

Text Summarization: The Benefits of Argumentation Mining

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Abstract

1. INTRODUCTION

There are over 500 million tweets sent each day . Many of these tweets pertain to social movements and become grouped under a topical heading, a hashtag. For example, #LoveWins trended after the United States Supreme Court's legalization of same-sex marriage in 2015 and #Ferguson trended after the social unrest following a police shooting in Ferguson, MO in 2014. Hashtags often come in pairs for and against a movement, e.g. #DefundPP and #StandWithPP in opposition and support of Planned Parenthood's funding respectively. Tweets with movement hashtags are often, but not always, accompanied with some statement explaining and/or supporting the poster's view of the movement. Previous work in argumentation mining proposed that these hashtags can be seen as a premise for an argument and that a classifier can determine which tweets support the premise with additional text and which are merely tweets with no support. Thus, Twitter can be used to probe public opinion and reasoning over popular issues. Due to the large volume of tweets, it is impossible to summarize the arguments without using an automated summarization technique.

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Many such techniques have been proposed in literature. I explore many here.

2. PREVIOUS WORK

Summarization of multiple documents, in this case tweets, can be categorized into two main groups: extractive and abstractive. The difficult first step of summarization is identifying which parts of a document are important. Thus, extractive summarization only identifies important portions of the text and groups them together without any further processing. This clearly does not lend itself for an easily readable summary. Further as [1] illustrates, there are implicit biases in this kind of summary

3. ALGORITHMS

- 3.1. SumBasic
- 3.2. Hybrid TF-IDF
- 3.3. Opinosis
- 3.4. Mead

4. RESULTS

5. DISCUSSION AND ANALYSIS

6. CONCLUSIONS

REFERENCES

- [1] GANESAN, K., ZHAI, C., AND HAN, J. Opinosis : A Graph-Based Approach to Abstractive Summarization

of Highly Redundant Opinions. *Proceedings of the 23rd International Conference on Computational Linguistics*, August (2010), 340–348.