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SMART INFOTAINMENT

RHETORiC

Reducing Hate with Editorial Tools for Online Reactions and Comments

Commenting on news topics is an important form of public engagement that can increase civic engagement with public issues. Readers use news comments to shape their ideas of what other people think about current topics. For media outlets, audience participation can provide opportunities for feedback and input for journalistic purposes.

However, disrespectful and offensive language has come to dominate online comment sections, leading to a pessimistic view of news comments among audiences and the media alike. Consequently, many news websites are closing comment sections, ultimately diverting the polarized and toxic online debate to social media where such engagement is algorithmically encouraged.

There is a need for a space where readers can safely share their opinions on news, and for solutions to improve the quality of user comments. As reactive interventions do not seem to have the desired effect, it is hoped that design-based proactive interventions could offer a better chance of success.

The RHETORiC project aimed to design and evaluate elements of an interface between commenters, journalists and moderators that could reduce the influence of cognitive bias and aid discussion and thus improve the tone, level and social connectedness of online debate. The overall goal was to promote civil participation in online debates by allowing journalists to better empathize with the audience, encouraging people to post high-quality comments and featuring audience feedback to specific news stories.

THE OUTCOMES

To overcome the drawbacks of traditional news comment sections and human content moderation, we gathered new knowledge on how to promote civil participation in digital journalism. Based on this insight, we developed and evaluated an interface that includes design interventions to increase the added value of audience participation for both readers and editors supported by semi-automatic moderation of textual and visual comments.

1. Audience conversation and moderation tools

The project developed an audience conversation tool to support people in formulating their opinions and arguments and help them learn how to contribute constructively to online discussions. The tool guides commenters through the commenting process based on conversational prompts, stance taking, live feedback and clustering of similar comments.

In addition, a new moderation dashboard for news publishers and journalists aggregates insights and provides semi-automatic moderation of comments delivered through the audience conversation tool. The dashboard allows journalists to see relevant opinion clusters, comment toxicity and argument levels for a given news topic. Journalists can also use the dashboard to moderate comments based on an automatic pre-moderation step.

2. AI-based text and image analysis algorithms

To enable the above commenter guidance and semi-automated moderation in real time, the project developed novel text and image analysis algorithms based on artificial intelligence (AI). Existing tools for analyzing sentiment and detecting profanity in text were augmented with new tools to identify stance, level of disagreement and the type and target of any toxicity. Furthermore, we investigated and tested the ability to detect toxic memes through image analysis.

3. Real-world evaluation of the interface

These elements were evaluated in a first large-scale test on the website of Belgian newspaper Het Nieuwsblad. The results were promising, with the quality of comments written using the RHETORiC tool significantly higher than those on social media for the same topic. Across all topics, comments in the RHETORiC tool were significantly better argued, more skillfully written, less toxic and more positively worded than comments submitted via Het Nieuwsblad's Facebook page. Furthermore, more than 8 out of 10 respondents reported (very) positive feelings after using the RHETORiC tool. Over 90% found participating in a debate using the RHETORiC tools worthwhile, including a part of the "silent majority" that does not typically comment on social media.

NEXT STEPS

The RHETORiC project successfully demonstrated the potential to promote civil participation in online debates through specific audience conversation tools and semi-automatic moderation based on automated conversation analysis. The project partners are convinced that the impact of the tools developed offers a big first step towards tackling polarization in online news comment sections. Mediahuis, Textgain, Tree Company and Wieni will follow up these results through a living labs trajectory to test the RHETORiC tools on several Mediahuis titles. In addition, the RHETORiC partners will explore novel research focusing on disinformation.

FACTS

NAME	**RHETORiC**
OBJECTIVE	Reducing Hate with Editorial Tools for Online Reactions and Comments
TECHNOLOGIES USED	Recommender systems, Bayesian Personalized Ranking, deep neural network embeddings, bi-clustering, diversification, Kubernetes, Elasticsearch, Tensorflow, Google Cloud, ambient computing, conversational UI, chat bots
TYPE	imec.icon project
DURATION	01/10/2019 – 30/09/2021
PROJECT LEAD	Luk Overmeire, VRT
RESEARCH LEAD	Peter Lambert, imec - IDLab Data Science Lab - UGent
BUDGET	1,813,970 euro
PROJECT PARTNERS	VRT, Textgain, Wieni, Mediahuis, Tree Company
RESEARCH PARTNERS	Mintlab, research group at KU Leuven
RESEARCH GROUPS	IDLab Data Science Lab, imec research group at Ghent University

RHETORiC project partners:

MEDIAHUIS · tree company · textgain · vrt · wieni_ · KU LEUVEN · GHENT UNIVERSITY

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AGENTSCHAP INNOVEREN & ONDERNEMEN · Vlaanderen is ondernemen

WHAT IS AN

IMEC.ICON PROJECT?

The imec.icon research program equals demand-driven, cooperative research. The driving force behind imec.icon projects are multidisciplinary teams of imec researchers, industry partners and/or social-profit organizations. Together, they lay the foundation of digital solutions which find their way into the product portfolios of the participating partners.

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