



Reimagining Yourself in the Data Revolution

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Housekeeping Rules

We've developed some guidelines to help things run smoothly whilst taking part in LearnFest 2020. They're designed to minimise difficulties and maximise engagement between the presenters and audience.

Your cooperation with the guidelines is greatly appreciated.



Presenter

The presenter will coordinate their session. They'll introduce themselves at the start and help it run smoothly



LearnFest Rep

A rep will be available via the chat function to answer any of your LearnFest queries.



Pinning a speaker

The facilitator may ask you to 'pin/unpin' a person. Their feed becomes full screen and stays 'on top' while presenting. Right click on the person to pin/unpin



Covering the guidelines

At the start of the session the facilitator will cover the guidelines and explain any additional/specific instructions for this session



Captions

If you require captions to be turned on during your session, please click the 3 dots and select 'Turn on live captions'



Muting microphones

We ask that all mics are to be muted at the start of the session. The presenter will invite people to unmute when needed.



Recording the meeting

This session is being recorded and will be made available on MyLearning.



Asking a question

Use the 'raise hand' feature to indicate you'd like to ask a question. The facilitator will monitor 'hands'/ the chat and invite you to ask your question at the appropriate time



Disable video

We ask that all cameras remain off throughout the session unless requested otherwise

Reimagining Yourself in the Data Revolution

EXPLORING DATA
ENHANCING KNOWLEDGE
EMPOWERING SOCIETY



Business and Local Government
Data Research Centre

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EXPLORING DATA

ENHANCING KNOWLEDGE

EMPOWERING SOCIETY

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL



University of Essex



Outline



Using your social media data



Sentiment Analysis: a practical
introduction



Demo: Simple Sentiment Analysis



The background is a vibrant pink color with a subtle grid pattern of thin white lines. A large, dark pink, curved shape, resembling a stylized letter 'S' or a thick brushstroke, curves across the upper half of the image. The text is centered in the lower half of the image.

Using your social media data



Social Media Users

- Facebook has 2.6 billion users. Instagram has 1.08 billion. Twitter has 36 million users. Approximately, 3.5 billion people use social media.
- In the US, 72% of the adult population reports using social media at least once (Pew 2019).
- In the US, 80% of FB users visit the platform every day. 40% of Twitter users visit the platform every day (Pew 2019).
- There is a lot of information there, and we are it!





Information and Knowledge

- There is a lot of noise in social media, but if we extract the signal from it, we can find knowledge that is useful for us.
- Example 1 (from James Fowler, UCSD): People make a simple, fundamental choice: “Whether or not to become friends with somebody.” This is important because we shape our networks and our networks shape us too.
- We can use social media data to build a ‘Who to Follow’ engine.
- This and other tools can be incredibly helpful.





Beyond Control of Your Data: Use the Data

- There are multiple mechanisms (eg GDPR) that protect your data and your privacy.
- This is about how you use data from social media, subject, of course, to the legal framework and the data and privacy protection of others!
- Have you read Twitter's Privacy Policy? Have you read Twitter's Developer Terms?
- Many different types of information out there. Start with your activity dashboard. But we are here to show you more tools!

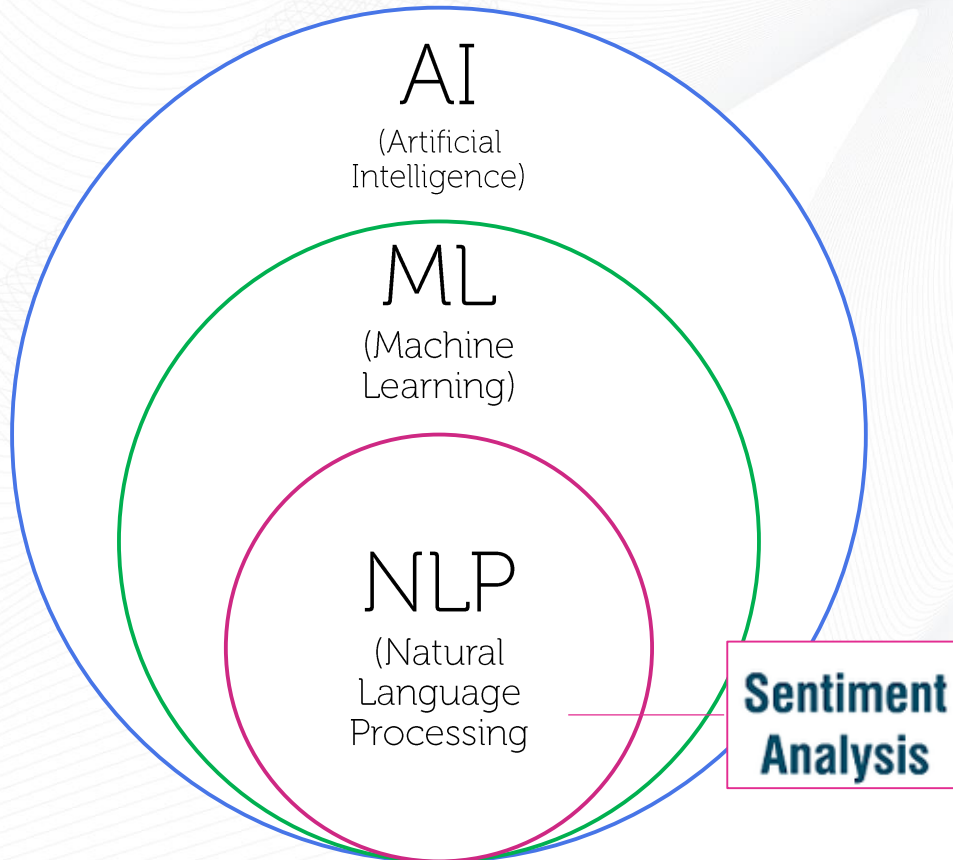


The background is a solid pink color with a subtle grid pattern of thin, light-colored lines. A large, stylized, overlapping shape, resembling a thick, curved line or a stylized letter 'S', is drawn across the middle of the page in a slightly darker shade of pink. The text is centered in the lower half of the image.

Sentiment Analysis: a practical introduction



Some background ...



AI

Teaches systems to do **intelligent** things

ML

Teaches systems to do **intelligent** things that can **learn** from experience

NLP

Teaches systems to do **intelligent** things, **learn** from experience and **understand** human language





Sentiment Analysis





Sentiment Analysis

aka: sentiment classification; opinion mining; emotion AI

An NLP text classification task where you are supplied with a **phrase**, or a list of phrases and your classifier is supposed to tell if the sentiment behind that is **positive**, **negative** or **neutral**.

- to determine **polarity**, you extract subjective information from text:
 - i.e. if some statement is positive or negative (positive; somewhat positive; neutral; somewhat negative; negative)
 - Extract emotions: angry, sad, happy, bored,
 - Extract information about ideology: left-wing to right-wing continuum





Sentiment analysis: Types of Data



customer reviews



product reviews



speeches



social media



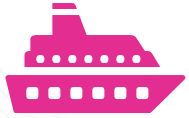
open ended
survey responses



Sentiment Analysis: How it works (simplified)

1. Create or find a list of words associated with strongly positive or negative sentiment.
2. Count the number of positive and negative words in the text.
3. Analyze the mix of positive to negative words. Many positive words and few negative words indicates positive sentiment, while many negative words and few positive words indicates negative sentiment.

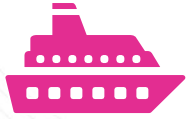




Sentiment Analysis – some examples

Sentence	Sentiment
Coronet has the best lines of all-day cruisers.	
Pastel-colored 1980s day cruisers from Florida are ugly.	
I do not dislike cabin cruisers.	
Disliking watercraft is not really my thing.	





Sentiment Analysis – some examples

Sentence	Sentiment
Coronet has the best lines of all-day cruisers.	positive
Pastel-colored 1980s day cruisers from Florida are ugly.	negative
I do not dislike cabin cruisers.	positive?
Disliking watercraft is not really my thing.	positive? negative?





Sentiment Analysis for public service provision

- It is very difficult to survey customers who did not use the service
- Instead you could use SA to:
 - search the web for opinions and reviews of the different services (blogs, tweets, facebook)
 - create condensed versions or a digest of features that most people are happy with and those that they aren't
 - improve service by addressing the feedback





Sentiment analysis for public service provision

Questions it might help you answer:

- Is this service's review positive, neutral or negative?
- Is this user's email a satisfied or an unhappy one?
- Based on a sample number of tweets, how are people responding to this ad campaign/product release/news item?
- How have citizens' perceptions of the council's waste policy have changed since the election?
- Can we automatically create customer preference reports?
- Can we manage online reputation as it happens (synchronously)?

SA visualisation examples are up next!





Sentiment Viz



sentiment viz Tweet Sentiment Visualization

Sentiment					Topics		Heatmap		Tag Cloud		Timeline		Map		Affinity		Narrative		Tweets	
Date	User	v	a	Tweet																
10-05-20 11:56	rogersmall666	4.11	3.44	@brianm00re000 what next? Daily briefing postponed because <i>script delayed</i> by <i>lack</i> of alphabetu sprigetu for Boris?!?!																
10-05-20 11:56	whiteblinkguy	5.57	4.40	RT @Daily_Express: #DonaldTrump #coronavirus fears: #Russia and #China <i>WILL seek to take advantage</i> MP <i>warns</i> #NATO #VladimirPutin https://t.co/IYu2kiNjJo https://t.co/rCpgU7njGQ																
10-05-20 11:56	Fleason77	5.71	5.02	RT @KingOfSunshine: The <i>government initially</i> said that if the R <i>rate went</i> over 1, they would <i>be concerned</i> and act accordingly. The <i>rate</i> in Manchester is now just under 5, and that's with <i>local</i> lockdown. So what are they <i>doing</i> to <i>protect us</i> ? We <i>want</i> answers Boris Johnson, Matt Hancock et al. #Covid19																
10-05-20 11:56	sdb	6.30	3.98	@TSocialist19 @Femi_Sorry Let me <i>know</i> when all of that 52% "majority" <i>can decide</i> whether they <i>do</i> or don't all <i>want</i> the trade <i>deal</i> that Boris Johnson and co <i>promised</i> would <i>be agreed</i> before we <i>even</i> started the <i>process</i> of <i>leaving</i> .																
10-05-20 11:56	planetphoton	5.39	5.02	Seems Laurence <i>Fox</i> is just the Boris- <i>like</i> upperclass <i>twit/lovable buffoon</i> figurehead there to <i>be</i> a <i>cover</i> for some <i>serious rotten</i> backers. https://t.co/u31ced8iZx																
10-05-20 11:56	PeterFlauder	6.03	4.84	@eagle1fox21 @Reuters <i>Perfect</i> . Boris <i>went</i> for <i>Bob</i> the Builder and Thomas the <i>Tank</i> . But SpongeBob is just <i>perfect</i> for him https://t.co/FGqfwj3ZGc																
10-05-20 11:56	jordanbonapart3	4.22	4.74	I was listening to ACDC earlier and <i>forget</i> Brian Johnson. Boris Johnson. <i>Dirty Deeds Done Dirt</i> Cheap!																
10-05-20 11:56	isitme70	6.30	4.27	RT @DanLord78: Boris Johnson is <i>like</i> my <i>puppy</i> , he <i>bounces</i> around, doesn't <i>listen</i> and just <i>expects</i> his <i>belly</i> to <i>be</i> rubbed the <i>whole time</i> #Marr																
10-05-20 11:56	TonyBurnetti	5.75	4.59	RT @katylindemann: @DrEricDing The IgNobel <i>prize</i> for <i>medical education</i> <i>went</i> to leaders incl Boris Johnson & Donald <i>Trump</i> "for <i>using</i> the Covid-19 <i>viral</i> pandemic to <i>teach</i> the <i>world</i> that politicians <i>can</i> have a more <i>immediate effect on life</i> and <i>death</i> than scientists and doctors <i>can</i> ." https://t.co/bt2dnn7d9X																

Showing 1 to 269 of 269 entries

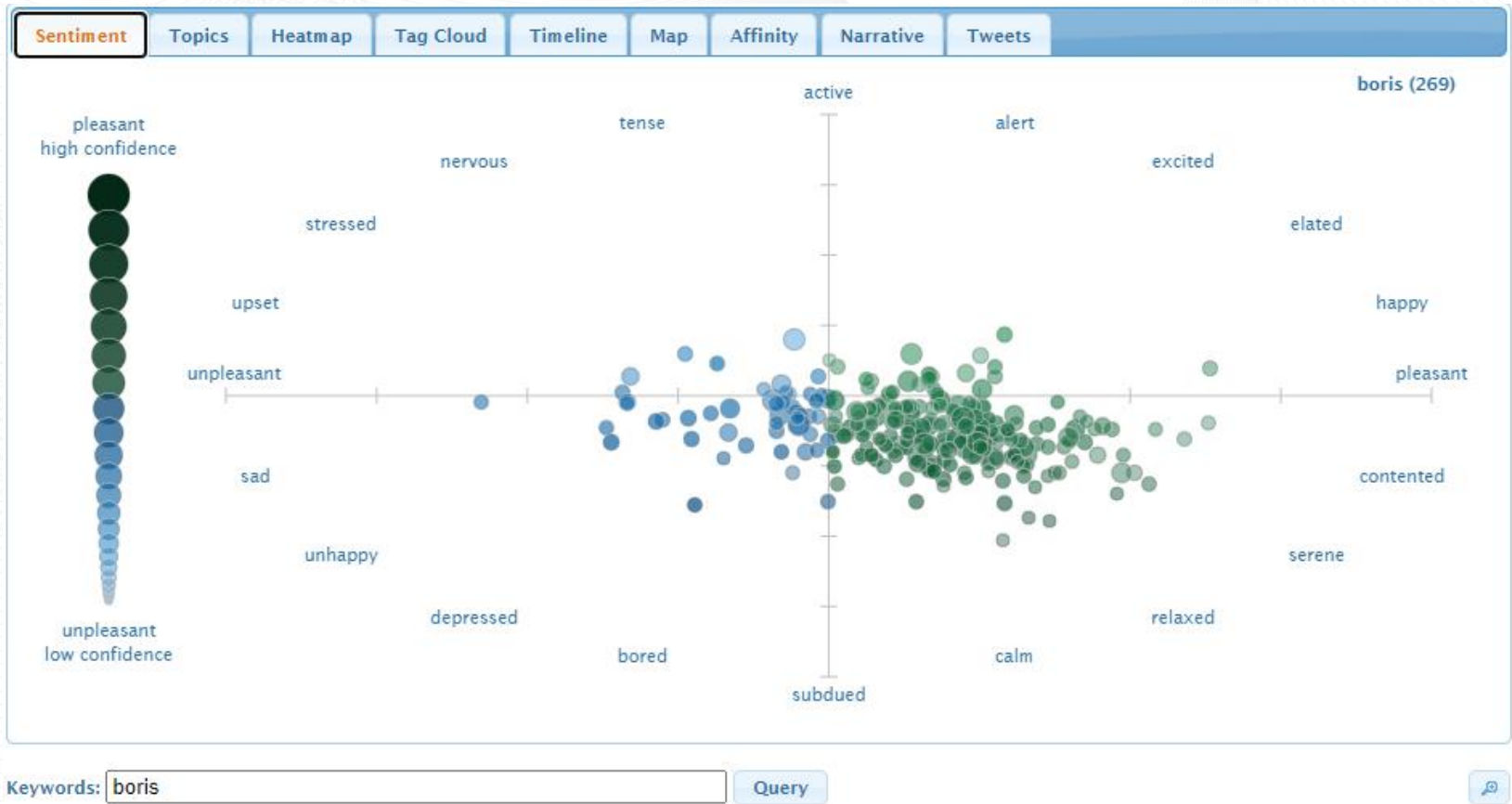
Keywords:



Sentiment Viz



sentiment viz
Tweet Sentiment Visualization

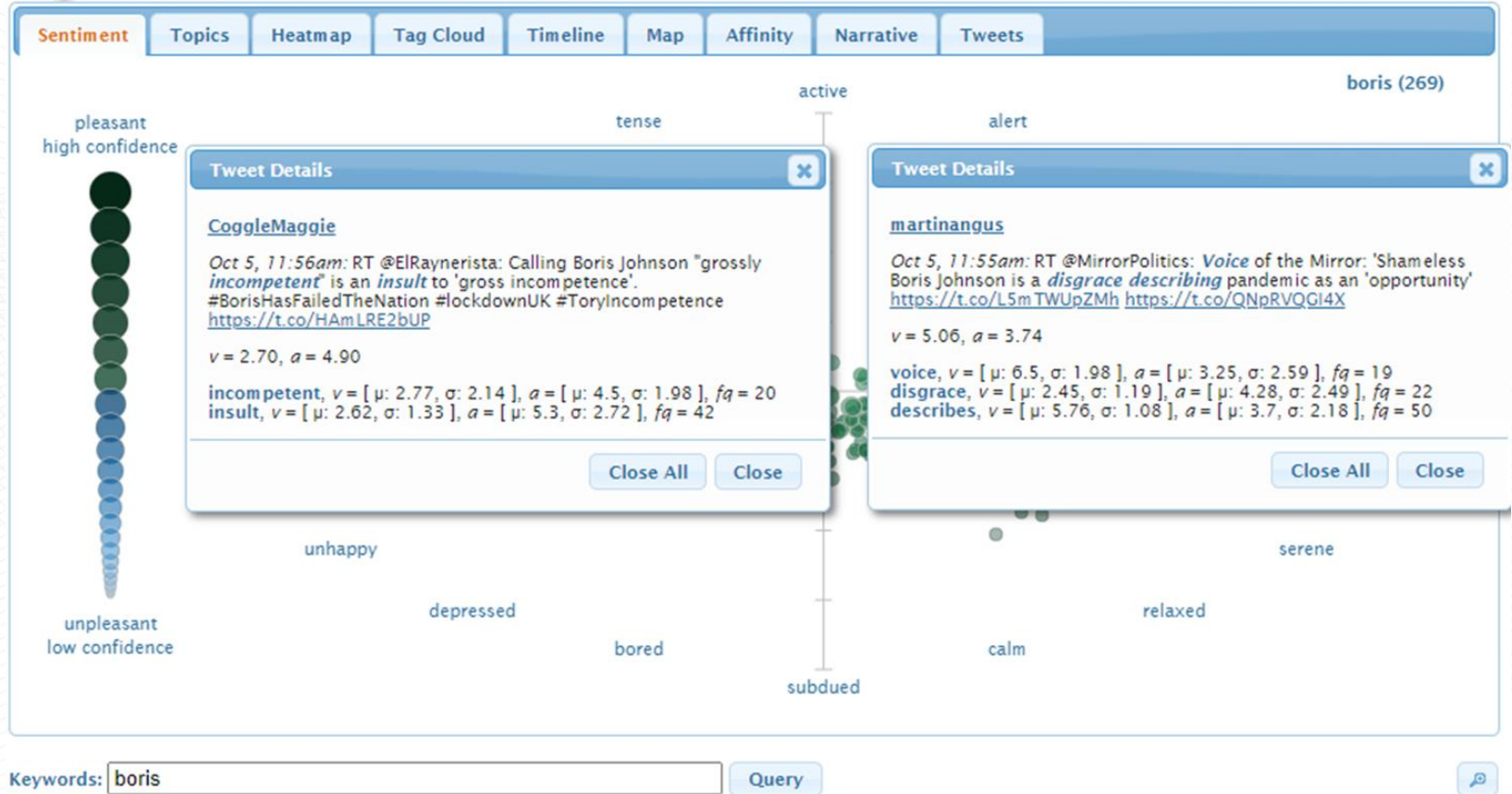




Sentiment Viz



sentiment viz Tweet Sentiment Visualization





Sentiment Viz



sentiment viz
Tweet Sentiment Visualization





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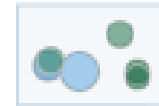
clusters

16,unable,traced



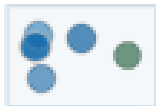
6

🚫,massive,opportunity



6

contacts,doesn't,missed



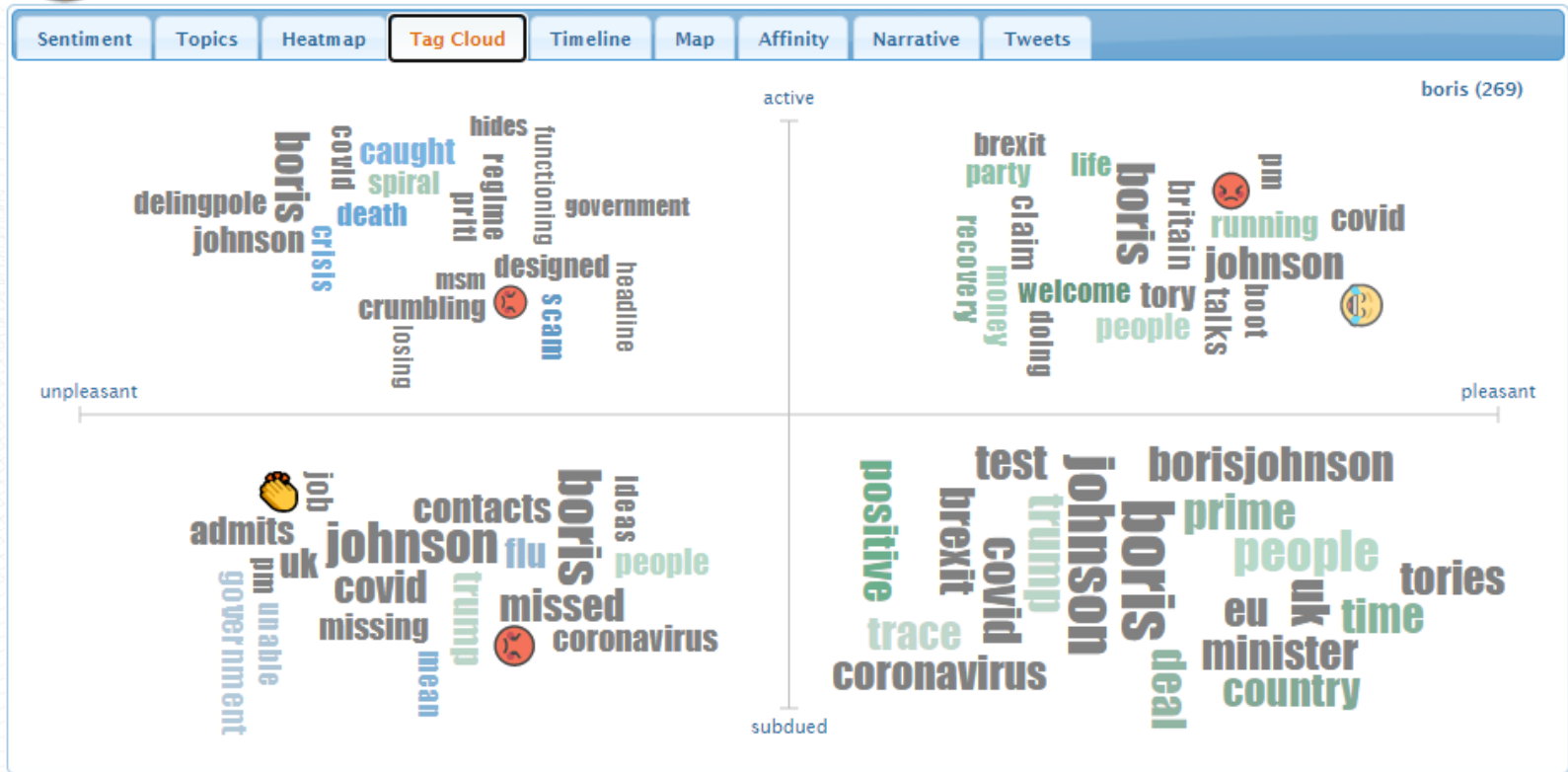
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Sentiment Viz



sentiment viz
Tweet Sentiment Visualization



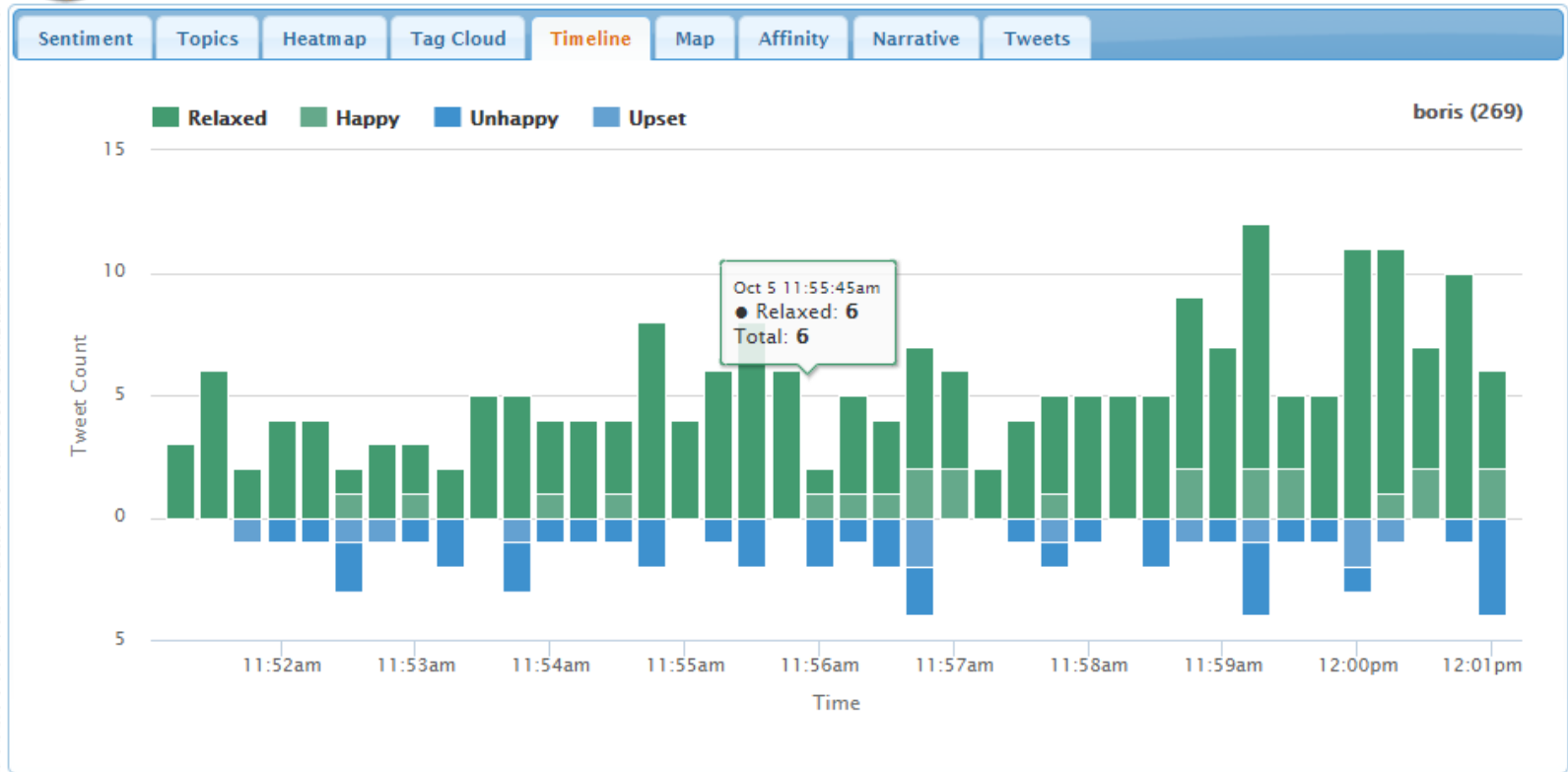
Keywords:



Sentiment Viz



sentiment viz Tweet Sentiment Visualization



Keywords:





Reimagining yourself in the data revolution

- You can do it!
 - There are good, open source tools out there
 - Basic exploration, no setup needed, but limitations
 - Try it today:
 - Go to: https://www.csc2.ncsu.edu/faculty/healey/tweet_viz/tweet_app/
 - Use a hashtag, keyword or (your) username to monitor sentiment and opinion around it
- If need more advanced features (more tweets, not just twitter) – more work is needed
 - Need to get own API & secret key and use





Additional Material & Resources

Try Sentiment Analysis (no set up necessary):

- <http://socialmention.com/>
- https://www.csc2.ncsu.edu/faculty/healey/tweet_viz/tweet_app/
- <https://sentiment-sweep.com/>
- <https://dashboardliftrestriction.z6.web.core.windows.net/>
- <https://inewell.github.io/nytimes-sentiment/>
- <https://www.social-searcher.com/>

Set up your own sentiment analysis instance:

- <https://www.kdnuggets.com/2018/08/emotion-sentiment-analysis-practitioners-guide-nlp-5.html>
- <https://www.twilio.com/blog/2017/12/sentiment-analysis-scikit-learn.html>
- <https://www.kaggle.com/shaliniyaramada/visualization-and-sentiment-analysis>
- <https://www.freecodecamp.org/news/tweet-sentiment-analysis-python/>
- <https://github.com/Lissy93/twitter-sentiment-visualisation>
- https://www.csc2.ncsu.edu/faculty/healey/tweet_viz/



Q & A session





UPCOMING WEBINARS

Exploring data, enhancing knowledge, empowering society

The visualisation of data

18th November 2020 10:30 AM

Social Return on Investment (SROI): Measuring your value

13th January 2021 10:30 AM

Plus coming soon...

- Asking the right questions to get the right answers
- Evidencing need
- Exploring your text data

Register online: www.BLGdataresearch.org





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