

Fake news: an algorithmic approach

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2 Research question

The following research question is defined: *how well can state-of-the-art natural language processing techniques in combination with machine learning algorithms classify fake news?*

For this research question, the following subquestions will be answered:

- RQ1: How can fake news be defined and characterized?
- RQ2: What new ways of word- or sentence embeddings can be used for encoding plain text?
- RQ3: What is the performance of combinations of these novel embedding techniques with machine learning algorithms?
- RQ4: To what extent can performance of fake news classifiers be improved with increased amounts of raw data?

3 Related Work

3.1 RQ1

Fake news as a term only caught public attention starting from the end of 2016, during the Presidential Elections of the United States [6].

3.2 RQ2

In the last couple of years, using transfer learning for natural language processing has given promisable results. The following sentence embeddings will be used to detect fake news:

- Bag of Words as a baseline for performance of non-pretrained embeddings;
- Facebook’s InferSent [1];
- ELMo from the Allen Institute for Artificial Intelligence [4];
- OpenAI’s GPT-2 [5];
- Transformer-XL [2];
- and Google’s BERT [3].

3.3 RQ3

References

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