

Detecting emotions in communication via social media during crisis events

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Recent flooding, landslides, hurricanes disasters



Research question

- How many messages, communicated via social media during natural disasters, have an emotional content?
- What is the content and frequency of emotional messages during onset, summit and offset of natural disasters?
- Is it possible to detect emotional messages via keyword spotting?
- Is it possible to create an emotional database by manual annotation of messages, composed of emotional words used during natural disasters?
- Is it possible to detect emotional messages by keyword spotting using the manual annotated database?



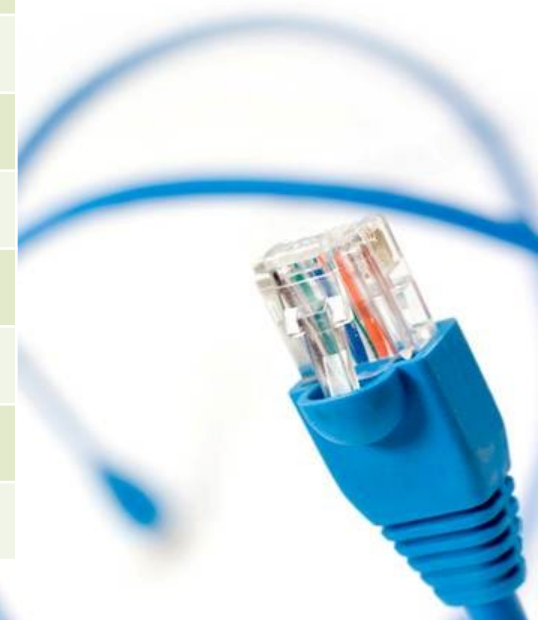
Procedure

- Manual annotation of 2x2000 Tweets recorded during natural disasters
- Creation of emotional database composed of keywords from recorded emotional tweets
- Automated detection and analysis of emotional Tweets, out of recorded corpus of tweets during natural disasters, using keyword spotting

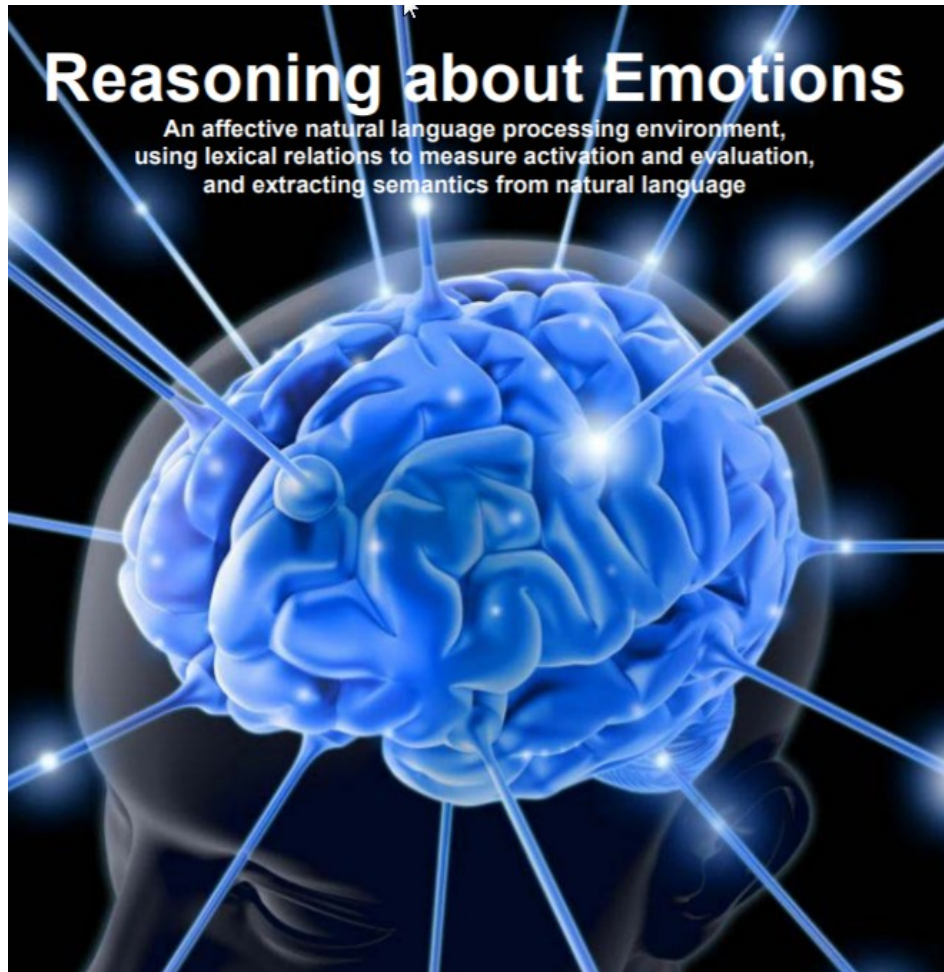
Recorded Twitter messages

<https://data.world/crowdfunder/disasters-on-social-media>

2000 tweets from floods	Categories of emotional words
Manual analysis	Standard emotions
	Pray(ers)
	Cursing
	Restless feeling
	Affections
	Humor
	Thoughts, moods, compassion
	Emoticons
	Words with emotional impact



NLP Affect Toolbox



Tools such as keyword spotting from developed Affective Toolbox were used to detect emotional messages automatically

Some Results

Disaster steps	Percentage emotional tweets
Rising action	13%
Onset disaster	29%
Core disaster	34%
Offset	18%
After disaster	6%

