Employing Robot Journalists: Legal Implications, Considerations and Recommendations

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ABSTRACT

Algorithmic processes that convert data into narrative news texts allow news rooms to publish stories with limited to no human intervention (Carlson, 2015, p. 416). The new trend creates many opportunities, but also raises significant legal questions. Aside from financial benefits, further refinement could make the smart algorithms capable of writing less standard, maybe even opinion, pieces. The responsible human merely needs to define clear questions about what the algorithm needs to discuss in the article and in what manner. But how does it square with the traditional rules of publishing, editorial control and the privacy and data protection framework?

This paper analyses the legal implications when employing robot journalists. More specifically, the question of authorship for algorithmic output and the liability issues that could arise when the algorithmic output includes unlawful personal data processing as well as inaccurate, harmful or even illegal content will be assessed. The analysis is performed analyzing European legislation on copyright and data protection and applying Belgian legislation on press liability as a consistent country example to support certain legal considerations and conclusions. Furthermore, the paper answers the question as to how publishers could prevent the creation of inaccurate content by the algorithms they use.

Keywords

Robot journalism; legal liability; journalists' ethics

1. INTRODUCTION

The emergence of Artificial Intelligence (AI) and automated decision-making raises increasingly palpable liability concerns. The PageRank algorithm and autocomplete suggestions have already gotten Google into hot water.[1] However, we are merely scratching the surface. Recently, driverless car developers / producers Volvo and Google have already stated that they agree to be held liable for the accidents involving their vehicles. Effectively, the companies agree to bear the consequences for automated decisions beyond their control. With driverless cars around the corner it is time to think about liability for 'writerless' journalism.

Convergent media challenges the traditional division between actors involved in media production chain.[2] The blurred lines often make it difficult to clearly distinguish who is the author, editor and publisher of the content.

This paper focuses on the liability issues arising once newsrooms start using content-creating algorithms to write fully-formed articles based on raw data with limited to no human intervention.

The paper first addresses the concept of robot journalism, the issue of future personalized news stories and the actors in the liability chain. The paper further discusses the authorship of robot journalism. The analysis of copyright law is followed by an analysis of the relevant criminal and civil liability legislation and case law. The problem is analyzed, taking into account European law where appropriate, and using the Belgian liability regime for print publications as a consistent example in areas where European law is not harmonized. Lastly, the paper provides recommendations for editors and publishers to avoid liability for the content created by algorithms in their newsroom, as well as certain explorations with regard to the future of human journalists.

2. ROBOT JOURNALISM

2.1 Newsrooms, they are a changin'

News publishers increasingly experience pressure by their readers to publish content immediately after certain events, especially in a digital context. The expectations of media consumers result in a growing desire of publishers to develop fast content production mechanisms (Bakker, 2012, p. 627). Moreover, the need of human presence in the newsroom is shrinking. Content farms already mine search engine data to precisely calibrate the user's news gathering and produce low-cost content to meet their individual demands and interests (Napoli, 2013, p. 16). Algorithms can further be used to translate data into perfectly tailored news stories, employing traditional vocabulary and syntax (Carlson, 2015, p. 416). Some technologies still need human presence to function, others fully function without human intervention (Bakker, 2012, p. 631). Companies such as Narrative Science and Automated Insights[3] specialise in the algorithmic content creation. Via advanced Natural

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[1] For more information about this topic: Karapapa & Borghi, 2015.

[2] Opportunities and challenges of new media are a topic of the REVEAL research project (EU-FP7) (Official website: http://revealproject.eu/). The legal research in the project focuses on privacy and data protection law, intermediary liability, as well as media law. Automated journalism is one of the focal points of the media law track of the project.

[3] In this paper, we focus on these two companies whenever examples are given.

Language Generation Software, these companies can cater news articles for specific audiences in a very short period of time (Hammond, 2015, p. 35). The software examines all the facts it has access to, filters and structures it in a specific way and eventually maps its ideas into language in a matter of seconds. The algorithm will convert big data regarding e.g. stock prices, sports statistics, and weather reports, into prose that resembles human news stories (Weeks, 2014, p. 69). To date, the most common uses of this software have been in the field of sports and financial reporting, often creating niche content that would not exist otherwise in a narrative structure (such as reports on 'Little League' games). Kris Hammond, CTO of Narrative Science predicted in 2011 that a computer would win a Pulitzer Prize within five years (Beck, 2011). Even though a software winning the prestigious prize this year seems unlikely, the technologies are improving. Once the algorithms are optimized and allow newsrooms using robotic reporters to write and edit less *niche* news stories independently, serious liability consequences could come into play. Noam Latar highlighted that data-mining algorithms often provide news stories with very high statistical significance but that their results can be meaningless, or even lead to falsehoods or inaccuracies. This can be a result of incorrect questions, inconsistent data or incorrect AI procedures. The algorithms do not fully understand human language and its intricacies, *'especially the context of ideas, metaphors, humor and poetry'* (Latar, 2015, p. 76). Therefore, potential issues could be right around the corner.

2.2 Neutrality of algorithms

Even though the basic anatomy of robot journalists will be comparable, the style, tone and editorial criteria that are coded into the algorithms can differ (Diakopoulos, 2014). In other words, software is biased. The content-creating algorithms that Narrative Science and Automated Insights have developed can adjust the tone and structure of the output to the profiles of its readers (Latar, 2015, p. 76). As long as data is available, Narrative Science has already confirmed that its clients '*can get anything, from something that sounds like a breathless financial reporter screaming from a trading floor to a dry sell-side researcher pedantically walking you through it*'.[4] Media personalization techniques and complex algorithms, such as Google's Page Rank algorithm or Twitter's Trends list, are already designed to define every user's profile in order to develop an individualized relationship with them. In the future, robot journalism could create multiple customized versions of a specific news story to better suit the taste, viewpoints or profile of every individual user (Bradshaw, 2015). Personalization of news items could become worrisome once the news stories automatically produced by algorithms are not merely factual but also include some adjustable viewpoints. Luckily, this is not yet the case in practice. However, once news stories would be adjusted for each individual, one's intellectual privacy could be hindered (Richards, 2015). Trapped in a prison, in a prism of light, the idle audience will concentrate its attention on a very niche array of sources, a filter bubble[5] (Pariser, 2011), solely focusing on their very specific needs and interests and containing only like-minded speech.

If citizens do not realize that they are reading a different version of the same news story than their neighbor, even critical citizens will partly lose their freedom of choice.

Additional issues surface when legally assessing these personalised news stories. Personal data of individual users needs to be processed to properly conduct this far-reaching type of profiling. For example, ad networks use tracking techniques, cookie based technologies, and data mining software to establish profiles on individual users. Online advertising systems often further classify data subjects into segments, for example by their marketing categories (examples are 'gardening' or 'cars', etc.). The location of the data subject is further deduced from the IP address of the terminals and WiFi access points (A29WP, 2010).

Along the lines of this example, the personal data processing involved in personalising news stories should be, in the European Union, in line with the European Privacy and Data Protection Framework. More specifically, the provisions in the E-Privacy Directive (ePD) and Data Protection Directive (and in the future the General Data Protection Regulation) should be respected whenever robot journalism involves personal data processing. In order to use the personal data to write the story, the robotic reporter will have to obtain unambiguous consent of the user (Article 5.1 ePD and Article 7 DPD), signifying his agreement to personal data relating to him being processed. Individuals will have a general right not to be subject to solely automated processing of data which evaluates certain personal aspects relating to them (Article 15 DPD). Personal data should further only be collected for specified, explicit and legitimate purposes and not further processed in a way incompatible with those purposes (Article 1 (b) DPD). Every new purpose for processing data, such as personalizing news items, must have its own particular legal basis. The robotic reporter cannot use the personal data that was initially acquired or processed for another purpose, e.g. advertising. Moreover, the recently agreed upon General Data Protection Regulation (GDPR) explicitly grants every natural person the right not to be subject to profiling (Article 20 GDPR).

The neutrality of these algorithms should further be ensured. The content-creating algorithms are constantly refined, to combat the generic nature of their output. The use of metaphors in the Narrative Science algorithm is already confirmed by Kris Hammond of Narrative Science. Real use of metaphors would hover on the edge of the merely factual into more dangerous territories as regards liability. In addition, the use of metaphors is not even necessary to envision potential liability issues. The Narrative Science White Paper shows that companies can use its products to map how a salesperson is doing. They give the following example of what the algorithm would produce automatically:

> *'Dave Schmitt's overall sales performance is up a bit this month. He has been closing smaller deals at a higher than expected rate and still has larger deals in the pipeline. He remains in the middle of the pack in the Southwest Region'* (Narrative Science, 2015, p.8).

This piece of text is merely factual and not defamatory. Yet, it could be less flattering for a salesperson with a lower performance rate. Once similar texts would surface in the newsroom and get published without any human intervention about salespersons or shareholders of a company, the situation could become worrisome if errors creep into the data.

The goal of the next chapter is to assess the responsibilities of the different actors involved in robot journalism.

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[4] J. Morris, COO of Data Explorers, which set up a securities newswire using Narrative Science technology via Levy, 2012.

[5] For more specific research on the concept of the filter bubble: Bakshy, Messing & Adamic, 2015.

3. LIABILITY FOR ROBOT JOURNALISM

3.1 Actors in the liability chain

Before delving into liability for inaccurate or harmful content, we should first clarify that the paper addresses the situation of specific actors involved in robot journalism. The paper distinguishes four actors in the liability chain: (a) the software programmer (or company) who develops the content-creating algorithm, (b) the data source who provides the algorithm with sufficient raw data to translate the data into traditional prose, (c) the editor who works for the publisher, selects the data sources and supervises the work of the automated journalist[6] and (d) the publisher who uses the content-creating algorithm to deliver robot journalism to their readers.

It is important to emphasize that actors (a), (c) and (d) could, in specific circumstances, be the same person. For example, Ken Schwencke, a journalist at the Los Angeles Times, developed a robot journalist called 'Quakebot' that allowed him to produce an article[7] on an earthquake only three minutes after the occurrence of the natural disaster. In this example, the editor and the software developer were the same person.

3.2 Authorship of robot journalism

The first question that arises in the context of this paper concerns the authorship of an algorithmically-produced news story. In Belgium for example, article XI.170 of the Belgian Code of Economic Law states that the natural person who created the work should be considered original owner of authorship rights. The third paragraph of this article further emphasizes that the publisher of an anonymous or pseudonymous work will be considered, with regard to third parties, as the author. So far there has been no case law in Europe determining who should be considered author of algorithmically-produced news articles. The creator of the algorithm enjoys the protection of copyright law on the computer program as such, as long as it is his or her own intellectual creation.[8] When asked about the encountered copyright issues James Kotecki, Head of Communications of Automated Insights, stated that the company owns the software but the client owns the content generated by the software.[9] The company does not claim authorship rights on the algorithmic output. So which natural person (if anyone) is the author of the output of the algorithm?

To benefit from copyright protection in the European tradition, the output of the algorithm has to be original. This means that the output must express an intellectual contribution of the author. The mere display of known themes without the choice of a specific form that shows personality of a natural person is insufficient to achieve copyright protection (E.g. Belgian Court of Cassation, 11 March 2005, *Arr.Cass.* 2005/3, p. 585). A natural person has to express his creativity in an original manner and produce an intellectual creation

by the choice, sequence and combination of words (Infopaq International A/S v. Danske Dagblades Forening, CJEU, 2009, § 45).

In the case of robot journalism, the algorithm is fed with raw data, sometimes automatically during the night (e.g. when a sport match ends in a different time zone), without a responsible human (the editor) being present. The ultimate content it produces in these circumstances is neither an intellectual contribution of the algorithm nor of its creator. It is also not a result of an intellectual contribution of the assigned responsible editor within the newsroom. Once the algorithm is fed with specific data by an editor within the newsroom, the naked facts included in the raw data as such will still not be protected by copyright law in most European countries (Vallés, 2009, p.115). The editor can express his creativity in an original manner, by the choice of the specific data and the questions (Infopaq International A/S v. Danske Dagblades Forening,, 2009, § 45), but the choice of vocabulary and syntax will be left to the algorithm.

Whether the choices made by the editor are sufficiently creative or rather minor is not clear. Two possibilities can however be distilled from the discussed case law: either copyright law does not apply to the merely factual content, or copyright applies and authorship comes to the natural person involved in its creation, i.e. the editor or publisher. In a third possibility, the developer of the algorithm works as a journalist, and in that case, he could become the author of its output.

In the US context, Weeks claims that, as long as there is no specific legislation or case law regarding this topic, the human input necessary for robot journalism will probably control the copyright (Weeks, 2014, p. 92). Bridy agreed with this approach of finding a responsible human and used the U.S. work-made-for-hire doctrine.[10] Application of the doctrine, in our case, means that the editor or publisher is the owner of the property rights of a work they themselves did not write (Bridy, 2012, p. 26).

Lastly, to come back on the earlier mentioned example of Quakebot (cf. *supra* footnote 7), the article on the earthquake stated in its final section that *'This information comes from the USGS Earthquake Notification Service and this post was created by an algorithm written by the author.'* One can assume that if the software programmer and editor are the same person, this person will be author, and therefore also liable, for the algorithmic output.

In the following section of the paper the assumption is that either the editor is author (when this actor's creative input was sufficiently original), or copyright law is not applicable to the algorithmic output and responsibility shifts to the editor or publisher. The paper analyzes the liability regime for these two actors.

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[6] For the liability chain, it seems appropriate to refer to this actor as the 'editor'. He/she can encounter liability issues, for example when (s)he starts combining data sources in a specific way to get less generic, more interesting outputs from the algorithm.

[7] This is the article: *A shallow magnitude 4.7 earthquake was reported Monday morning five miles from Westwood, California, according to the U.S. Geological Survey. The temblor occurred at 6:25 a.m. Pacific time at a depth of 5.0 miles.*

According to the USGS, the epicenter was six miles from Beverly Hills, California, seven miles from Universal City, California, seven miles from Santa Monica, California and 348 miles from

Sacramento, California. In the past ten days, there have been no earthquakes magnitude 3.0 and greater centered nearby.

This information comes from the USGS Earthquake Notification Service and this post was created by an algorithm written by the author. (Source*: Oremus, 2014).

[8] Article 1.3 Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs.

[9] E-mail correspondence of 19 August 2015.

[10] Under this doctrine, the employer or other person for whom the work was prepared is considered the author (17 U.S.C. § 201(b) (2011)).

3.3 Criminal liability for defamatory statements

Once content is not only factual, an author, publisher, printer or distributor can be held liable for his or her personal fault if he or she carries any responsibility for the content of the publication, for example if the publisher did not assign a human journalist to fact-check the algorithm's findings, or if the editor fed the algorithm with very biased data. A news outlet who would consider using content-creating algorithms to write more *humanesque* pieces will have to rethink the role of its human editors, to assure that a fact check of the automatically produced articles occurs before publication.[11]

To take the Belgian example again: anyone, including a journalist, can become criminally liable for his defamatory allegations if that person *'maliciously charges another person with certain allegations, that defame him and expose him to public contempt, and which cannot be proven* (Article 443 of the Belgian Penal Code). Errors in the used raw data, maybe together with bold wordings and use of metaphors, could lead to defamatory allegations and criminal liability for the software developer, data source, editor and publisher. According to Ghatnekar in her analysis of the Google autocomplete search suggestions, Google should be considered liable for this feature, '*once it directs users to searches that may be defamatory in nature, based on an algorithm it produces'* (Ghatnekar, 2013, p. 202). In Australia, Yahoo! and Google were both convicted as a publisher for defamatory autocomplete suggestions because the companies knew of a complaint of defamation, and did not remove the offending material within a reasonable time (Milorad Trkulja v. Google Inc. LLC & Google Australia PTY Ltd., 2012). In a similar vein, publishers and editors should be worried about potential liability for algorithmic news output once the algorithm, due to errors in the data or sources, produces non-factual, defamatory articles.

In general, criminal liability will often still remain a long shot for the defamed individual. In the specific case of robot journalism, in order to charge a person with a criminal action, the claimant will have to prove that the algorithm was written with, or the editor/publisher had, the malicious intention to damage (Besien, 2013; Weeks, 2014, p. 81). The claimant will have difficulties providing supporting evidence of the malicious intent. As a result, most cases regarding defamation by journalists will be brought before civil courts, based on the civil liability regime.

3.4 Civil liability for damaging statements

The occurrence of a fault of a data source, an editor and/or a publisher for robot journalism depends on the role these actors played in the spreading of the article. One could imagine circumstances where the raw data that is fed into the algorithm is inaccurate, false or contains sensitive information that needs anonymization, and the editor or publisher has not sufficiently checked the accuracy of this data. In these cases, the data source, editor and publisher could be accused of negligence. Publishers have editorial control over the information that is posted (in e.g. its newspapers), and will therefore be held liable if negligence is shown in its relaying of the information to the public (Ghatnekar, 2013, p. 185), since such misconduct can lead to damages.

In most European countries, a person can become liable for his or her act, or by his or her negligence or abstention. Damaging a

person's reputation can also arise when the responsible actor omitted his duty of prudence and monitoring. Assuming that the developer of an algorithm cannot be held liable for all its output, the editor and/or publisher will be the responsible actors for the algorithm's prose. The courts will judge *in concreto* whether or not there is a fault which was the cause of the damage. To assess whether or not the defendant caused damage in a factual news story, the research and fact-checking of the journalist are taken into account. In case of robot journalism, the responsible actor will have to prove that the damage was not caused by their fault. Lastly, the damage can be moral or material. In cases where harm is done to someone's reputation and good name, the nature of the damage will often be moral.

It is interesting that Ethical Codes for Journalists often highlight truthfulness and fact-checking as key responsibilities of journalists. For example, the Press Council of Belgium emphasized that every journalist should act prudent and reserved when considering the mentioning of persons involved in criminal or civil court proceedings by their full name. Furthermore, the depiction of data in an article that touches upon a person's private life, cannot unnecessarily provoke a sphere of insinuation and suspicion.

We can conclude that the editor has to act like any normal and prudent journalist would have acted in similar factual circumstances. He or she needs to strive for truthfulness, check the data or facts in every way possible and thus avoid spreading rumors without verifying the information. Each journalist has to refrain from launching serious accusations, by for example feeding the algorithm with manipulated or biased data, without sufficiently checking their accuracy. However, the editor only has to perform this obligation to the best of his/her abilities. Specifically with regard to robot journalism regarding court proceedings, the editor has to check whether the article align with his/her specific duties of reservation, discretion, objectivity and impartiality, to not infringe upon the presumption of innocence of the defendant or suspect.

Lastly, it should be emphasized that if there is a problem on the level of the algorithm itself and clean, checked data still leads to inaccurate output, the developer of the algorithm is liable under the same general civil liability regime for his fault, which caused the damage.

4. EDITOR AND PUBLISHER'S DUTIES

After analyzing the legal framework, it seems appropriate to list certain ethical duties of editors and publishers employing robot journalists.

Transparency - Informing the readers of the specificities and functioning of content-creating algorithms will be crucial. To ensure reader trust and to show prudence as a publisher with regard to the problems that could arise when using content-creating algorithms, the publisher should first and foremost make it transparent which items were written by a human journalist and which were written by a smart algorithm (Diakopoulos, 2014). Clerwall collected descriptors of credibility and quality (such as believable, fair, accurate, patriotic, objective, boring, lively, important, creative…) to assess the differences according to users between journalistic and automated content. He came to the conclusion that the users did not experience significant differences between the story written by the journalist and the one written by software (Clerwall, 2014).[12] The research showed that transparency

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[11] A. Webb quoted in Egan, 2015.

[12] He found one difference in experience: they enjoyed reading the content written by the human journalist much more than the content written by his robotic counterpart.

is very important, as the audience will not distinguish the automated from human content themselves.

Fact-checking - Moreover, transparency guidelines should not be limited to an acknowledgment of the robotic nature of certain news stories. An equal level of verification of sources could be expected from publishers for automated pieces of journalism, compared to source-verification of human-written pieces (Weeks, 2014, p. 84). The readers should have information on how the raw data is chosen, which reasoning was employed while choosing the data, how the data was checked, whether personal data of the readers is being processed, how credibility and objectivity of the used sources is ensured (Clerwall, 2014, pp. 521-522), who made the initial algorithm and which values he or she embedded into the technology and for which reasons (Young & Hermida, 2015, p. 384). It could also be made clear for example to interested readers in which ways the style, tone and values of the algorithm producing crime stories differs from the one producing output related to sport events. As a final note on this aspect, it should be highlighted that the difficulties of human fact checking are increasingly being mitigated by scalable computational fact-checking methods employed to combat the spread of harmful misinformation (Ciampaglia, 2015) Research in the area aims to formulate practical fact-checking tasks - reverse-engineering vague claims, and countering questionable claims—as computational problems (Wu, 2014). Information on the computational techniques and their uses by publishers should equally be available for the interested readers.

Ethical and prudent conduct - The Ethical codes and guidelines for journalists should be defined and respected for algorithmic output. Otherwise, as Latar fears,*'[t]he economic temptation to assign a human name to a robot story can be expected to grow'* (Latar, 2015, p. 76). According to the ethical code for journalists of the Belgian Press Council, the journalist should only publish information of which the source is known. The journalist should further check the truthfulness and accuracy of the information and make the distinction between facts, assumptions, claims and opinions transparent towards his/her public.

To show prudence, a notice-and-take-down system could be considered by publishers using content-creating algorithms. Readers could then flag the inaccurate or biased nature of (certain parts of) the automated piece. The establishment of such a system is expected from internet intermediaries that perform hosting services under the E-Commerce Directive, i.e. solely store information provided by a recipient of the service and at its request. The regime does not apply to traditional publishers and it will not serve as a sole protection against illegal (or incorrect) content. Nevertheless, we still recommend to install such a notification system as an additional precautionary measure.

5. WHAT ABOUT THE HUMAN JOURNALIST AND PLURALISM?

As a last societal issue, some voices worry that wholly automated articles will lose a sense of complexity, originality, authenticity and emotionality that only a human can express. An article written by an algorithm will never intentionally contain new ideas or viewpoints. And this generic nature is arguably one of the downsides of robot journalism when ensuring a diverse media landscape. The media play a crucial role in a representative democracy, characterized by its culture of dissent and argument. Generic news stories do not invigorate this culture.

Still, evolving to a media landscape which uses algorithms to write portions of a non-generic story should be embraced. However, there is a caveat: these pieces should be edited by human journalists or publishers and supplemented by parts written by the human reporters themselves, to combat a sole focus on quantitative content diversity, i.e. a merely numerical assessment of diversity, without taking quality into account.

Moreover, certain authors fear the possibility of human journalists simply losing their jobs or seeing their jobs change to the role of an editor of algorithmic output. Carlson even highlights the predictions of certain technology analysts, who foresee that '*recent developments in computing may mean that some white-collar jobs are more vulnerable to technological change than those of manual workers. Even highly skilled professions, such as law, may not be immune*'.

Indeed, these are possible risks. Still, one should not overestimate the negative side effects and lapse into doom scenarios. People will remain interested in qualitative content. Furthermore, the proliferation and popularity of user-generated (journalistic) content and citizen investigative journalism websites (e.g. Bellingcat) has shown that there is interesting new content emerging, albeit in a less traditional sense. We should remain hopeful that the attractive vision of reporters using technology to enhance the quality of their news stories will have a positive impact on media diversity and pluralism.

6. CONCLUSION

In general, the creation and use of content-creating algorithms in newsrooms to write merely factual (parts of) stories, to reallocate the resources of publishers and more efficiently allocate the time of human journalists is highly welcomed. To avoid liability, the human responsible for the algorithm has to act prudent and ensure that the raw data that is fed into the algorithm does not contain biases, inaccuracies or falsehoods.

However, there is an important caveat. On October 20, 2015, Automated Insights issued an official press release announcing the launch of the beta version of their patented Wordsmith engine to put the power of data-driven writing in everyone's hands. '*Now, users don't need coding or data science experience to create personalized stories, articles and reports directly from their data. Professionals in finance, e-commerce, real estate, media, marketing, and many other industries can generate thousands of articles in the time it usually takes to write just one'*.[13] Once these algorithms become more advanced, a well-defined legal framework should be established. The framework should address the challenges that the content-creating algorithms could bring. Moreover, the legislator will first have to identify the distinctive characteristics of robot journalism which trigger the need for a change in the existing framework.

Until the conception of this framework, the actors that regularly use content-creating algorithms have a strong responsibility to protect their readers against any inaccurate, harmful or even illegal material, by clearly communicating information on these techniques to its readers and by doing so, improve trust in its services. Certain companies, such as Volvo and Google, have already preliminary proclaimed full liability for accidents involving

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[13]DOI :http://www.prweb.com/releases/2015/10/prweb13029986. htm.

its driverless cars. Software programmers and publishers developing and using content-creating algorithms should be aware that a similar acknowledgement of responsibility could be expected from them.

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