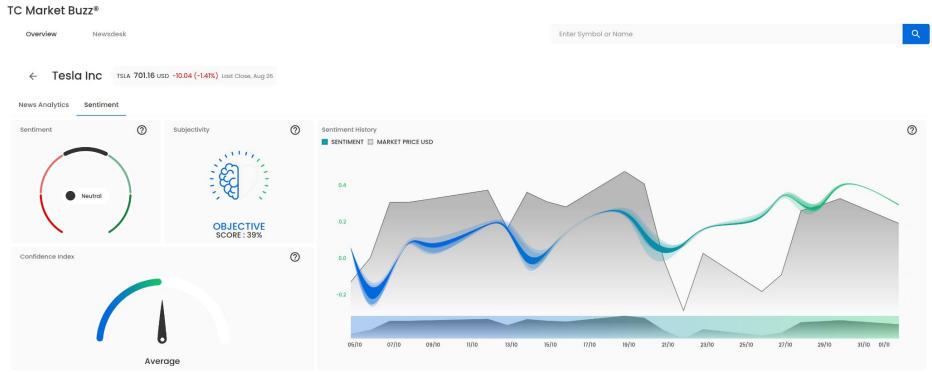
5 - Earnings Announcement

TC Market Buzz® Newsdesk Enter Symbol or Name Overview Tesla Inc TSLA 701.16 USD -10.04 (-1.41%) Last Close, Aug 26 **News Analytics** Sentiment (?) (?) Orientation News Volume News Feed (100 Results) The Edge Markets • 27m ago Wall St Scales Record Peaks On Earnings Cheer; Fed Positive Meeting In Focus | The Edge Markets 406 +79% Revenue Estimate Increase Earnings Announcement Price Target Increase + 4 Most discussed topics 30d **▼** ② **News History** News Volume Market Price USD 1 - Price Gain Detroit News • 31m ago 720 Avis Triples In Meme Moment On Plans To Add More Electric 2 - Price Loss Cars 500 Acquisition Interest 400 3 - Partnership 680 300 43 200 Reuters • 37m ago 4 - Acquisition Interest Us Stocks-wall St Scales Record Peaks On Earnings Cheer;





## TC Market Buzz

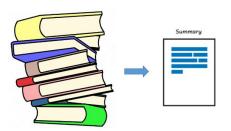


# Additional research topics

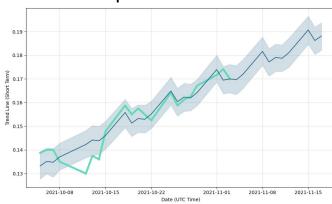
#### Chatbot



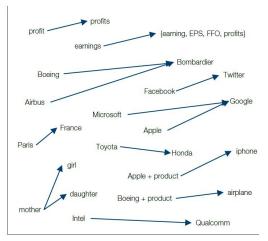
#### Summarization



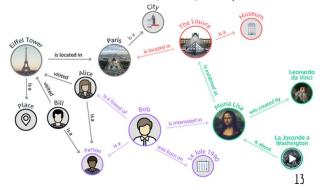
#### Price prediction



#### Language models



#### Knowledge graph



# Thank you for your attention

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