

A Preliminary Exploration of Artificial Intelligence Application in Media Convergence Development: Postprint

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Abstract

“Artificial intelligence” was written into the “Government Work Report” of the National Two Sessions for the first time, establishing it as a national strategy for an emerging industry. “AI+” will become one of the development trends across various fields, and the media industry is no exception. With the advancement of “AI + media”, new information dissemination platforms will not only integrate various media functions but also possess intelligent attributes, enabling real-time interaction with users. “AI + media” will trigger a metamorphic transformation of the media industry’s form and exert a profound impact on the pattern of media convergence development.

Full Text

Preamble

A Preliminary Exploration of AI Applications in Media Convergence Development

Abstract: For the first time, “artificial intelligence” was written into the National Two Sessions Government Work Report, establishing AI as a national strategic priority among emerging industries. “AI+” will become a development trend across all sectors, and the media industry is no exception. As “AI + media” advances, new information dissemination platforms will not only integrate various media functions but also possess intelligent attributes, enabling real-time interaction with users. “AI + media” will trigger a butterfly effect in media industry morphology, profoundly impacting the landscape of media convergence development.

Keywords: AI + media; media convergence; robot journalism

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“Artificial intelligence” is the buzzword of our time. At this year’s National Two Sessions, “artificial intelligence” was written into Premier Li Keqiang’s Government Work Report for the first time, placing this emerging industry on the national agenda. Robin Li, Chairman and CEO of Baidu, stated when discussing AI that since the 18th-century Industrial Revolution, every technological revolution has brought earth-shaking changes to the world order, and artificial intelligence will be the core of the next technological transformation. Currently, global IT giants and media groups are investing in and deploying AI. AlphaGo, which has defeated top human Go players, stands as one of the most representative achievements of contemporary AI. Following the “Internet +” trend, “AI +” will become a development trajectory across all fields, and the media industry is no exception. “AI + media” will trigger a metamorphosis in media industry morphology, exerting profound influence on the structure of media convergence development.

2. AI’s Impact on Media Convergence Development

As “AI + media” progresses, traditional media are actively moving toward digitalization, thereby forming new information dissemination platforms. Under AI’s influence, these new platforms not only integrate various media functions but also possess intelligent attributes that enable real-time interaction with users. For instance, during this year’s Two Sessions, Baidu’s intelligent robot “Dumi” collaborated with Xinhua News Agency to launch the special activity “Dumi Takes You to the Two Sessions.” Leveraging Baidu’s massive search data and intelligent human-computer interaction technology, Dumi delivered timely and in-depth information about the latest Two Sessions developments to netizens. Users could access a series of Two Sessions reports recommended by Dumi through the Dumi app or by opening Dumi’s chat interface, clicking on the “Two Sessions Hot Topics” section, or entering Two Sessions-related keywords.

Amid this wave of artificial intelligence, traditional media are also riding the trend and actively transforming. As a local mainstream media outlet, Guangzhou Daily demonstrated various intelligent reporting formats during this year’s Two Sessions coverage, including live streaming, VR vision, robot journalism, big data, and animated news, achieving converged media communication. Particularly noteworthy was Guangzhou Daily’s first-ever deployment of robots “Atong” and “Ale” in its Two Sessions reporting team. The name “Atong” and “Ale” combine to form “Tongle,” which is actually the location of Guangzhou Daily’s headquarters on Tongle Road in Guangzhou. These two special members of the Two Sessions reporting team each had distinct characteristics: Atong excelled in rational thinking and provided in-depth

analysis of the government work report, while Ale had a lively and cheerful personality, answering all questions about Two Sessions topics and news. During this year's Two Sessions, Guangzhou Daily's two robot reporters showcased their capabilities, continuously producing multiple reports including hot word analysis of the government work report and analysis of hot topics from the Foreign Minister's press conference, ushering news production into the AI era.

1. AI Brings New Trends to Media Convergence

Every communication technology revolution brings about the evolution of media forms and communication methods, and AI's impact on the media industry follows this pattern. As media convergence accelerates today, "AI + media" is bringing new trends to the development of media convergence. In recent years, the media industry has begun exploring AI applications, among which "robot journalism" can be considered an initial application of "AI + media." Regarding experiments with "robot journalism," international media organizations such as the Associated Press and Reuters have long applied it in financial reporting, sports commentary, and disaster coverage. Domestically, numerous media organizations have also begun experimenting with "robot journalism."

On November 7, 2015, Xinhua News Agency launched the "Kuaibi Xiaoxin" machine news production system, which can automatically and rapidly generate sports events, Chinese and English manuscripts, and financial information pieces. Yu Guoming, Executive Dean of the School of Journalism and Communication at Beijing Normal University, believes that "machine news writing" represents a phenomenal application of AI technology in the news communication field. While people may focus on its "writing" capability, AI's transformation of news production and communication patterns is actually comprehensive and full-cycle. It is foreseeable that as the integrated development of "AI + media" continues to advance, new communication forms will continuously emerge and become increasingly rich, and media industry development will enter a completely new stage.

3. Characteristics of AI and Media Convergence Development

The integration development of AI and media is characterized by rapid production, intelligent operation, human-computer interaction, widespread media, and journalist specialization.

3.1 Rapid Production

With continuously improving computing power, increasingly fast network transmission speeds, and the widespread adoption of information technology applications, the initial "AI + media" application of "robot journalism" can already accurately and swiftly generate and release dynamic news such as financial reports

and sports coverage. Its writing speed can reach millisecond-level precision, and its advantage in rapidity is self-evident.

3.2 Intelligent Operation

“AI + media” signifies the capability to process massive data through big data technology, substantially enhancing the intelligence level of information systems. Simultaneously, trends such as the internet-based intelligence of user behavior, intelligent core content production, and platform intelligence are continuously advancing the intelligent development of media.

3.3 Human-Computer Interaction

AI technology enables clearer “user profiling,” allowing for customized content tailored to individual users. As technology develops, “AI + media” is not a simple addition but gradually generates new intelligent media that enables seamless human-computer interaction across various intelligent terminals.

3.4 Widespread Media

In the “Intelligent Media Era,” there are no clear distinctions between media forms such as newspapers and television. Under the trend of media convergence, the combination of AI and the media industry will give rise to more forms of communication media, and cross-boundary media development will become a new trend.

3.5 Journal Specialization

Although intelligent media possesses powerful information search, processing, and analysis capabilities, it cannot operate without human-computer interaction. Processes involving emotion, ethics, and value judgments all require operation by highly sophisticated human teams. In the development process of “AI + media,” this does not mean journalists will become unemployed but rather that more professional media practitioners will be needed.

5. Conclusion

Superintelligence is divided into three forms: speed superintelligence, collective superintelligence, and quality superintelligence. Experts believe that although machines’ cognitive abilities are still far below those of humans, machine intelligence will eventually far surpass human intelligence. As for when this transcendence will occur, Nick Bostrom believes that “once the transition to superintelligence begins, it is more likely to be explosive development.” According to this theory, AI will usher in explosive development in the future, and the integrated development of AI and media will also achieve disruptive transformation.

4. The “AI + Media” Era

In his 1964 book *Understanding Media: The Extensions of Man*, Marshall McLuhan proposed the famous concept that “the medium is the extension of man.” Inspired by McLuhan’s view in the all-media era, we can also propose a new perspective for understanding all-media: all-media is the extension of the whole person. Against the backdrop of “AI + media” development, users can immerse themselves in computer-generated three-dimensional virtual environments through virtual reality and other technological means, interacting from a subjective perspective that places them at the “news scene,” thereby giving greater prominence to the “extension of the whole person.” Intelligent media particularly highlights the extension of “the human brain.”

In the integrated development of AI and media, how should we approach the relationship between “artificial intelligence” and “human intelligence”? What is certain is that the emergence of AI can liberate journalism practitioners from simple, repetitive tasks. AI can process massive amounts of information at high speed with extremely high efficiency and precision. However, when dealing with complex variables, subtle emotional relationships, and particularly rule-making and value orientation, human intelligence remains indispensable alongside AI processing.

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

Source: ChinaXiv — Machine translation. Verify with original.