

Chapter 5

An Academic Perspective on Deepfake Technologies in AI- Powered Journalism

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ABSTRACT

The integration of computer technology into journalistic processes brought journalism into the digital age with the widespread use of the Internet in the 1990s. The digitalisation of journalism has led to changes in production, consumption and distribution processes, leaving traditional journalistic practices behind. As in the past, some news can be produced with information gathered in the field, some can be produced with data quickly gathered at a desk, news can be presented individually, and even false/fake news can be verified by artificial intelligence tools. On the other hand, the fact that images and sounds can be created or modified using artificial intelligence-based deep learning algorithms has led to the need to evaluate artificial intelligence technologies from different angles. Based on this context, this study used content analysis to identify trends in scientific research on deepfake technologies and journalism, and to guide those who will conduct new research on the topic.

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INTRODUCTION

The current state of journalism—digitalized and integrated with artificial intelligence technologies—has emerged as the result of a transformative process shaped by multilayered and time-spanning technological developments. The first stage of this process began with the use of optical and telegraph technologies, which enabled information to be transmitted to desired locations at desired times. In the 1950s and 1960s, the integration of satellite and space technologies into the field of communication constituted developments that accelerated this process. Particularly in the 1970s, with the widespread adoption of personal computers, information not only became transmittable but also acquired a structure that could be produced, processed, and stored entirely in digital environments. This marked one of the most critical technological advancements forming the foundation of digitalization (Değirmencioglu, 2016: 592). It should be noted that the most significant development impacting today's journalism practices occurred in the 1990s, when internet technologies began to be used for individual purposes in addition to military applications. Just as journalism was once transformed by the introduction of audio-visual technologies, the integration of internet technologies led to a structural transformation, detaching journalism from its traditional identity and ushering it into a digital form.

The process that began with computer technologies and continued with the internet eventually accelerated the full integration of artificial intelligence technologies—originally gaining prominence after the Second World War—into all areas of modern life. In this sense, this technological development, much like other emerging technologies that have entered our lives, has given rise to a new domain of debate and critical inquiry.

When examining the positive implications of artificial intelligence in journalism, it appears that the use of AI in news production not only increases the speed of content creation but, as algorithms become more advanced, also enables the generation of news with fewer errors. AI's capacity to personalize content, allowing it to be produced in multiple languages and from diverse perspectives, as well as its ability to generate various types of news content based on user demands and data analysis, are among the prominent benefits it brings to the field of journalism (Ay, 2022: 923). Moreover, the use of artificial intelligence for fact-checking, audience analysis, and summarizing current developments demonstrates that AI contributes to journalism as a supportive and enhancing tool.

However, there are also aspects in which artificial intelligence negatively affects journalism—a profession that speaks directly to society. These concerns generally revolve around ethical issues (such as who bears responsibility in the face of an ethical dilemma, or the use of data without consent), legal regulations, the dependency of newsrooms that cannot develop their own AI technologies on corporations that

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