Topic Monitoring in the Pharmaceutical Industry

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Partner Company: ABBVIE

- Pharmaceutical industry
  - Headquarter: Lake Bluff, Illinois
  - 28,000 employees worldwide (Germany: 2,400)
  - R&D and production center in Ludwigshafen
    - Formerly Knoll/BASF
The Topic

• How people talk about a (pharmaceutical) company?
  – Are they satisfied with their products?
    • Or do they think that the competitors do better?
  – Do they like their advertising campaigns?
  – What impact do press releases have?
Topic Identification

• What topics related to a company do people discuss?
  – Products
  – Public image
  – Stock market index
  – Open positions
  – ...
Signal and Noise

- What is signal, what is noise?
  - Emerging topics vs. random peaks
  - Company specific vs. pharma industry in general
  - Recognizing bots
  - ...
Sentiment Analysis

- Are people generally positive/negative about...
  - the company
    - and the pharma industry in general
    - compared to its competitors
    - ...
  - its products
  - ...

![Keyboard with emoji buttons](image)
Charting and local patterns

• Temporal patterns
  – Emerging trends and topics
  – Changes in perception
  – ...

• Geographical patterns
  – Country specific differences
  – Cities vs. rural areas
What to expect and what we expect

• What do you have to expect
  – a challenging task
  – finding solutions on your own
  – working with unknown technologies
    (Web crawlers, social media APIs, text analytics toolkits)
  – programming (yes, actual programming!)

• What can you take home
  – working on a cutting edge research topic
  – working with real-world data from the Web
  – solving an actual data science problem for a company
Description of Work

• Literature research on
  – Mining social media
  – Topic and trend detection
  – Sentiment analysis

• Prototyping
  – Data collection
  – Data profiling
  – Data analysis
  – Summary of findings
Technical Fact Sheet

• Participants: six students
• Duration: one semester
• Language: German or English
• Requirements:
  – Programming skills
  – Knowledge in data mining, text analytics, and/or web mining
• Suitable for both for Wifo and MMDS students

• Regular local meetings (weekly/bi-weekly)
• Monthly meetings with ABBVIE
  – Kick-off: Tuesday, 28.2., 9am
Questions?