Debias

EECS4314 Assignment 1 The Project Proposal

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Abstract

Media now more than ever has become much more sensational and it has become difficult for the average person to sift through all the articles on a topic to get a balanced viewpoint which might lead them to only see one viewpoint on a topic. Our project aims to solve the difficulty in finding articles with different viewpoints by aggregating daily news articles and displaying their tone to allow users to differentiate articles pertaining to a topic based on their tone. Users can search for news articles in the front end, and articles pertaining to these topics will be selected from the database of processed news articles and returned to the user displaying the name, author, date, of the article as well as scores indicating the tone of the articles. The users can further filter down the articles within the topic by the tone, which can allow them to get a wider range of viewpoints from a topic.

Motivation

Our motivation with this project is that we are trying to make it easier for individuals to be able to filter their news feed in a way that will allow them to see articles with different tones, which could give them a more balanced understanding of the topic they are searching for. It can be difficult for people to find articles on the same topic from different news sources that have different perspectives, for the one you have to find multiple news articles, and then you would have to read through them in order to understand how they differ, with many of them likely having a similar tone or bias. By providing scores that depict the tone of the articles we can make it much easier for people to find articles that differ greatly on the same subject, and may offer the user a different perspective on the topic.

Project Goals

The product will show the tone of the news provided by users, for example, topic, link or content of the news. By doing this, it will make the users be aware of the different points of view on the same topic, thus reducing the misinformation and spread of fake news. And it will also enable the users to search the news with a specific tone for a topic, for example, users can choose to just get positive news for a topic which is helpful for their emotional health. Another goal is to let the users have the ability to give their own feedback on the accuracy of the result which they get from our product. The feedback will be collected by the system and make the result more accurate.

Feasibility

- Our data domain will be news sources that have API's that enable us to get articles, in the future it would be possible to use website scraping to get articles from news sources that do not have APIs.
- There are several third-party services that provide the sentiment analysis or tone analysis, such as Google NLP and IBM Watson Tone Analyzer.
- We may combine the use of SQL and NoSQL databases depending on the nature of the data.

- There could be several microservices responsible for news aggregation, API gateway, and the data process respectively.
- Communication between various microservices will be implemented using REST API.

Social and Economic Benefits

- Unbiased perspective on an article- sentiment powered by NLP
  - It helps identify underlying/embedded rhetoric
  - Distinguish facts from opinion
- Free-to-use- no subscription required to use service/application.
- Convenient for User to get the sentiment of a whole article, without reading it.
- Helps users avoid/reduce data-overload. Articles are classified and organized by sentiment already, and the user can then pick.

User Story Card

- StoryId: 001
- Story Name: Tone filter
- Description: As an end-user, I need to be able to add tone filters to the search result so that I can get the news articles aggregated by the tone analysis.
- Acceptance Criteria:
  - The tone filters are coming from the tone analyzer, including Anger/Fear/Joy/Sadness/Analytical/Confident/Tentative.
  - The search result should firstly show up without any filters, simply based on the keyword(or topic in our context).
  - The results with filters are sorted by the score of each tone result.
  - A user should be able to combine different filters and the corresponding results.
  - A notification should show up when there's no result for the combined filters.

Comparison with the existing system

-	Debias	Google news	Flipboard
News filtering logic	-Tone categorization (Anger, Fear, Joy etc.) -Tone consistency score, hotspots	-News categories -User location -News sources -Trending topics	-News categories -User preferred location -User selected news sources -User defined keywords
News feed bias	Stays neutral	Based on user profile	Based on user profile
Goal	-Discoverability -Minimum filtering -Prevent user bias -Efficient to get a different point of view	-User engagement -Form user bias -Usage data collection	-Customizable news feed -User engagement -User preference based bias -Usage data collection