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Natural language generation for news automation

Where does the journalist fit in the NLG-pipeline?

“What technology taketh away, technology giveth – only differently, and perhaps even better than before”

This is the hopeful story of computational journalism if we are to believe Anderson, who approaches the topic of algorithmic journalism from a sociological point of view.

Since news automation and NLG enable ways of producing news that a human simply isn't capable of, the computational practices could be regarded as the salvation of journalism. However, Anderson states that this particular salvation is a double-edged sword dependent of various facts, some of them standing outside of journalism itself. This is why Anderson suggests sociologists and anthropologists should research the topic as much as engineers.

Anderson also proposes that the growth of computational practices can be expected to affect journalistic culture as much as journalistic work and the organisational routines.

Anderson also points out that algorithms and such are a hybrid of material and human, composed of human intentionality and material obduracy.

Dörr has looked at the possibilities of NLG to perform functions of professional journalism on a technical level as well as the most relevant service providers in NLG with journalistic orientation.

According to Dörr, the availability of data is the main issue currently, not the technological and linguistic capabilities of NLG.

Dörr argues that despite the fact that NLG is a highly complex process in the field of computational linguistics, algorithms are not able to generate texts without human interference. The introduction of NLG does not eradicate the journalists, although it will lead to shifts within the journalistic roles. Humans – journalists – are still needed in the newsrooms and editorial offices. Algorithms are not created by themselves and there are still plenty of more indirect journalistic roles before, during, and after text production, where human interference is needed.

In his conclusion, Dörr states that publishers are on the one hand seeking to reduce costs and on the other hand looking for new journalistic products and ways to satisfy their audience. According to Dörr, the integration of Algorithmic Journalism into the portfolio of media organisations also indicates a starting institutionalisation of Algorithmic Journalism on an organisational level. As the costs of NLG systems are low compared to human journalists, Algorithmic Journalism can be profitable for special-interest domains in the long tail, and also due to the possibility of generating news in multiple languages reach a broader audience and new markets.

Van Dalen suggests that journalists should accommodate the new development and acknowledge its relevance for the future of the journalistic profession. Van Dalen refers to Neuberger and Nuernbergk and proposes three ways in which this could be done.

First, journalists can acknowledge that newcomers compete with professional journalists, as they fulfil similar tasks and address similar audience needs. Second, the relation between professional journalists and newcomers can be seen as complementary, where each fulfils a different task and thereby supplements the other. Third, new trends can be integrated into mainstream journalistic work, when professional journalists use elements of the new type of journalism to better fulfil their prime tasks.

Van Dalen states that computer-generated news articles may not be able to compete with high-quality journalism provided by major news outlets, but for information which is freely available on the Internet the bar is set relatively low, and automatically generated content can manage the competition.

Van Dalen also points out that human journalists have analytical and creative skills, and personality which allow them to create stories with perspective, in-depth analysis and surprising observations. They have the flexibility and professional training which allows them to cover breaking news stories, do investigative reporting or present behind-the-scene reports. The skills which cannot be captured in algorithms have also always been the characteristics of high-quality journalism.

In a similar way as Anderson, Van Dalen refers to Marjoribanks and argues that social factors and the institutional contexts of media companies and markets, such as the work culture, position of journalism unions or the relations between owners and workers will shape the way this technology will be adapted.

Gynnild presents three propositions, or future visions, of what journalism could look like.

The most critical factor is the professional fostering of news professionals who are intrinsically motivated to explore, contest, and further develop meaningful journalistic approaches within the contexts they are operating.

The second most critical factor is the development of news professionals' ability to think abstractly and work collaboratively to solve problems – with the assistance of high-tech tools.

The third most critical factor is the news professionals' ability to extract complex problems of societal importance from one-time, often catastrophic events that cannot be undone, provide adequate and innovative solutions to these problems, and move on.

The reflections captured from my own data collected from the news agencies STT and TT are mostly supported by the arguments presented above. Both agencies have an interest in news automation, but the lack of resources is the main barrier holding them back. Both have experimented with automation, but the tasks performed by the Toolbox (TT) and Hokkibotti (STT) are very basic and not that sophisticated so far.

My conclusion is that journalists are still needed in the newsrooms, at least for some time. As NLG-systems develop and more news outlets introduce automation to their work processes, the role of journalists will most likely shift away from routine writing tasks into areas which we cannot yet automate. Adapting a computational way of thinking is vital, and although journalists might not have to become programmers or data scientists, it would sure be of use if they possessed an elementary understanding of these fields in order to communicate their professional wants and needs to the software developers and other tech professionals who will most likely gain a more important role in future media companies.

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