From "Media" to "Intelligent Media": The Impact of Artificial Intelligence Technology on Journalism (Postprint)

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Abstract

As epochs cycle and information advances, transformative novelties emerge incessantly. Artificial intelligence denotes intelligent machines fabricated by humans, harnessing big data technologies and sensors to effectuate information collection; employing algorithmic recommendation techniques to realize personalized distribution that accommodates heterogeneous audience segments; and applying VR and AR technologies to elevate users' immersive experiences, attaining telepresence that contemporaneously alters occupational patterns and lifestyle customs. This mechanized language and its audience-sensing capabilities, within the journalistic domain, introduce a profound transformation in information conveyance.

Full Text

Preamble

From "Media" to "Intelligent Media": The Impact of Artificial Intelligence Technology on Journalism

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Abstract: As eras cycle and information advances, new phenomena that transform the world emerge endlessly. Artificial intelligence represents intelligent machines created by humans, utilizing big data technology and sensors for information collection, employing algorithmic recommendation for personalized distribution to meet diverse audience needs, and applying VR/AR technologies to enhance immersive user experiences. These capabilities are changing work methods and lifestyle patterns. Within journalism, this mechanized language and sensory approach to audiences constitutes a tremendous transformation in information communication.

Keywords: artificial intelligence; journalism; intelligent media; AR/VR; neural network system; personalized push; algorithm

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1. Artificial Intelligence Driving Social Progress and Transforming Cultural Life

Artificial intelligence is no longer a novelty. Created through human research and design, it has been widely applied across public domains, achieving superior and accelerated development. While technological progress brings advantages and bright spots, it also carries limitations and drawbacks. When applied to journalism, AI undoubtedly promotes transformative changes in content creation, collection, production, distribution, and reader interaction, enabling unprecedented speed and convenience. However, AI-generated writing lacks advocacy and ethical judgment, and formulaic news content cannot truly accommodate society' s complex nuances. Moreover, AI faces new challenges regarding journalistic professionalism, personalization, standardization, and ethics.

2. The Evolution of Journalism: From Traditional to New Media Forms as a Driver of Social Information Progress

The history of journalism has progressed from oral transmission to printed tabloids, then to lengthy analytical pieces, incorporating diverse narrative techniques. Humanity has gradually adapted to journalism' s emergence and evolution. Examining journalism from multidimensional economic, political, and social perspectives underscores the interactive relationship between media and society. From reporters traveling through villages to multimedia implementation, diversified journalism has become more intimately connected with social strata. Publishing appropriate news grounded in journalistic authenticity and credibility, the profession has matured through increasingly sophisticated gatekeeping processes. From newsgathering to editing, the integrated workflow completes a report' s readability and disseminatability. Contemporary journalism is undergoing new changes in content expression, distribution channels, corresponding effects, and feedback mechanisms—transformations that follow social progress. Only by adapting to new methodological changes and perspective shifts can journalism maximize its societal responsibilities and contributions.

3. The Collision of High Technology and Tradition Under Intelligent Media: Developing New Domains and Changing Life Patterns

Intelligent media, as the name suggests, represents intelligence created artificially—a process of transforming human thought and wisdom to simulate and integrate information output capabilities. Machines simulate and manifest certain human abilities and skills. Early applications involved simple machines replacing human hands to write basic news drafts, primarily generating frameworks that mimic human writing patterns to produce standardized news copy. Some argue that this collision between high technology and tradition creates sparks while presenting limitations, as AI remains dependent on human invention, unable to surpass human progress or match human perspectives and subjective judgments about the objective world.[1] Nevertheless, machines can avoid human carelessness or oversight; their instruction-based input and output processes deliver accurate, readable news reports to audiences. Exceptions exist, however —AI struggles to replace in-depth reporting and personality-driven feature stories. Its strength lies in producing rapid, convenient, high-volume output when facing large quantities, time constraints, and demands for timely news. Beyond text processing, this extends to video processing, unmanned filming, and other operations that enhance unprecedented senses of presence, creating immersive experiences that bridge media users with scenes. These technologies construct three-dimensional spaces and step-by-step real-world observations that surpass human-operated alternatives, while intelligent detailed processing proves more appropriate than manual work, generating natural experiential feelings.

Furthermore, AI introduces "same-frequency" effects. This intelligence emerges through big data probability and precise news product classification, through intelligent algorithmic analysis and mechanism management, through massive data comparison, summarization, induction, and analysis, enabling acquisition of similar channels. This manifests fully in its capacity to recommend similar or related information based on individual preferences and search habits. Applied to journalism, these new technologies continuously enhance automatic productivity, creating certain similarities in values, pattern processing, and outcome probabilities.[3] Over time, however, increasing convergence neglects differentiated knowledge acquisition and diverse perspectives, thereby narrowing knowledge breadth and, to some extent, limiting the diversity that journalism champions for more valuable and meaningful content.[4]

Finally, AI brings phased development. It plays a crucial role in the transformation from media to intelligent media. From news production to distribution, its reinforcement across various stages serves as a powerful assistant for practitioners. Consequently, it generates anxiety among journalists, as large numbers of them, despite professional experience, cannot match the phased achievements

brought by technological innovation.[5] Predictions suggest that 90% of news reports will be directly completed by machines. The era' s impact, phased breakthroughs, and rapid advances render the field more direct, intuitive, and cost-effective, regardless of human factors. Yet AI also exhibits phased vulnerabilities—for some in-depth special reports, it cannot achieve deep-level thinking and consideration. Facing these phased challenges and technological-industrial transformations, we must explore journalism' s significance in socio-economic production and daily life, as journalism' s information expression and visual communication reconstruct and interpret professional value positions and orientations for social development.

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4. New Concepts and Phased Significance in the Intelligent Journalism Field

First, AI delivers high efficiency. In standardized news writing, language style selection, intelligent classification processing, and the completeness and distinctiveness of narrative structures, AI' s tireless, unwavering, and unrestricted nature enables efficient completion of information processing tasks within its capabilities. For instance, when writing capability is input into AI, complete materials and keywords produce the most accurate information output; when language recognition capability is input, different event elements generate news reports in different contexts; when big data analysis is input, required channel expansion and comparison produce relevant regional data analysis and conclusions. As long as developed intelligence is operational, there are no delays —only rapid, standardized output of effective information. With AI technology updates, from simple news processing to automatic integration of language transformation, from personal information conveyance to liberated hands researching new intelligent technologies, strengthening effective processing and high-level data differentiation handles increasingly complex contexts and situations, thereby breaking conventions and bringing unlimited breadth and width.

Second, AI creates new experiences. Previously, journalists relied entirely on personal collection, processing, and transformation for every word—deliberating, searching, and verifying word by word to complete news articles.[2] AI' s application in this field enables one command to produce one news piece for automatic output, creating novel experiences and harvests. Accompanying AI' s orientation toward audience habits and behaviors, intelligent recommendation of related social contexts and atmospheres, and provision of scenario analysis or data basis also serve as executable instructions for news communication, far exceeding composite production imaginable by humans, delivering readable news reports to audiences.

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5. The Sustainable Future Power of Artificial Intelligence in Journalism

Artificial intelligence, as the name suggests, cannot separate the artificial from the intelligent. The intrinsic essence of AI technology lies in summarizing and grasping developmental context. In principle, AI technology involves data processing, logical operations, and network computing systems, thereby reflecting human information processing of network media—from neural network systems to symbolic internal logic and back to neural network systems. This represents a return in current intelligent research that simulates brain operation and expression, emotional output, and subjective operation mechanism development. Between artificial and intelligent, a bridge is needed for organic combination and inseparability. The intelligence invented by humans and operating in journalism produces large volumes of copy through intelligent hands, yet without human reprocessing and recreation, such news reports cannot be considered impeccable.

First, the subjective progress of journalism practitioners[6]—enriching themselves is the prerequisite for matching AI. Forming good collaborative relation-

ships with machines, fully mobilizing human development of intelligence and algorithmic technology improvement, managing mechanisms and efficient output, greatly enhancing data logical analysis, while also achieving in imaging and edge detail processing what humans cannot, allowing machines to truly deliver output.

AI is artificially created and upgraded, inseparable from human innate wisdom and acquired effort. The widespread promotion and use of AI technology in journalism presents major challenges while also offering major opportunities. Challenges are highlighted in the efficient output brought by machines,[9] greatly improving manual speed including reaching scenes impossible for humans; opportunities mean that challenges simultaneously reveal a group of people needed by the era—deep collectors and in-depth commentators—who are great contributors to society and irreplaceable. The strengthening and progress of such people drive not only journalism development but also bring new discoveries and upgrades to AI. This mutual complementarity, mutual constraint, and mutual achievement of human-machine matching is a product of the era.

Second, journalism practitioners must keep pace with the times and refine themselves to elevate their matching with AI. Society changes rapidly, and economic indicators determine the superstructure—that is, certain demands at the spiritual level[7]—which cannot be solved in one stage but often require continuous data updates, analysis corrections, and related data replacements. Repairing and adjusting programs input into intelligence requires practitioners to possess quality demands that keep pace with the times. In today' s turbulent ideological currents, one cannot rigidly adhere to an unchanging theory or apply an inflexible program. Therefore, updating and iteration are challenges and dreams bestowed by this era. Journalists must pay attention to their own era's demands, reporting information with deeper value, standards, and reference, matching AI to achieve new development heights that are higher, better, and closer.

Third, journalism practitioners' self-construction—refining themselves is the anchoring for matching with AI. Old and new mean old things will be replaced by new ones; every person and everything becomes obsolete when falling behind and valuable when keeping up. The large-scale application of AI can efficiently output and classify information screening and collection. Advancing technological progress, perfecting the core, strengthening data construction and backend development and repair aims to meet more demands and required traits.[8] This includes another major truth of journalism beyond factual truth —social fairness. Establishing relevant laws and regulations, strengthening their enforcement, clarifying the obligations of media, society, publishers, and even individuals as a series, equivalent to various behaviors of social ethics and morality as guiding consequences, supervising through laws and regulations to make it era-appropriate journalism with guiding value transmission.[4]

Finally, journalism practitioners' social responsibility—society is a big family, and journalists are its mouth and tongue. Cooperating with AI still requires interdependence between mouth and tongue, facts reflecting each other, with-

out arbitrarily outputting wrong instructions or distorting information. This requires a strong sense of social responsibility and accountability. Researching AI upgrades, whether large or small offices, must have strict standards and quality control for releases, focusing on report authenticity.

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Note: Figure translations are in progress. See original paper for figures.