

APPLICATION OF ARTIFICIAL INTELLIGENCE IN MEDIA REPORTING: ROBOT JOURNALISM

Biljana Ratković Njegovan¹
ORCID ID: 0000-0002-6317-1929

Petar Njaradi²

Mladen Bulut³

Summary: This paper examines the development of computer technologies as a form of artificial intelligence and their implementation in modern journalism. In academic and professional literature, there is no consensus on the terminology used to describe this phenomenon; expressions such as robot journalism, algorithmic journalism, automated journalism, and computer-assisted journalism are used interchangeably. Computer programs have become an essential tool not only in the stages of collecting and processing information but also in writing news, creating various types of content, and distributing them. A relatively new phenomenon is the use of computer programs to generate automated texts, messages written not through human intellect, but through artificial intelligence (AI). The paper analyzes contemporary trends, the typology of solutions, and the key challenges in the application of AI in software companies that develop tools for the media industry. Special attention is devoted to the development of real-time audience analytics, automated content distribution, and editorial AI systems, as well as to the ethical and organizational implications that shape the transformation of newsroom practices and the media ecosystem as a whole. The topic is discussed from three perspectives: the development and definition of robot or automated journalism; the application of artificial intelligence in software companies that design tools for the media; and the specific role of editors-in-chief in the environment of automated journalism.

Key words: *artificial intelligence, media, robot journalism, software tools, media editors*

¹ Prof. dr Biljana Ratković Njegovan, Društvo novinara Vojvodine (DNV), Novi Sad, Serbia
e-mail: biljananj@neobee.net.

² Petar Njaradi, Radio-televizija Vojvodine, Novi Sad, Serbia; e-mail: petarnjaradi@gmail.com.

³ Mladen Bulut, Društvo novinara Vojvodine (DNV), Novi Sad, Serbia
e-mail: dnvojudinemab@gmail.com.

ПРИМЕНА ВЕШТАЧКЕ ИНТЕЛИГЕНЦИЈЕ У МЕДИЈСКОМ ИЗВЕШТАВАЊУ: РОБОТСКО НОВИНАРСТВО

Резиме: У раду се разматра питање развоја рачунарских технологија као облика вештачке интелигенције и њихове имплементације у модерно новинарство. У научној и стручној литератури није постигнута сагласност о називу овог феномена, него се подједнако користе синтагме, као што је роботско новинарство, новинарство са алгоритмима, аутоматизовано и компјутерско новинарство. Рачунарски програми постају неопходан алат како у фази прикупљања и обраде информација, тако и у фази писања вести, стварања различитих врста садржаја и њихове дистрибуције. Релативно новом појавом може се сматрати употреба рачунарских програма за генерисање аутоматизованих текстова, односно порука које се пишу не уз помоћ људског ума, већ уз помоћ вештачке интелигенције (AI). Анализирани су савремени трендови, типологија решења и кључни изазови у примени AI у софтверским компанијама које развијају алате за медијску индустрију. Посебан акценат стављен је на развој аналитике публике у реалном времену, аутоматизоване дистрибуције садржаја и уредничких AI система, као и на етичке и организационе импликације које обликују трансформацију редакцијских пракси и медијског екосистема у целини. Тема је дискутована са три аспекта, а то су: развој и дефинисање роботског, тј. аутоматизованог новинарства, примена вештачке интелигенције у софтверским компанијама које развијају алате за медије и спесифичности положаја главних уредника у окружењу аутоматизованог новинарства.

Кључне речи: *вештачка интелигенција, медији, роботско новинарство, софтверски алати, медијски уредници.*

INTRODUCTION

Artificial Intelligence (AI) is transforming many aspects of communication and journalism, as automated processes are being introduced into every area of traditional journalistic practice: content creation, media research, content production, and distribution. Traditional human roles in these fields are increasingly being replaced by automated processes and robots. The battle for agility in the era of high-speed internet and the overwhelming flow of information has taken

on new forms, with robots rapidly entering the arena of journalistic competition for audiences (Todorović, 2020: 5). In this context, the paper analyzes three aspects of robotic or automated journalism: its origins and development within the framework of the concept of “social physics” and the resulting changes in forms of human communication due to the massive flow of information; current trends and practices in the application of artificial intelligence in software companies that develop tools for media; and finally, the rise of AI and automation in media content production, as well as the question of how journalists and editors who make publishing decisions can remain relevant in this evolving landscape.

Technological innovations and the processes of real-time information dissemination are transforming the way original journalistic texts are created. In recent years, journalists working in leading global media outlets have increasingly collaborated with programmers, and this seemingly unexpected partnership has produced tangible results in newsrooms. As early as 2014, Latar (2015: 68) observed that in the era of big data, extracting knowledge from vast data repositories through artificial intelligence algorithms has become fundamental for the further development of society. He notes that new scientific parameters are emerging, rooted in the ideas of Thomas Hobbes (Robertson, 1911), Henri de Saint-Simon (Iggers, 1959), and Auguste Comte (1856), known collectively as “social physics”. In modern usage, “social physics” refers to the application of big data and the automatic analysis of billions of micro-social interactions that continuously occur through mobile devices across all spheres of human activity, much like studying atoms in physics. Building on the ideas of classical sociologists and their interpretations of “social physics”, Alex Pentland (2014), in his book *Social Physics: How Good Ideas Spread – The Lessons from a New Science*, describes “social physics” as a new field of research and a quantitative social science that establishes reliable mathematical relationships between the flow of information and ideas on one side, and human behavior on the other. What distinguishes this new paradigm is the extensive use of data characterized by the so-called three Vs of Big Data: large volume, high velocity of creation and processing, and great variety of formats, making digital data now accessible in nearly every aspect of human life (Pentland, 2014).

With the emergence of this new field of “social physics”, artificial intelligence algorithms began to be used in creating media content capable of converting facts into readable stories within seconds – with essential assistance from linguistics and natural language processing (Latar, 2015). Latar identifies these developments as the foundational conditions for the birth of robot journalism, built on two pillars: (1) computer software that automatically acquires new knowledge from massive datasets using the “social physics” concept, and (2) algorithms that

transform this knowledge into media reports without human intervention. He optimistically predicts that using robot journalists will lead to significant reductions in labor costs, fewer factual errors, the absence of subjectivity and personal bias, and importantly, the elimination of fatigue. However, a key role will be played by data managers, who create “data silos” for their respective media organizations or departments, and by software engineers who control the AI-driven narrative. A further step would be the construction of holistic data structures, i.e., the integration of isolated data silos into real-time information systems, enabling comprehensive access to data and improved communication between organizational units (Badman, Kosinski, n.d.).

Traditional journalistic approaches, through intensive, often risky, and costly investigative reporting, aim to uncover new facts and social trends and, through narrative talent, experience, values, creativity, and intuition, turn these into stories for the audience. In parallel with the emergence of “social physics”, storytelling has evolved into a scientific endeavor that uses artificial intelligence algorithms grounded in linguistics and natural language studies. These algorithms (AI software) can now convert facts into coherent stories in the shortest possible time. Latar (2015) explains the rise of robot journalism as based on two main foundations: (a) Computer software that automatically extracts new knowledge from vast data repositories using the concept of “social physics”, and algorithms that turn this knowledge into news content without human involvement. Properly programmed, robot journalists can work with verified facts, never tire, and are free from personal bias – thus significantly reducing production costs. (b) Data managers within media organizations and software engineers specializing in narrative intelligence may become key resources in newsrooms. However, due to the reduced need for human labor and associated costs, this trend also threatens the positions and professional roles of journalists and editors. This issue will be examined in more detail in the third section of this paper.

ROBOT JOURNALISM

Traditional journalistic approaches – through intensive, often risky, and costly investigative reporting – aim to uncover new facts and can be defined as a combination of algorithms, data, and social science knowledge that complements journalism’s accountability function. Robotic, algorithmic, or automated reporting involves the production of news articles through computer programs. In essence, it is the application of artificial intelligence (AI) within journalistic practice. Thanks to AI software, news articles are automatically generated by computers rather than by human journalists (University of Pécs, n.d.).

In the literature, there are various conceptualizations of robot journalism. Monti (2019), for example, uses terms such as automated journalism, algorithmic journalism, and news-writing bots. Linden (2017) describes it as software algorithms capable of generating news stories directly from structured data without human intervention. Copeland (2024), drawing on the general idea of artificial intelligence, defines it as the ability of a digital computer or a computer-controlled robot to perform tasks normally associated with intelligent beings.

Some opposition to these definitions comes from Wölker and Powell (2018), who argue that although the term “robot journalism” is dominant in media and academic circles, it is not entirely accurate. They claim that a broader and more appropriate term would be automated journalism, since it relies on computer algorithms that, unlike robots, are not machines with “mechanical power”. From this perspective, automated journalism represents the autonomous production of journalistic content through computational algorithms. This system is increasingly present in newsrooms, enabling the production of numerous articles quickly and inexpensively.

At first glance, the terminological distinction may appear significant in deeper, more technical analyses, but for the purposes of this paper, the terms will be used interchangeably. After all, even Wölker and Powell (2018) emphasize that the most important issue is how the media audience – readers above all – perceive journalistic automation in terms of the credibility of published information, which they are often unable to verify on their own. To empirically test this issue, the authors conducted a study on a sample of 300 European readers (N=300) to examine their perceptions of different forms of automated journalism, i.e., texts written by robots, in terms of message and source credibility. The results showed that perceptions of credibility for human-written, automated, and hybrid content were largely similar. Moreover, respondents perceived sports articles produced by robots as *more credible* than those written by human journalists. Previous studies (Clerwall, 2014; Graefe et al., 2016; Van Der Kaa, Kraemer, 2014) confirmed these findings, showing no significant differences between automated, hybrid, and human journalism in terms of source credibility, while only minor differences were observed in message credibility (for example, in sports reporting). A notable example of automated journalism is the article published in the *Los Angeles Times* in 2014, which was written by a robot journalist. With some confidence, one can conclude that the report was correctly written, including all the essential elements of the journalistic genre. The news stated: “An earthquake has been strongly felt near Los Angeles, California, rattling nerves but causing no major damage, injury or deaths. The 4.4-magnitude quake struck 9 km (5.6 miles) from the Los Angeles neighbourhood of Westwood. It hit at 06:25 local time (13:25 GMT),

US officials said. It was the strongest earthquake in Los Angeles since the last aftershocks from the 1994 Northridge quake, a government scientist said. Dr Lucy Jones of the US Geological Survey (USGS) told the local CBS broadcaster there was a 5% chance another strong quake would strike within the next three days". We assume that the reader of the aforementioned news will agree with our statement that the aforementioned article can withstand any editorial review.

Optimists view automated journalism and the use of computer algorithms programmed to generate news articles as an opportunity to enhance newsroom efficiency. Content can be produced faster, in multiple languages, in greater quantities, and with fewer errors and biases, while also helping to identify fake news (Graefe, 2016; Graefe et al., 2016). Moreover, journalists could focus on in-depth or investigative reporting, while routine tasks are handled by algorithms. In this way, media outlets could provide a wide range of news content at minimal cost (Van Dalen, 2012).

Pessimists, on the other hand, predict job losses as journalists are replaced by their "non-human" counterparts (Graefe et al., 2016; Latar, 2015). Concerns are also raised about the style of automated texts, which may appear mechanical, cold, and uninventive, lacking the capacity to identify underlying causes of events or to pose additional questions that would illuminate issues from multiple angles (Graefe, 2016). Strömbäck (2005) questions whether robots can serve as gatekeepers, a concept originating from social psychologist Kurt Lewin (1947), responsible for controlling and selecting information, let alone assessing the influence or "effects" of media messages. Latar (2015: 79) is even more direct, asserting that robot journalists can never "become guardians of democracy and human rights", which he identifies as one of journalism's most fundamental roles.

Overall, the use of robots in text production also has limitations. They are most effective in fields requiring the processing of large datasets, such as sports, economics, and statistics, allowing journalists to save time. Another advantage is their speed and accuracy, which enables human professionals to focus on analytical and interpretive work that demands intellectual resources. These tools are also increasingly being adopted by news agencies specializing in data-heavy topics. However, while intelligent software can be useful for generating sports reports, financial analyses, or economic summaries, it cannot identify deeper causal relationships, formulate conclusions, or generate generalizations. Furthermore, its development is time-consuming and expensive, which means that only large media organizations and agencies can afford such software (Višnovský et al., 2019: 171).

Nevertheless, despite its limitations, the potential of robot journalism should also be viewed through the lens of its opportunities. Contemporary authors (Ojoma Ola-Akuma et al., 2025) describe automated journalism as a driver of a po-

tential “media revolution”. Guided by utilitarian principles, they argue that robot journalism has a relative advantage, as it surpasses traditional newsroom conventions in terms of speed, ultra-precision, and fairness. This implies the integration of robot journalism based on the theory of diffusion of innovations, with a long-term reallocation of journalists from routine daily reporting to investigative and analytical journalism that delivers in-depth and well-argued stories, aligned with the needs and interests of an increasingly demanding media audience.

To elaborate further on this topic, the following section of the paper examines the application of artificial intelligence in creating, improving, and maximizing the technical capacities and tools used to produce media content designed for automated journalism.

APPLICATION OF ARTIFICIAL INTELLIGENCE IN SOFTWARE COMPANIES DEVELOPING MEDIA TOOLS: CURRENT TRENDS, PRACTICES, AND CHALLENGES

Over the past decade, AI has evolved from a concept confined to research laboratories into a set of practical tools that are reshaping entire industries (McKinsey & Company, 2023). The media industry is among the sectors most acutely affected by these changes, as audiences today expect personalized information, rapid delivery, and high-quality content available across multiple platforms – from websites and mobile applications to social media and newsletters as key forms of digital communication.

Software companies developing tools for media organizations have identified vast potential for AI applications: from audience behavior analytics, content optimization, and distribution, to editorial decision support and automated content creation (WAN-IFRA, 2024). These technologies form part of a broader ecosystem connecting journalism, technology, and the economics of media.

In addition to commercial vendors such as Smartocto, Chartbeat, Parse.ly, and Echobox, major global technology initiatives like the Google News Initiative play an important role, as do individual newsrooms that are developing internal AI systems. For example, *The New York Times* has created an in-house AI-assisted platform for content summarization and planning, while BBC and *Reuters* are building hybrid operational models in which AI provides supportive, but not decision-making functions (The Verge, 2025; Reuters, 2025).

Accordingly, the aim of this section is to present the key trends and practices in the development and application of AI tools in the media sector and to identify the ethical and organizational challenges that shape this ongoing process of transformation.

REAL-TIME ANALYTICS AND AUDIENCE INSIGHTS

Modern newsrooms are increasingly making decisions based on real-time data. Chartbeat (2024) is one of the pioneers in this field, as its tools enable editors to monitor the number of active readers, average engagement time, bounce rates, and other key performance indicators. Based on this information, an editorial team can decide to modify a headline, move an article to a more prominent position, or redistribute it at an optimal moment.

Parse.ly (2024) takes this a step further by offering detailed analytics on traffic sources, such as search engines, social media, and newsletters. Their 2024 reports reveal how changes in Google's algorithms and the introduction of AI Overviews have contributed to a decline in organic traffic, forcing many newsrooms to adjust their SEO strategies and shift their focus from raw click counts to cultivating a loyal audience (Parse.ly, 2024).

AUTOMATED DISTRIBUTION AND OPTIMIZATION

Content distribution no longer depends only on the editor's intuition. The company Echobox, for example, uses AI to automatically plan when and where texts will be published, choosing optimal times and channels based on already known audience behavior. Internal research of this company has shown that this approach can increase audience engagement by up to thirty percent (Echobox, 2024). For smaller newsrooms that don't have dedicated teams in charge of digital marketing, this type of automation is often key in boosting competitiveness.

Smartocto is an example of a European company that focuses on editorial analytics and the "AI-as-a-coach" concept. Their tools do not replace editors, but provide them with data, recommendations and alerts that help them make strategic decisions. The system, for example, may signal that the text is doing well on social networks, but loses the readers' attention after the third paragraph, which gives the editor an opportunity to intervene and adjust the content (Smartocto, 2024).

INDUSTRY INITIATIVES AND STANDARDIZATION

The Google News Initiative offers a range of AI tools for smaller newsrooms – from the Pinpoint search tool, which enables quick document searches, to analytics dashboards for monitoring audience engagement and loyalty (Google News Initiative, 2024). WAN-IFRA (World Association of News Publishers) is a global association of publishers that promotes innovation and standardization in the media through reports, research, and educational programs. INMA (International News Media Association) is an international network of media professionals focused on digital transformation and the exchange of best practices among

newsrooms. Through projects such as Newsroom AI Catalyst, WAN-IFRA and INMA help disseminate these practices via workshops and industry reports (WAN-IFRA, 2024). These organizations act as a bridge between technological innovations and smaller, local media outlets (Table 1).

Table 1: Comparative overview of three leading newsroom analytics platforms

Feature	Smartocto	Chartbeat	Parse.ly
System type	Actionable analytics + user needs	Real-time attention metrics	Content intelligence
Recommendations	Yes – editorial notifications and suggestions	Limited	Limited
Predictive layer	Yes	No	Partial
XAI (transparency)	High	Low	Medium
Typical users	Public and regional newsrooms	Large newsrooms	Digital commercial media
Snag / Strengths	Integration of analytics and action	Speed and clarity	In-depth analytics
Limitations	Requires training and integration	No predictions	Weak real-time performance

Source: Author, according to publicly available documentation and relevant sources (Cherubini, Nielsen, 2016; Gerlitz, Helmond, 2023; Nechushtai, Lewis, 2019; Smartocto, 2025; Chartbeat, 2025; Parse.ly, 2025).

INDUSTRY INITIATIVES AND STANDARDIZATION

Large newsrooms often experiment with AI technologies first and set industry standards. For example, *The New York Times* uses AI to summarize articles and assist journalists in preparing material, but has clearly limited the use of artificial intelligence in news writing (The Verge, 2025). Reuters employs generative AI for language translations and drafts of short news items, with mandatory transparency (Reuters, 2025).

The public media service BBC has developed detailed internal rules for AI, emphasizing the preservation of editorial control (BBC, 2024), while *The Independent* uses AI to create briefings (data systems), which are then reviewed and refined by editors, exemplifying the “AI assists, humans decide” model (Financial Times, 2024).

ORGANIZATIONAL AND PRODUCTIVITY IMPLICATIONS

AI technologies also impact the internal organization of software companies. The greatest effects are achieved when AI is integrated across the entire development workflow – from planning and coding, through automated testing, to documentation and deployment. McKinsey (2023) estimates that such an approach could generate a global economic impact of between \$2.6 and \$4.4 billion annually. In practice, this translates into faster product development, improved software stability, and a competitive advantage for companies serving the media industry.

Research by GitHub (2023) and Bain & Company (2024) has shown that AI assistants like Copilot can reduce task completion time and increase developer productivity, but the most significant effects occur when AI is used systematically rather than for isolated tasks (GitHub, 2023).

TRUST, REGULATION, AND ETHICS

Audience trust is a key factor for the success of AI in media. Research by the Reuters Institute (2025) shows that younger audiences are more receptive to AI tools, while older audiences exhibit some skepticism toward AI-generated news. For this reason, leading media organizations set clear rules: AI must not make editorial decisions, audiences must be informed about AI's role, and human oversight is mandatory (Reuters Institute, 2025). EBU, UNESCO, and WAN-IFRA are developing ethical frameworks that are becoming industry standards (EBU, 2025; UNESCO, 2024).

In general, for software companies, successful AI integration means moving from isolated functions to comprehensive strategies. This involves connecting the entire cycle, which includes planning, creation, analytics, distribution, feedback, algorithm explainability, and clearly defined usage boundaries. Small and medium-sized newsrooms should be included through training and collaborative projects (INMA, 2024). A particular challenge is involving local media in this transformation through accessible tools and standardized ethical practices.

In conclusion, software companies that develop AI tools today play a key role in transforming how information is produced and distributed. AI is not a replacement for journalists but a tool that expands their capabilities, allowing them to focus on content quality and audience engagement. Future development depends on three factors: technological innovation, ethical responsibility, and the ability to integrate AI into workflows. Companies that successfully balance these three elements will shape the future of media.

THE ROLE OF THE EDITOR-IN-CHIEF IN THE CONTEXT OF JOURNALISM AUTOMATION AND ROBOTIZATION

Unlike journalists, whose survival has been significantly threatened by AI, the position of the editor-in-chief remains unshaken and unquestioned. The editor has always been, and continues to be, an almost inviolable figure in the journalistic profession. No longer merely a journalist of exceptional skills and knowledge, who, with unquestionable moral authority, had the first and final word, the editor now generally conceives, coordinates, and is responsible for the quality of published content (Đurić, 2001). Today, the editor acts as a person temporarily endowed with delegated powers and entrusted responsibilities across a wide range of tasks, not only in content production technology but primarily in management.

By merging responsibilities under the common title of editor-in-chief, these duties have become decisive, not so much because of an innate sense of rational and efficient newsroom organization, the initial source of ideas and information, or guidance in supporting the creativity of colleagues, and first protection of their free and unhindered work, but because of the ability to adapt to newly emerging needs and, most often, a so-called managerial commitment to prolong the life of a media outlet, which, by unwritten rule, relies on demonstrated political loyalty or a choice "imposed from outside".

Substantial sums and behind-the-scenes maneuvering are at play, aimed at ensuring that those who once acquired media cheaply (and which still operate "on a shoestring", with minimal salaries for journalists) bring the expected profits to new media owners.

Above all, the editorial position is now exclusively interpreted and considered an extension of the media owner and the trustee of their investments. As the main executor, the editor dictates and implements editorial policy, which, in informing the wider public about socio-political issues and the work of public officials, takes stances aligned with the political orientation of the owner, embedding in virtually all editorial content more or less recognizable ideological or partisan positions.

Although the editor's role is not primarily journalistic, being placed at the top, with all honors and privileges, the editor is first and foremost accountable to the media owners for the business operations of the outlet. If business can be defined as financial access to economic processes, i.e., a way in which profit is the primary goal, then the editor's main interest is not the broader community but profitability. In other words, journalism ethics and business ethics are entirely different, and problems arise when the two are confused.

During the so-called purge of state influence from the media (allegedly under the EU's ultimate demand), led by the so-called Media Coalition, almost all media were left to fend for themselves in an unequal market, exposed to the preferences

and whims of private owners – domestic tycoons and foreign funds – who, through neglect, impoverishment, and decline in content quality, along with politically biased publications, actively undermined established professional journalistic standards, justifying their actions on market-driven, i.e., lucrative grounds.

In the turbulent Serbian media system, recent attempts and frequent changes, including the adoption of new strategic, legal, and regulatory acts intended to align it with European legislation, have largely failed to yield the expected results. This is because the prevailing belief in Serbia that sound legal solutions exist has been seriously undermined by actual practice, which, under established market conditions, did not recognize or adopt them as a binding and achievable obligation.

Journalistic independence is universally considered a prerequisite for overall media freedom, but it is also an indisputable truth that independence cannot be purchased with state or foreign funding. Nor can autonomous survival be secured through someone else's freedom.

Amid the ensuing chaos, editors, whether chief, responsible, or section editors, by dutifully accepting their assigned duties, have played an ignoble role in deepening the divide among loyal and other journalistic associations, becoming principal actors in the enduring rift among journalists divided by affiliation to one group or another. Furthermore, the advent of AI, much "older" than its introduction into journalism, has further reinforced the pre-existing division into so-called dependent and independent, or regime-aligned and anti-regime, media.

Thus, despite all anticipated and emerging changes that AI introduces or may trigger in the journalistic profession, and despite assumptions and uncertainties regarding the significant alteration of journalistic tasks and essence, the position of the editor-in-chief remains inviolable. Even when media content is created through (mis)use of AI, neither journalists nor editors are relieved of the obligation of due journalistic diligence prescribed by the Code of Journalists of Serbia (2015).

CONCLUSION

Artificial intelligence, or robotic journalism, has already entered media organizations. Wealthier news companies have been using, for years, expensive robot journalists, and AI tools and services have become part of newsroom workflows. Increasingly agile software companies are developing a rich portfolio of media technologies based on automated journalism in areas such as audience behavior analytics, content optimization and distribution, editorial decision support, and content creation. The question, however, is whether journalists should be concerned about potential threats from AI. Answers to this question vary, but one point is clear: although AI tools may not “steal” a journalist’s job, they can significantly transform it. As Claudia Quinonez (Eidosmedia, 2022), managing editor for news automation at Bloomberg News, notes, this is not about automating people in their workplaces, but about automating the less enjoyable tasks with a high degree of precision. In this sense, Charlie Beckett (Eidosmedia, 2022) emphasizes the development of “artificial literacy” so that journalists and editors can better understand how data, algorithms, and programming contribute to the creation of news stories and ultimately shape our lives. Is this a threat or an opportunity for journalists, given that authenticity, critical evaluation, fact-checking, direct presence at events, and personally gathering statements from sources remain essential for reporting the truth? Gundel Henke (2025), an AI expert, for example, believes that AI-based technologies have great potential, but also areas where their application can be problematic. For instance, AI-generated texts cannot fully understand context, that is, the social or cultural circumstances in which an event or action occurs. Furthermore, automated journalistic tools cannot consider journalistic ethics or make ethical decisions. They also lack intuition, and therefore flexibility in nuance and storytelling. Finally, there is the question of what data a robot journalist possesses, and whether it may contain information that promotes biases or various forms of discrimination. We assume it can, but this requires further research. We are convinced that AI, however inevitable in modern journalism, will be limited to “background” tasks, while journalists will continue to play the creative role as direct producers of news, as will editors-in-chief, as long as they are responsible for the quality and credibility of published content and the application of professional and moral standards. Therefore, we optimistically predict that AI will be seen as a complement to journalistic/human intelligence, rather than its competitor, especially in the service of defending truth as the leading journalistic ideal. Without disputing the evident advantages of AI as an extremely useful tool, particularly in preparing analytical texts, journalistic tasks that remain

least susceptible to automation depend on reciprocal, two-way interactions with sources or personal presence at events, which are not devoid of authorship, critical commentary, representation of the other side, and investigative effort. This is an irreplaceable and still indispensable contribution to journalism. Supporting this view, we refer to the reassuring argument by Ivancsics and Hansen (2019) that no external force, even one called AI, will be able to shape journalism against the will of journalists.

REFERENCES

1. Auguste, C. (1856). *Social Physics: From the Positive Philosophy*. New York: Blanchard, C.
2. Badman, A., Kosinski, M. (n. d.). What are data silos? IBM Think. Available at: <https://www.ibm.com/think/topics/data-silos>. Accessed: September 15, 2025.
3. Chartbeat. (2024). *Global audience insights from the fourth quarter of 2024*. Available at: <https://chartbeat.com/resources/research/global-audience-insights-from-the-fourth-quarter-of-2024> Accessed: August 10, 2025.
4. Cherubini, F., Nielsen, R. K. (2016). *Editorial analytics: How news media are developing and using audience data and metrics*. Reuters Institute for the Study of Journalism. Oxford: University of Oxford. Available at: <https://reutersinstitute.politics.ox.ac.uk/our-research/editorial-analytics-how-news-media-are-developing-and-using-audience-data-and-metrics> Accessed: August 10, 2025.
5. Chui, M., Hazan, E., Roberts, R., Singla, A., Smaje, K., Sukharevsky, A., Yee, L., Zimmel, R. (2023). *The economic potential of generative AI: The next productivity frontier*. McKinsey & Company. Available at: <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier> Accessed: August 10, 2025.
6. Clerwal, I. C. (2014). Enter the robot journalist: Users' Perceptions of Automated Content. *Journalism Practice*, 8(5), 519–531. Available at: <https://doi.org/10.1080/17512786.2014.883116>. Accessed: August 10, 2025.
7. Copeland, B. J. (2024). *Artificial Intelligence. A Philosophical Introduction*. Encyclopedia Britannica – eBook-ePub.
8. Cvejić, B. (2024). Upotreba veštačke inteligencije u kreiranju medijskog sadržaja u Srbiji [The use of artificial intelligence in the creation of media content in Serbia]. *Politički život : časopis za analizu politike*, Vol. 2024, No. 27, Article 5, 79–93. DOI:10.18485/fpn_pz.2024.27.5.

9. Ђурић, Д. (2001). *Професија новинар [Profession journalist]*. Београд: Новинско-информативни центар „Војска“.
10. Echobox. (2024). *Echobox social: Automation*. Available at: <https://www.echobox.com/social-automation> Accessed: August 10, 2025.
11. Eidosmedia. (2022). *Robot Journalism: Should Journalists Fear AI in the Newsroom?* Available at: <https://www.eidosmedia.com/updater/technology/Robot-Journalism>.
12. European Broadcasting Union – EBU. (2025). *Leading newsrooms in the age of generative AI*. Available at: https://www.ebu.ch/files/live/sites/ebu/files/Publications/Reports/open/EBU_News_report_2025_Leading%20Newsrooms_AI.pdf. Accessed: August 10, 2025.
13. Einav, G. (2015). *The New World of Transitioned Media: Digital Realignment and Industry Transformation*. Cham: Springer. DOI:10.1007/978-3-319-09009-2
14. FinancialTimes – FT. (2024). *Financial Times launches first generative AI tool for subscribers*. Available at: https://aboutus.ft.com/press_release/financial-times-launches-first-generative-ai-tool?utm_source=chatgpt.com. Accessed: August 10, 2025.
15. Henke, G. (2025). *Pasta-Gate: The Dangers and Limitations of Artificial Intelligence in Journalism*. Available at: <https://www.purplepublish.com/en/blog/gefahren-und-limitationen-ki-im-journalismus> Accessed: August 10, 2025.
16. GitHub. (2023). *The impact of GitHub Copilot on developer productivity: From a software engineering body of knowledge perspective*. GitHub. Available at: https://www.researchgate.net/publication/381609417_The_impact_of_GitHub_Copilot_on_developer_productivity_from_a_software_engineering_body_of_knowledge_perspective Accessed: August 10, 2025.
17. Google News Initiative. (2024). *News tools for publishers*. Google. Available at: <https://news-initiative.withgoogle.com/resources/trainings/news-tools> Accessed: August 10, 2025.
18. Graefe, A. (2016). *Guide to Automated Journalism*. Lisbon: Tow Center for Digital Journalism.
19. Graefe, A., Haim, M. (2016). *Human or computer? Whose stories do readers prefer?* Available at: <http://en.ejo.ch/digital-news/human-computer-stories-readers-prefer> Accessed: August 10, 2025.
20. Graefe, A., Haim, M., Haarmann, B., Brosius, H.-B. (2016). *Perception of Automated Computer-Generated News: Credibility, Expertise, and Readability*. *Journalism*, 19(5), 595–610. DOI:10.1177/1464884916641269.
21. Hamilton, J. T., Turner, F. (2009). *Accountability through Algorithm: Developing the Field of Computational Journalism – A report from Developing the Field of Computational Journalism*, Center for Advanced Study in the Behavioral Sciences Summer Workshop. Stanford: Calif.

22. Ivancsics, B., Hansen, M. (2019). Actually, it's about Ethics, AI, and Journalism: Reporting on and with Computation and Data. *Columbia Journalism Review*, November 21, 2019. Available at: https://www.cjr.org/tow_center_reports/ai-ethics-journalism-and-computation-ibm-new-york-times.php. Accessed: August 10, 2025.
23. Kahn, E. (2025). *BBC sets protocol for generative AI content*. AI Media News. Available at: https://www.broadcastnow.co.uk/production-and-post/bbc-sets-protocol-for-generative-ai-content/5200816.article?utm_source=chatgpt.com. Accessed: August 10, 2025.
24. Latar, N. L. (2015). The Robot Journalist in the Age of Social Physics: The End of Human Journalism?. In: Einav, G. (eds) *The New World of Transitioned Media. The Economics of Information, Communication, and Entertainment* (pp. 65–80). Springer, Cham. Available at: https://doi.org/10.1007/978-3-319-09009-2_6. Accessed: August 10, 2025.
25. Lewin, K. (1947). Frontiers in group dynamics: II. Channels of group life, social planning, and action research. *Human Relations*, 1(2), 143–153.
26. Linden C. G. (2017). Decades of automation in the newsroom: Why are there still so many jobs in journalism? *Digital Journalism*, 5(2), 123–140. DOI: 10.1080/21670811.2016.1160791.
27. Monti, M. (2019). Automated journalism and freedom of information: Ethical and juridical problems related to AI in the press field. *Opinio Juris in Comparatione*, 1(1)/2018. Available at: <https://ssrn.com/abstract=3318460>. Accessed: August 10, 2025.
28. Ojoma Ola-Akuma, R., Onyemечи Okocha, D., Melchizedec, J., Onobe, Okujeni, R. (2025). Robot Journalism Revolution and Adoption: Dynamics and Dilemmas Related to Artificial Intelligence in the Press Field. *Journal of Media, Communication & Languages*. 9(1), 10–23.
29. Pentland, A. (2014). Social Physics: How Good Ideas Spread – The Lessons from a New Science. *Journal of Information Privacy and Security*, 12(4), 1–3. DOI:10.1080/15536548.2016.1243849.
30. Iggers, G. G. (1959). Further Remarks about Early Uses of the Term “Social Science”. *Journal of the History of Ideas*, 20 (3), 433–436. DOI:10.2307/2708121
31. International News Media Association – INMA. (2024). *AI in newsrooms: Catalyst program report*. Available at: <https://www.inma.org/report-detail.cfm?pubid=222> Accessed: August 10, 2025.
32. Parse.ly. (2024). *Content analytics made easy: 2024 insights report*. Available at: <https://www.parse.ly/resources/insights> Accessed: August 10, 2025.
33. Robertson, G. C. (1911). „Hobbes, Thomas” . *Encyclopædia Britannica*, Vol. 13 (11th ed.), 545–552.

34. Reuters Institute for the Study of Journalism. (2025). *Digital news report 2025*. University of Oxford. Available at: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2025-06/Digital_News-Report_2025.pdf. Accessed: August 10, 2025.
35. Savet za štampu. (2015). *Kodeks novinara Srbije, uputstva i smernice [Code of Ethics of Serbian journalists, instructions and guidelines]*. Beograd; Savet za štampu.
36. Schulz, C. (2024, February 20). *Iterative AI solution development and evaluation for human-in-the-loop writing tools at Reuters* [PDF]. WAN-IFRA. Available at: https://cdn.wan-ifra.org/wp-content/uploads/2024/06/27185106/10-Claudia-Schulz_AI-solution-development-and-evaluation-for-human-in-the-loop-writing-tools-20250220.pdf. Accessed: August 10, 2025.
37. Smartocto. (2024). *Our 8 rules for ethics in AI and journalism*. Smartocto. Available at: <https://smartocto.com/blog/rules-ethics-ai-journalism>. Accessed: August 10, 2025.
38. Strömbäck, J. (2005). In search of a standard: Four models of democracy and their normative implications for journalism. *Journalism Studies*, 6(3), 331–345. Available at: <https://doi.org/10.1080/14616700500131950>. Accessed: August 10, 2025.
39. The Verge. (2025, February 17). *The New York Times adopts AI tools in the newsroom*. The Verge. Available at: <https://www.theverge.com/news/613989/new-york-times-internal-ai-tools-echo> Accessed: August 10, 2025.
40. Todorović, A. L. (2020). *Medijske industrije [Media industries]*. Beograd: Clío.
41. University of Pécs. (n.d.). Robot journalism. Newsreel. Available at: https://newsreel.pte.hu/glossary/robot_journalism. Accessed: September 10, 2025.
42. Van Dalen A (2012) The algorithms behind the headlines: How machine-written news redefines the core skills of human journalists. *Journalism Practice*, 6(5–6), 648–658.
43. Van Der Kaa, H., Krahmer, E. (2014) Journalist versus news consumer: The perceived credibility of machine written news. In: *Proceedings from the computation journalism conference*. New York. Available at: https://pure.uvt.nl/ws/files/4314960/cj2014_session4_paper2.pdf. Accessed: 11 July 2017.
44. Višnovský, J., Ungerová, M., Kubíková, K. (2019). Robo-Journalism and Its Implementation in Editorial Practice. *NORDSCI*, Paper presented at the NORDSCI International Conference (Athens, Greece, Aug 19, 2019). Available at: <https://files.eric.ed.gov/fulltext/ED603467.pdf>. Accessed: August 10, 2025.
45. WAN-IFRA. (2024). *WAN-IFRA publishes 5th report on AI*. World Association of News Publishers. Available at: <https://wan-ifra.org/2024/05/wan-ifra-publishes-5th-report-on-ai>
46. Van Der Kaa, H., Krahmer, E. (2014) Journalist versus news consumer: The perceived credibility of machine written news. In: *Proceedings from the computation journalism*

- conference. Accessed: August 10, 2025.
47. WAN-IFRA. (2024a, May 17). *WAN-IFRA publishes 5th report on AI*. WAN-IFRA. Available at: <https://wan-ifra.org/2024/05/wan-ifra-publishes-5th-report-on-ai>. Accessed: August 10, 2025.
48. WAN-IFRA. (2024b, June 10). *WAN-IFRA's fifth AI report: 10 use cases*. WAN-IFRA. Available at: <https://wan-ifra.org/insight/wan-ifras-fifth-ai-report-10-use-cases>. Accessed: August 10, 2025.
49. Wiik, J. (2023). Artificial Intelligence in Journalism and Journalistic Practice. In: M. Jaakkola (Ed.), *A Handbook for Journalism Educators: Reporting on Artificial Intelligence* (pp. 4–106). UNESCO.
50. Wölker, A., Powell, T. E. (2018). Algorithms in the newsroom? News readers perceived credibility and selection of automated journalism. *Journalism*, 22(14):146488491875707. DOI:10.1177/1464884918757072.

Cite – APA Style:

Ratković Njegovan, B., Njaradi, P., Bulut, M. (2025). Application of Artificial Intelligence in Media Reporting: Robot Journalism. In: B. Sančanin & A. Penjišević (Eds.), *Zbornik radova VII međunarodne naučne konferencije Veštačka inteligencija u kreiranju medijskih sadržaja* (pp. 475-792). Sremski Karlovci: Centar za kulturu, edukaciju i medije; Istočno Sarajevo–Sokolac: Visoka škola za uslužni biznis.

Рад је примљен: 8. октобра 2025.

Received: October 8, 2025

Прихваћен за објављивање: 11. октобра 2025.

Accepted: October 11, 2025

CIP - Каталогизација у публикацији
Библиотеке Матице српске, Нови Сад

316.774:004.8(082)

**МЕЂУНАРОДНА научна конференција «Вештачка
интелигенција у креирању медијских садржаја: од изазова до
стварности» (7 ; 2025 ; Сремски Карловци)**

Зборник радова / Седма међународна научна конференција
«Вештачка интелигенција у креирању медијских садржаја: од
изазова до стварности», Сремски Карловци, 25. октобар 2025.
; [уредници Бранислав Санчанин, Александра Пењишевић].
- Сремски Карловци : Центар за културу, едукацију и медије
«Академац», 2025 (Београд : 3Д+). - 492 стр. : илустр. ; 25 cm
Радови на срп. и енгл. језику. - Тираж 250. - Библиографија уз
сваки рад.

ISBN 978-86-81866-09-2

а) Вештачка интелигенција -- Медији -- Зборници

COBISS.SR-ID 178226185