

AOE OPTIMIZATION AND ETHICAL CHALLENGES OF STYLE AUTOMATION IN JOURNALISM

Milena Šović¹
ORCID ID: 0009-0009-5774-5672

Summary: It is essential to understand the concept of AOE (AI-oriented optimization) in the context of contemporary journalism. Such understanding enables journalists to take a critical stance toward algorithmic mechanisms, recognise manipulation risks, and make informed decisions that safeguard audience interests. This study examines the impact of AOE optimization on modern journalism, with attention to the ethical and social challenges of style automation, dual-layer encoding of texts, and topic narrowing. The research analyses how writing for algorithms shapes media content, influences cultural and linguistic nuances, and affects the media's critical capacity. AOE practices risk creating uniformity of expression, marginalising minority or critical topics, and reducing transparency to the audience. This raises questions about the boundary between optimization for visibility and manipulation, and underscores the need for new ethical codes and professional standards to protect the audience and maintain content quality. AOE is presented not only as a technological tool but as a phenomenon that directly impacts media culture, public discourse, and democratic processes. The study stresses the necessity of critical awareness and ethical responsibility in integrating AI systems into journalism and highlights the importance of ensuring that the media remain a space of diversity, creativity, and informed discourse.

Keywords: *AOE, journalism, style automation, topic narrowing, ethical challenges, algorithms*

¹ Milena Šović, Faculty of Economics and Engineering Management "FIMEK" Novi Sad, Serbia; e-mail: milena.sovich@gmail.com

АОЕ ОПТИМИЗАЦИЈА И ЕТИЧКИ ИЗАЗОВИ РОБОТИЗАЦИЈЕ СТИЛА У НОВИНАРСТВУ

Резиме: Неопходно је разумети концепт АОЕ (оптимизација усмерена на вештачку интелигенцију) у контексту савременог новинарства. Такво разумевање омогућава новинарима да заузму критички став према алгоритамским механизмима, препознају ризике од манипулације и доносе информисане одлуке којима се штите интереси публике. У студији се испитује утицај АОЕ оптимизације на модерно новинарство, са посебним освртом на етичке и друштвене изазове који се јављају у вези са аутоматизацијом стила, двослојним кодирањем текстова и сужењем тематског опсега. У истраживању се анализира на који начин писање прилагођено алгоритмима обликује медијски садржај, утиче на културне и језичке нијансе и ограничава критички капацитет медија. Употреба АОЕ носи ризик од уједначавања начина писања, маргинализације мањинских или критички оријентисаних тема и смањења информисаности публике. Наведено отвара питања о граници између оптимизације ради видљивости и манипулације и наглашава потребу за новим етичким кодексима и професионалним стандардима који би штитили публику и очували квалитет садржаја.

Кључне речи: *АОЕ, новинарство, аутоматизација стила, сужавање теме, етички изазови, алгоритми*

1. INTRODUCTION

In the contemporary media ecosystem, the emergence of AI-oriented content optimization (AOE) signifies a substantial shift in the production, dissemination, and reception of journalistic content. AOE represents a novel approach to text optimization, specifically tailored to artificial intelligence algorithms capable of processing, analyzing, and summarizing vast quantities of information at high speed. A fundamental reorientation of the purpose of text creation is initiated by AOE, which is distinct from traditional journalistic writing. The latter is primarily directed at human audiences with the objective of conveying information in an accessible, engaging, and contextually meaningful manner. In this paradigm, algorithms and AI systems, rather than human readers, become the primary "audience." Content is designed to be efficiently interpreted, indexed, and integrated within complex algorithmic information flows (Chilbule et al., 2025). This shift has far-reaching implications for the way news is written, structured, and prioritized,

affecting editorial decisions and the selection of topics, sources, and narrative frameworks.

In comparison with conventional search engine optimization (SEO) techniques, which chiefly sought to augment visibility on platforms such as Google through the strategic employment of keywords, metadata, hyperlinks, and other SEO tactics, AOE embodies a qualitatively distinct form of optimization. In this context, the objective transcends the mere pursuit of enhanced search engine ranking or augmented online reach. Instead, it entails the meticulous structuring of content to enable effective summarization, cross-referencing, and reuse by large language models (LLMs) and other AI-driven information systems. This transformation engenders novel pressures on journalists, who must now navigate the dual imperatives of maintaining professional standards and creating content that satisfies algorithmic criteria (Hollanek et al., 2025). Consequently, editorial choices may increasingly favor topics, phrasing, and structures that are machine-readable, potentially at the expense of linguistic richness, stylistic nuance, or critical depth. This evolution gives rise to a series of pressing ethical questions regarding the balance between technological efficiency and the informational needs of human audiences. The study underscores the potential discord between optimizing content for visibility in algorithmically curated environments and preserving the quality, diversity, and reliability of information, which are central to the journalistic mission of informing, educating, and empowering the public.

2. RESEARCH METHODOLOGY

This paper takes an analytical and critical approach, synthesizing relevant literature from the fields of media, communications, and the application of artificial intelligence (AI) in journalism. The primary research method is a detailed analysis of academic papers, professional articles, and reports that address topics such as AI-oriented optimization, the automation of journalistic content, the impact of algorithms and LLMs on language and style, the homogenization of media expression, and ethical dilemmas in digital journalism. There is a special emphasis on theoretical frameworks concerning the normative principles of professional journalism and ethical standards in reporting. This allows us to understand the complex interaction between technological processes and the professional responsibility of journalists. This analysis identifies key trends and potential conflicts between the demands of algorithmic optimization and the principles of objective,

ethically grounded reporting. It provides a foundation for further theoretical reflection on the consequences of AOE on the media landscape.

Using a comparative approach, this paper examines the differences between traditional journalism and content optimization practices for algorithmic systems. It focuses on style, thematic diversity, and professional responsibility. This analysis reveals how algorithmic rules can shape journalistic expression, potentially reducing creativity and standardizing content while raising questions about the erosion of ethical principles and public trust. Based on this analysis, the paper highlights the implications for future standards and regulations. It explores strategies that could balance the technical demands of optimization with the preservation of quality, diversity, and the critical function of the media. The paper also underscores the need to redefine professional and ethical guidelines in an era dominated by AI technologies in journalism.

3. AOE AND DUAL CODING IN JOURNALISM

In the context of AI-oriented content optimization, the phenomenon of dual coding emerges. This refers to the practice of a single text operating on two parallel layers of communication. The first layer is visible to the reading audience and is written in conventional journalistic language. The second layer remains hidden within the code, in the form of metadata, tags, structural elements and other machine-readable formats. This duality enables the same content to serve different functions simultaneously: one layer communicates with humans, while the other is designed for large language models and systems for automatic indexing and summarisation.

Within the paradigm of dual coding in journalism, two predominant forms of this practice can be identified, differing in terms of ethical and legal significance. The initial form pertains to the illicit manipulation of content, wherein a journalist or editor consciously adjusts a text, presenting it to the audience with the intention of conveying a specific message while concealing additional layers of information, such as metadata or HTML tags, that may contain divergent or irrelevant data, potentially leading to misleading or misinterpreted content. This practice constitutes deception and may be subject to legal or regulatory sanctions (depending on jurisdiction), as it knowingly misleads readers, undermines media integrity, and violates principles of transparency and truthful reporting. In practice, search engines such as Google penalize such websites by reducing their visibility in search results or entirely removing their links, thereby limiting their reach.

The second form of dual coding is regarded as ethically problematic, although it does not typically constitute a legal violation in most countries. This phenomenon occurs when the same event or fact is presented in different forms or styles, with one version optimized for algorithms and the other intended for human readers. This practice is problematic because it affects objectivity (the emphasis and details differ between the versions), can selectively present information (one version is richer in detail, while the other is more superficial), and the audience is generally unaware that they are receiving a “filtered” or “tailored” variant. Although not inherently illicit, under certain circumstances, these practices may give rise to regulatory or legal concerns, particularly if they result in consumer deception or violations of media regulations. In contrast to the initial form, search engines generally do not detect this type of practice, resulting in the content remaining visible while the ethical implications persist. Consequently, scholars and media ethicists frequently categorize this practice as extremely unethical, as it erodes public trust and undermines the credibility of the journalistic profession.

This practice opens the possibility of content manipulation, whereby media products may convey different messages to human readers and AI systems. Certain themes or emphases may be deliberately ‘hidden’ in the visible text, while algorithms receive an optimized or additional version that influences ranking, visibility or integration into aggregated information flows. This level of control over content undermines journalistic integrity because media outlets are no longer merely intermediaries between reality and the public; they are also active participants in shaping algorithmic decisions.

The ethical implications of this approach are complex. First and foremost, transparency is compromised, as readers cannot tell what content is intended for them and what is intended for algorithms. This directly affects trust in the media as institutions that provide reliable, unbiased information (Gutiérrez-Caneda, Lindén & Vázquez-Herrero, 2024). Additionally, dual coding may lead to content homogenisation, as algorithms reward certain formats and themes over the substantive quality of reporting. In this sense, journalism risks losing its essential role of mediating between reality and the public in a critical and informative way, which poses a serious challenge to ethical and professional standards in the digital media sphere.

4. ROBOTIZATION OF JOURNALISTIC STYL IN THE CONTEXT OF AOE

In the context of AI-oriented content optimization, a phenomenon can be observed that may be described as the ‘robotization’ of journalistic style. Machines and algorithms that process texts cannot recognise stylistic devices, humour, satire or metaphors – elements that traditionally enrich human communication and contribute to its complexity. Consequently, these elements become ‘invisible’ to algorithms and are increasingly marginalised in the content optimization process.

Today, journalists are under increasing pressure to simplify their writing and adopt formulaic, almost mechanical structures. To ensure that text can be “read” by machines, reporters are encouraged to eliminate complex syntactic forms, stylistic richness, and rhetorical devices that traditionally add depth to communication. Instead of nuanced expression, emphasis is placed on retaining only a piece’s core informational value. While this makes content more accessible to algorithms, it results in a homogenization of expression, causing variability, originality, and creative experimentation to gradually disappear. This shift narrows the stylistic range of journalism and risks turning diverse, engaging reporting into predictable, monotonous prose.

One of the most far-reaching consequences of the robotization of journalistic style is the gradual disappearance of cultural and linguistic nuances. Language that once conveyed subtle markers of identity, humor, or local specificity is stripped down to its most basic, functional form. Elements such as irony, sarcasm, and wordplay, which often serve as vehicles for cultural commentary, are invisible to algorithms and are consequently abandoned by writers. Over time, this trend could result in a media landscape filled with technically correct yet aesthetically impoverished texts. What remains are statements that convey information without resonance or atmosphere and facts without a sense of cultural belonging.

The systematic pressure to adapt language for machines has profound implications for creativity and the richness of media expression. Journalism has long been more than a conveyor belt for information; it is traditionally a space where art, culture, and critique intersect (Lamprou, Dekoulou & Kalliris, 2025). When texts lose their stylistic vibrancy, they cease to move readers emotionally or intellectually, and reading itself becomes a sterile experience. Audiences are offered content that is precise and perhaps even efficient but lacking the qualities that sustain engagement and trust. Thus, the quality of information deteriorates alongside the erosion of journalism’s cultural and democratic function.

Beyond the stylistic dimension, applying AOE creates profound ethical and professional dilemmas. When content is primarily tailored for algorithmic systems rather than human audiences, journalists face a dual responsibility: meeting the technical requirements of machines while safeguarding their professional integrity and credibility. This dual imperative can result in compromised objectivity, selective framing of issues, and neglect of factual precision. The newsroom becomes a place where economic and algorithmic pressures overshadow journalistic ethics, putting reporters in conflict with their professional duty and the demands of visibility.

The widespread use of AOE contributes to the standardization of media content. Prioritizing quantitative measures such as the number of clicks, shares, and algorithmic rankings inevitably leads to a decline in qualitative standards. Journalists become intermediaries within an ecosystem governed by algorithms rather than professional ethics. This restricts their ability to critically engage with social and political issues. Over time, this weakens professional creativity and redefines responsible reporting. Ultimately, the danger is that journalism becomes a tool for reinforcing algorithmic preferences rather than serving the public interest. This has the potential to subtly shape and manipulate public opinion in ways that escape notice.

Transparency, a cornerstone of professional journalism, is particularly endangered in this process. When texts are optimized for machines, readers often cannot discern which parts of an article were written to inform them directly and which were designed to satisfy algorithmic protocols. This lack of clarity opens the door to invisible forms of manipulation that erode trust in media institutions. As the public loses confidence in the integrity of reporting, journalism's legitimacy as an independent mediator between reality and society is threatened (García de Torres et al., 2025).

If algorithms favour certain formats, topics or narratives, media outlets may adjust their content to meet these criteria, whether consciously or unconsciously, even when it is not in the public interest. The ethical challenges posed by AOE are therefore systemic, affecting the entire media ecosystem, including how information circulates, which messages dominate and how public perception is shaped. This highlights the need to redefine ethical guidelines in digital journalism, implementing mechanisms that balance the technical demands of algorithmic optimization with the principles of professional, transparent and responsible reporting.

5. THEMATIC NARROWING AND FAVOURING OF DOMINANT NARRATIVES

The application of algorithmic optimization in journalism has profound implications for the thematic scope of media content, as it tends to favor narratives and viewpoints that are already prevalent in the digital sphere. Algorithmic systems operate on the principle of frequency: the more a topic circulates online, the greater its visibility becomes (Gogo & Kaso, 2025). This mechanism produces a structural bias that prioritizes mainstream narratives, while systematically neglecting content that addresses less prominent or less commercially attractive issues. As a consequence, the diversity of journalistic production is progressively reduced, limiting the public's exposure to a wider range of perspectives and voices.

Journalists, under the pressure of algorithmic visibility, are increasingly compelled to orient their work toward "visible" topics that promise higher reach and engagement. To secure their position within a competitive media environment, many professionals adapt by following already established trends instead of engaging in independent research or uncovering marginalized themes. This adaptive behavior, although understandable within the logic of digital media markets, results in the erosion of the investigative role of journalism (Ansari, Zhang, Tripto & Lee, 2025). The focus on algorithmically rewarding subjects diminishes the likelihood of addressing socially significant but less algorithmically attractive issues, such as minority rights, local community struggles, or systemic institutional shortcomings.

Such developments lead to the marginalisation of minority, local or critical topics, which often fall outside the scope of algorithmic interest. Questions that fail to resonate with algorithms, such as the protection of minority groups, structural social inequalities or regionally specific problems, are increasingly rendered invisible. This invisibility is not only an editorial choice, but also the result of systemic exclusion caused by the interaction between algorithmic criteria and media market pressures. The result is a narrower public discourse and a loss of journalistic pluralism, both of which are essential to the democratic function of the media.

The consequences of this process extend far beyond individual editorial policies. Privileging dominant narratives risks undermining the critical capacity of the media as a whole (Zhaxylykbayeva et al., 2025). By aligning themselves with dominant narratives, media outlets shift from being mechanisms of accountability to amplifiers of pre-existing ideas. In this transformation, journalism's watchdog role is diminished, as is its ability to scrutinise power, challenge dominant ideologies and introduce alternative perspectives. Ultimately, algorithm-driven thematic narrowing redefines the role of the media in society, threatening the quality of public debate and the integrity of democratic processes.

6. SOCIAL, ECONOMIC, AND ETHICAL IMPLICATIONS OF AOE PRACTICES

Implementing AOE in journalism has numerous social and economic implications that will transform the way media organizations operate. From an economic perspective, newsrooms will increasingly encourage journalists to adapt their content for algorithms, since visibility on digital platforms has become essential for profitability and expansion. Rather than prioritising journalistic quality and ethical standards, the focus shifts to algorithmic recognisability, gradually eroding the profession's autonomy (Nedeljković & Krstić, 2025). Decisions about what will be visible and what will be marginalised will no longer be made by journalists or editors, but by algorithms controlled by the technology companies that dominate search engines and AI-based systems.

This process also entails significant social risks. If journalism becomes dependent on algorithmic criteria, the media landscape may become uniform and deprived of diverse perspectives. Journalism's critical capacity would weaken, while public debate would be reduced to amplifying already dominant narratives. Consequently, society would lose the opportunity for a genuine exchange of ideas and the introduction of new interpretations, which would directly undermine democratic processes and narrow the scope for public oversight of power. In such a context, the media cease to fulfil their traditional role as the 'fourth estate' and instead become mere mediators of an algorithmically constructed reality (Estrella & Garde Cano, 2025).

As well as having economic and social consequences, AOE also raises serious ethical challenges. The greatest concern relates to the boundary between optimization and manipulation. While the technical adaptation of content to improve visibility may be legitimate and inevitable in a digital environment, creating a dual code – one visible to readers and another intended for algorithms, opens the door to covert manipulative strategies (Simon, 2024). Currently, there are no clear standards in this area, which places journalists in an ethically ambiguous position, caught between their professional responsibilities and the economic demands of the newsroom.

To mitigate these challenges, new ethical codes must be developed that specifically address the particularities of AOE practices. Existing journalistic codes were established at a time when such technologies did not exist, meaning they fail to anticipate the risks of algorithmic optimization. New codes must emphasise transparency and accountability as key principles to ensure that readers are aware of whether and to what extent content has been adapted for algorithms (Yuan,

Shi & Li, 2024). Additionally, regulatory bodies, professional media associations and educational institutions must play an active role in establishing standards that protect the public from manipulation and safeguard the quality of journalistic work. Only through systemic and professional action can the technological demands of the algorithmic era be balanced with the traditional values of journalism as a public good.

CONCLUSION

The integration of artificial intelligence in journalism constitutes more than a mere technological challenge; rather, it represents a profound ethical and social issue that strikes at the very core of the profession. The implications of AOE extend far beyond mere technical optimization, thereby calling into question the fundamental purpose of journalism as a public service committed to informing, educating, and empowering society. In the contemporary media landscape, there is a growing concern that media organizations may evolve into entities governed by algorithms, with a primary focus on machine-readability and optimization metrics rather than on human understanding, context, and engagement. This shift poses a significant threat to the role of journalism as a mediator between reality and the public. It undermines the capacity of journalism to foster critical reflection, encourage civic participation, and maintain spaces for diverse and pluralistic discourse. If the prevailing tendency to prioritize algorithmic optimization persists, the fundamental mission of journalism – to furnish precise, verified information, to nurture critical thinking, and to safeguard the diversity of ideas, may undergo substantial erosion. Journalists could increasingly become instruments of algorithmic output, their editorial decisions constrained by visibility metrics, engagement scores, and the preferences embedded within AI models, rather than by professional judgment and ethical standards. Such a transformation poses a significant risk of producing a homogenized media landscape, where content becomes uniform, emotionally sterile, and more susceptible to manipulation or inadvertent bias. The central question, therefore, is how journalism can retain its essential role as a space for critique, diversity, and human creativity in an era dominated by AI search engines and large language models. Addressing this challenge necessitates the development of robust ethical frameworks, the implementation of regulatory mechanisms, and comprehensive educational strategies that enable

journalists to navigate algorithmic pressures without compromising core professional values. It is imperative for media organizations to leverage technological tools to enhance, rather than diminish, the quality of journalism. By doing so, they can safeguard their role as public institutions that serve society's informational and democratic needs. The implementation AOE in the field of journalism is a subject that warrants close examination due to the profound implications it engenders. This integration of technology and journalism gives rise to a multifaceted environment that is both transformative and laden with considerable challenges. At the crux of this landscape is the intersection of technological efficiency and fundamental ethical and professional concerns. While AI-oriented content optimization offers unprecedented opportunities for streamlining information processing and enhancing distribution, it simultaneously introduces risks that threaten the very essence of journalism, its role as a critical intermediary between reality and the public. The potential homogenization of content, the prioritization of algorithmic metrics over editorial judgment, and the erosion of stylistic and thematic diversity underscore the urgent need for a recalibration of journalistic practices. Preserving journalism as a space for critical inquiry, cultural expression, and pluralistic debate necessitates the establishment of new ethical standards, regulatory frameworks, and educational initiatives. These initiatives must equip journalists to navigate the algorithmic environment without compromising their core professional values. The future of journalism in the AI era will ultimately be contingent on the capacity of media institutions to leverage technological innovation in a manner that fosters public trust, maintains informational quality, and upholds the democratic function of the press. This will ensure that AI serves as a tool to enhance rather than diminish the societal role of journalism.

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