

A TWITTER BASED BREXIT ANALYSIS

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ABSTRACT

The politics in Europe recently are subject to changes that are heavily biased towards the right wing and conservatives. Scenarios which we deem unthinkable occur surprisingly often, the most prominent examples being the so-called “Brexit” and the Trump administration. They all share far-reaching similarities: A dedicated political group pursuing a controversial goal and an initially low attention of the opposition. Voters that feel left behind and forgotten see their opportunity to have an impact. The election divides the country.

We are interested in how the attention for such political events fluctuates over time. As a case study we chose the Brexit and as measure of attention the activity on related topics on Twitter.

1. INTRODUCTION

Britain’s referendum about staying in the EU or leaving it (Brexit for short) has risen a lot of attention lately. The negotiations for Britain’s exit have begun and the first summit took place in the end of April. But at the same time the presidential elections in France are provoking discussions concerning the EU and its constituents. This attention enables us to investigate the Twitter activity on Brexit topics very well. We were crawling data from the Twitter APIs, which give us real-time Tweet access, for several time windows between April 5th and May 10th 2017. Also we had access to Twitter archives from the Computational Social Science group at ETH, which allowed us to get Tweets from February, April and May 2016.

We used a set of Brexit-related keywords to filter for relevant input. Using the time-zone as location of the tweet we can restrict the search to certain regions. As a tool for analysing the useful sources we used Python’s Vader^{1,2} sentiment analysis and our own sentiment analysis, based on the Brexit gold standard³ - a 2000 Tweets database whose sentiments have been assigned manually by an expert group.

We will investigate the activity of Tweets in favour and against the Brexit, identify peaks and interesting behaviours and try to map those to political events. This way we will see, if the interest in politics of certain groups follows an explainable behaviour.

In 2 we explain our approach sentiment analysis approach in detail. We continue in 3 by looking at the frequency of keywords over time in different regions. Specifications about the implementations can be found in ?? and finally we present the results in 5.

2. SENTIMENT ANALYSIS

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3. FREQUENCY ANALYSIS

To see how the attention of the Brexit evolves over time we investigated how often certain keywords appeared. The timestamp is available in every tweet and is easily accessible. For the location the tag `geo` of `place` turned out not be useful as by far most tweets have the location disabled. However we the `user_time_zone` is contained in almost all our data, which does the job in our case. Timezone does not indicate the UTC±HH:MM only, but actually tells you the nearest example city of this time zone. A typical dataset would read:

created_at	geo	user_time_zone
2017-04-02 23:19:42	None	None
2017-04-02 23:19:45	None	Karachi
2017-04-02 23:19:46	None	London
2017-04-02 23:19:52	None	Moscow

From a testset of 1067045 tweets, 17909 (1.7%) had a `place` tag, 631172 (59%) a `user_time_zone` and 0 a geolocation.

Now one simply needs to filter the tweets according to wanted timezones and keywords, group them by day and count. Results using the timezone filter London and multiple keywords are shown in fig. 2 and the total activity in fig. 3.

APPENDIX
APPENDIX MATERIAL

REFERENCES

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