TRENDIFY

AI-driven trend detection for the distribution of diverse, independent and relevant news content for readers

For journalists and editors who need to produce high-quality news stories, online social media, blogs and other web resources constitute a tremendous potential. They could be a key source of information and opinion, if not for two problems. First of all, the flow of online information is too massive for journalists to digest, creating a problem of information overload. Twitter alone, for instance, produces about 500 million tweets per day. And second, it often requires specialized skills and infrastructure to collect, visualize, analyze, and correctly interpret the massive information stream.

To alleviate these challenges, there is a need for technological innovations that optimize the editorial context, harvesting a maximum amount of valuable information in a minimum of investigation time. Journalists thus need technology that helps them deal with the online information flow, in particular with these three activities. First to identify and interpret growing news trends over time. Second to identify and understand the opinion landscapes for these news trends and to explore new story angles. And third, to unlock trending content for new information and sources.

Current technological approaches for (social) media intelligence and news gathering lack the combination of these three: trend detection, opinion mining, and trending content detection.

FRAMING THE RESEARCH OBJECTIVE

The goal of the Trendify project was to deliver an AI-driven proof-of-concept demonstrator to help journalists write articles with a wide array of contents and opinions. It would do so by automatically mining trends, opinions, and trending content from the flow of online (social) media information.
This modular software demonstrator would include a trend detection engine, an opinion mining engine, a trending content detection engine, and a diversity-by-design method for evaluating content and opinion diversity. Following a human-in-the-loop approach, the demonstrator would assign a central role to the judgment, expertise, and interpretation of editors and journalists, who would be closely involved in its development.

THREE MAIN OUTCOMES

The outcome of the Trendify project are three proof-of-concept engines that ingest and analyze the information flow from a diverse range of online resources, including blogs, news media, social media content and other sources.

The output of the engines – an overview of the current trends, opinions, and trending content – are displayed on a user-friendly interface that helps editors and journalists make decisions and write rich and diverse content-and-opinion articles. The approach of combining these three components is unique and has not yet been seen in any other commercial package.

During the entire Trendify design and implementation, journalists were closely involved in the development of the various proof-of-concept engines and the interface. This allowed them to make suggestions for improvements and further developments, especially in view of meeting current needs of newsrooms and guaranteeing a successful implementation in the journalistic workflow.

NEXT STEPS

The Trendify project allowed the partners to gain deep insights into the expectations of the newsrooms (journalists), especially in terms of trend detection. Roularta, the media partner, will continue to refine the requirements, including its future roadmap for trend detection.

The trend detection engine developed by ML2Grow proves capable of analyzing large amounts of text in multiple languages. It allows for semantic search and hierarchical exploration of topics in the texts. This is proving to be useful in many application domains and will therefore become a key part of ML2Grow's offering in natural language processing.

YesItCan.be will explore the possibility of using the Trendify engine on known disinformation sources monitored by Trendolizer, testing if it is a viable way of detecting trends. This may yet yield an interesting application for further commercialization or in-house use.

For imec – SMIT – VUB, the research has considerably grown the in-house expertise and knowledge on current practices of AI in newsrooms, on opportunities and thresholds for adoption of new technologies in a professional media context, and on diversity-by-design. Further research will build on these insights in projects involving AI and XR in newsrooms for information management purposes, projects analyzing the media's use of AI and the impact on content diversity, as well as in building a tool to increase reader engagement.

FACTS

NAME	**TRENDIFY**
OBJECTIVE	AI-driven trend detection for the distribution of diverse, independent and relevant news content for readers
TECHNOLOGIES USED	topic modelling, opinion mining, audience engagement
TYPE	imec.icon project
DURATION	01/05/2020 – 31/07/2022
PROJECT LEAD	Nick Dutry, Roularta Media Group
RESEARCH LEAD	Olivier Braet, imec – SMIT – VUB
BUDGET	949,240.53 euro
PROJECT PARTNERS	ML2Grow, YesItCan.be, and Roularta Media Group
RESEARCH PARTNERS	VUB – Artificial Intelligence Lab
RESEARCH GROUPS	imec – SMIT – VUB

TRENDIFY project partners:

ML²GROW

Roularta Media Group

YesItCan.be

VUB ARTIFICIAL INTELLIGENCE RESEARCH GROUP

SMIT

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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