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ARTIFICIAL INTELLIGENCE ALGORITHMS IN THE FIELD OF DIGITAL EDUCATIONAL MEDIA AND THEIR CHALLENGES

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ABSTRACT

The media field in general, and educational media in particular, is among the most prominent fields that have benefited from artificial intelligence (AI) technologies in the media industry, from production to broadcasting and publishing. AI has brought about significant transformations in the ability of digital and educational media to influence content. It has provided a wide range of algorithms for diverse production and education, such as translation tools, audio and video tools, and chatbots. However, the fundamental challenge in applying AI technologies remains the necessity of having principles and ethics that guarantee users do not violate the privacy of others through these applications, which rely on complex algorithms and data that are not prone to error. Studies have demonstrated how audiences resist platform algorithm bias by detecting visual and audio deception. As a result of these risks and threats, the urgent need for digital media literacy has emerged and become a crucial requirement for developing informed citizenship. Digital media literacy aims to enable students to benefit from such applications without becoming swept away by them, dependent on them, or abandoning critical thinking. Students must be made aware of the importance of digital transformation and trained to understand and use AI applications in the field of educational media. Consequently, educational media specialists need to educate and guide students on how to utilize modern applications in the process of gathering, producing, and directing media content. Radio and television broadcasting of various educational media arts. This comes through increasing students' awareness of technological culture and safe interactions with virtual environments. There are also some technical, material, and administrative challenges that hinder the use of artificial intelligence applications. This necessitates studying ways to employ and activate artificial intelligence algorithms in the field of educational media and overcoming the obstacles and challenges that prevent the use of artificial intelligence algorithms in the production of digital educational media content. It is necessary to qualify students of educational media departments to deal with artificial intelligence algorithms efficiently and professionally, by supporting educational media practitioners and students to benefit from artificial intelligence technologies to improve the quality of media content, by activating a professional development program based on the requirements of the era of the Fourth Industrial Revolution in developing the skills of writing journalistic articles with artificial intelligence for educational media specialists, and holding training courses to develop competencies in employing artificial intelligence technologies and applications in educational media activities.

The importance and objectives of the study

In recent decades, the world has witnessed tremendous leaps in the field of smart technologies, as artificial intelligence has brought about a fundamental change in various aspects of life, transforming the nature of work and production models, and reshaping the traditional structures of many social, economic, and cultural sectors. The impact was not limited to large companies and entities specializing in technology, as in the beginnings of this field, but artificial intelligence technologies have moved into the hands of individuals and institutions of all sizes and forms to become essential tools capable of enhancing productivity, improving efficiency, and providing unprecedented innovative solutions.

The term "artificial intelligence" (AI) lacks a single, universally agreed-upon definition; however, the Oxford English Dictionary defines AI as "the ability of computers or other machines to exhibit intelligent behavior." Based on this definition, we can say that AI will be able to perform tasks similar to human thinking, learning, and acting, and in some cases, surpass human capabilities. These systems can analyze enormous amounts of data, solve complex problems, make well-informed decisions, and perform creative work) 1.(

Artificial intelligence (AI) also refers to a set of technological solutions that allow for the mimicking of human cognitive functions and achieve results that correspond to the results of human intellectual activity when performing specific tasks. This set of technological solutions includes information and communication infrastructure, software, data processing, and problem-solving. AI technologies encompass those based on AI applications, including computer vision, natural language processing, speech recognition and simulation, intelligent decision support, and passive AI methods (2). The goals of AI focus on developing thinking and problem-solving skills in a technological way, aiming to facilitate information representation and goal achievement. The primary objective of AI is to develop intelligent machines that can learn independently without human intervention.

Artificial intelligence has made a major leap in all areas of life in the last decade, given the advantages and opportunities that its applications provide, as it mimics human performance and provides innovative solutions, and contributes to improving efficiency and facilitating services and workflow at the level of different sectors, which benefits individuals and institutions. The educational field has benefited from the applications of artificial intelligence in activating the educational process, as it has worked to provide effective experiences that help in discovering students' skills and developing their creative abilities) 3.(

The field of media in general and educational media in particular is one of the most prominent fields that have benefited from this technology in the media industries from production to broadcasting and publishing, as it has opened new horizons in media practices and brought about major transformations in the ability of digital and educational media to influence. There is an emphasis on integration and merging between the traditional situation of media and media production based on artificial intelligence technologies (4), as artificial intelligence provides diverse sources for production and diverse education, such as translation tools, voice assistants, chatbots, virtual reality technology, games, personalized teaching, customized study programs, instant evaluation and feedback) 5.(

The study **aims to** understand the importance of employing artificial intelligence algorithms in the production of educational media content, highlighting the ethical, legislative, and practical challenges arising from the use of artificial intelligence in digital content production.

An analytical view of artificial intelligence algorithms in the field of educational media

Figure 1: Shows examples of educational media content on social media platforms using artificial intelligence applications.

Artificial intelligence applications have become a cornerstone of innovation in vital and wide-ranging fields. Generative models have emerged as one of the most important advanced applications of artificial

intelligence, revolutionizing the potential for producing visual and audio text with a quality comparable to human production. These models have enabled media institutions to transcend the traditional limitations of creative production, becoming capable of generating integrated content. They also play a crucial role in solving complex problems related to productivity and in providing highly efficient, fast, and accurate options that pave the way for what we might call directed technological innovation. Generative artificial intelligence represents the latest, most advanced, and most widespread artificial intelligence technology. It is a type of machine learning technology that has the ability to create new data such as images, texts, and audio clips based on human training in these technologies. It thus differs from non-generative artificial intelligence, which only classifies or recognizes existing data. Generative artificial intelligence can also be used to create virtual assistants for electronic conversations and customer service, or to create music and artistic content for marketing, creative, and other purposes) 6.(The educational media specialist works to feed the school's digital accounts on social media platforms with media messages supported by digital and integrated media.

Figure 2: Shows examples of educational media production using generative artificial intelligence and the integration of audio and video texts.

The use of artificial intelligence has changed the media industry by automating a number of arduous tasks and improving accessibility to users and audiences. Through smart applications in the media content industry, it is possible to produce consistent and coherent texts, sounds, and images that mimic human media production and its context. This is achieved through the use of natural language processing and speech recognition models, writing summaries and articles in multiple fields, as well as analyzing big data by using algorithms to analyze large datasets, identify patterns, extract meaningful insights, personalize, and engage the audience to identify the most popular audience preferences and behaviors, and then predict the most prominent topics that can be addressed and covered. This is then done to personalize news delivery, recommend content, and engage audiences through interactive storytelling formats.

Superintelligence (ASI) is a type of artificial intelligence that surpasses human capabilities in areas such as decision-making, creativity, social behavior, and emotional bonding. With rapid technological advancements, machines have become capable of learning new information and improving their skills, contributing to the continuous improvement of superintelligence (7). Available AI literature indicates that there are seven main areas of artificial intelligence: machine learning, natural language processing, speech recognition, specialized systems, planning, scheduling and optimization, robotics (Seventh), and computer vision) 8.(

Artificial intelligence technologies and applications have provided unlimited possibilities in dealing with data and information and employing it to serve humans as producers and consumers of these technologies. The state of convergence and integration between communication means and information technologies that resulted from the communication environment at the beginning of the second millennium led to the emergence of many technological innovations that changed the

functional and professional roles of media professionals. Several technologies emerged, such as virtual reality, augmented reality, the Internet of Things, big data processing, and instant machine translation, among others, through the use of artificial intelligence algorithms and software to produce media content. Algorithms are a set of specific steps or rules that the device and system follow to apply processing, such as analyzing data, making decisions, or performing specific operations. They are often used to guide operations in software applications, including content analysis and content personalization for digital media) 9.(

Algorithms are used in mathematics and computer science. They are usually a limited series of specific instructions for solving a set of problems. They are the foundation of programming and help overcome obstacles professionally. Artificial intelligence algorithms behave differently from humans in two ways: the first is literal algorithms, which rely solely on the input data and can understand what they have been programmed to do. The second is deep learning algorithms, which can predict the outcome with extreme accuracy, but offer little or no explanation of the logic used to reach it (10). Artificial intelligence algorithms are used in a number of media production and presentation processes, including advertising, distribution, and content creation (11). Automated video editing programs have gained immense popularity among users, and numerous short videos have been produced on various social media platforms. Consequently, user-generated content has been facilitated by algorithmic artificial intelligence tools)12.(

New technologies are expected to increase the efficiency of media by automating many tasks, as AI-based content production will achieve significant progress (13). AI comes with some of its benefits, such as faster decision-making, reduced costs, and increased efficiency in various sectors. It improves production and makes better decisions, and its applications include personalized marketing, audience analysis, and improving user experience in the entertainment industry with the help of chatbots, voice recognition, and recommendation systems) 14.(

There are many uses of artificial intelligence applications in media content production, including helping to reduce subjective data interpretation, as machine learning algorithms are trained to take into account only changes that improve their predictive accuracy. The potential of artificial intelligence is enormous in the field of media, as it enables platforms to create innovative and attractive multimedia content such as videos and infographics, translate content into different languages, communicate with a global audience, monitor news and trends in real time, provide fast and accurate media coverage, and interact with the audience directly and obtain their feedback (15). Artificial intelligence applications are used in all fields of media, but to varying degrees according to the nature of the media field (16). Some studies have proven the ability of artificial intelligence applications to influence the audience in a way that exceeds the impact of traditional journalistic stories) 17.(

Artificial intelligence is also an engine that contains a huge database covering various topics and fields and has the ability to generate text and responses in an intelligent and logical manner in the context of chat (18). Algorithms collect, compare, analyze and process data. They are algorithmic applications used to collect news and information automatically and evaluate it using tools that help in accessing, applying, editing, classifying, displaying and distributing information worthy of attention **)**19**.(**

Algorithms have become a reality in the digital data environments circulating through search engines, websites, and social networks. Many questions revolve around the impact of these algorithms' movement across the massive volumes of data that are vitally linked to information specific to the public using communication technology and its various programs. Algorithms are simply software programs designed to accomplish specific tasks (20), and they are subject to continuous updates by developers to improve their mechanism of operation in achieving the required goals. Algorithm experts confirm that they have become independent entities parallel to humans in controlling the world we live in, and it is noted that their operation is completely outside the scope of human control, and all that can be done about them is to turn them off (21). Artificial intelligence technologies and applications are subject to monitoring to address the emergence of ethical challenges**)** 22**.(**

The field of educational media is no longer far removed from the digital transformation, as students are keen to engage in the digital transformation process. They must also be accustomed to and trained in the use of digital technologies (23). There is a pressing need to prepare students with international standards in fields required by the educational system, as its activities require qualified specialists with a high level of skill and knowledge to engage in this field. To develop educational media activity in educational institutions, it is necessary to

benefit from the technologies and means produced by the communications and information revolution, such as artificial intelligence applications and other modern means, and to move away from traditional methods of practicing the activity, which are no longer suitable for the requirements of the modern era in which we live. It is also important to realize that we must deal with educational media activity today in a way that differs from the past, which requires human development capable of producing and consuming knowledge) 24.(

In light of the digital transformation and the need for digital education as an educational institution, it became inevitable that educational media specialists would evolve from mere leaders and supervisors of media work to active participants, mentors, trainers, and facilitators of interactive and live-streamed media content for their students. They would also supervise students within the school's media team, utilizing modern digital applications and artificial intelligence (AI). The diverse applications of AI have presented numerous challenges to the media field, particularly for content users and creators. While AI has significantly facilitated media tasks and content creation through its tools and technologies for analyzing and producing media content in all its forms—audio, visual, and written—it has also profoundly impacted media practice, leading to significant shifts in its ability to influence public opinion. Many global institutions are now adopting AI and leveraging it in key areas such as data extraction, improving search methods, predicting topics, interacting with audience comments, combating fake news, and fully automating news writing. The aim is to provide smarter and faster tools for delivering news to the audience and facilitating easy and seamless audience interaction (25), given the importance of employing AI applications. Artificial intelligence in the multimedia content industry enables media professionals to collect data and produce multimedia-rich media content such as visual effects production, video editing, and image and text conversion) 26.(

Regarding how algorithms work in the field of educational media and social networks, algorithms play several roles, including filtering content and showing what users are most interested in, as well as personalizing the user experience and increasing the ability to target users with shared interests (27). The main algorithms can also be classified into processing algorithms, which process content and are characterized by being relatively flexible as the content agenda changes, as content may become more important and thus the algorithm changes; publishing algorithms, which are responsible for determining who sees what and are characterized by being relatively stable; prediction algorithms, which guess the likelihood of the user interacting with the post displayed on the homepage and rank the expected engagement, and accordingly display the post that the user is expected to interact with first; recommendation algorithms, which are the product of an integrated set of machine learning algorithms and generate a summary of what we are exposed to, and the main aim of recommendation algorithms is to classify content according to the likelihood of the user interacting with it, whether by liking, sharing, or commenting; and content moderation algorithms, which refer to the algorithms used to flag content that violates the general policy of the application or represents another problem) 28.(

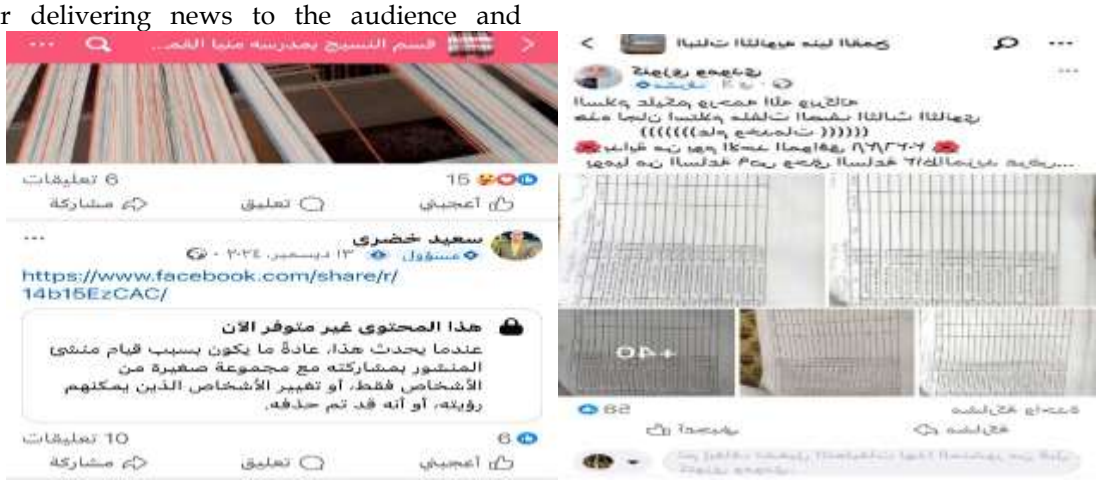

Figure 3: Shows examples of algorithms for recommending the hiding of content or modification of the format of posts on social media platforms for some Arab schools.

One of the goals of using artificial intelligence algorithms in digital educational media across its various activities and fields is to increase problem-solving abilities. AI applications are based on

developing effective algorithms to solve complex puzzles and problems that can reason logically and simulate human reasoning (29). AI algorithms also improve the ability to plan and predict using predictive analytics and data analysis (30). They also promote social intelligence, as AI systems can interact and communicate socially at a human level through emotional computing, reading facial and body expressions, and tone of voice. As a result, research efforts are working to enhance AI for digital applications (31). AI algorithms enhance creativity, thinking, processing huge amounts of information, and considering alternatives (32). AI algorithms perform vital functions within search engines and communication platforms, and these algorithms are named according to the functions they perform (33). Platform algorithms help to highlight specific content and increase their practical impact on interaction within the local environment) 34.(

Figure 4: Shows examples of algorithmic bias on social media platforms for some schools.

Algorithms sometimes exhibit bias towards certain content, and there are strategies to assess and critically address potential biases introduced by algorithms (35). Some studies have indicated that algorithmic bias may contribute to the spread of misinformation and reinforce information bubbles, even while contributing to improving the overall user experience (36). Traditional algorithms also tend to reduce diversity among users, meaning they push them to consume similar content among themselves (37). Social media algorithms push users to rethink the formulation of their posts and affect how they interact with other users. The nature of algorithms changes user interactions by changing the algorithms) 38.(

Figure 5: Shows examples of preference algorithms on school social media pages.

Users make judgments about their response to algorithmically curated content, indicating their awareness of the role of algorithms and their knowledge of algorithms for recommending preferred content (39). The user also manages comments using the random forest smote algorithm to classify comments about texts or videos into predefined categories, then applies another algorithm to collect all the content of the comments (40). This data is also considered a tool for analyzing

sentiment and has an impact on the social aspects of the audience) 41.(

The basic functions relate to data sorting and include qualitative sorting, sorting by merging, quick sorting, and binary search. The function sorts results according to specific keywords, as this algorithm allows for dealing with abundant amounts of variations provided by search engines and databases selectively, so that only results directly related to the word the user is searching for are retrieved. This facilitates the processing of texts and reports in the field of electronic school journalism. Artificial intelligence algorithms model user personalities, i.e., classify user personalities according to specific psychological models. The algorithms are guided by the interactive behavior of users across social networks to carry out the classification process. This behavior includes likes, shares, comments, and blogging, in addition to electronic marketing patterns and the time spent daily in browsing and network interaction) 42.(

It can also generate automated news stories, as artificial algorithms can generate news reports using machine learning and data analysis. Devices equipped with artificial intelligence services can automatically and efficiently adapt search, fact-checking, and formatting processes for news. In addition, devices can routinely publish and share media content in a manner similar to the work of a human employee, thus saving time and effort in school journalism work for preparing the school's electronic newspaper. This technology can also be employed in other areas such as editing publications and checking spelling and grammatical errors in texts. Experts believe that the use of artificial intelligence in the field of journalism will help reduce subjective interpretation of data, as intelligent algorithms are trained to take into account different variables that improve predictive ability based on the data used) 43.(

Challenges related to artificial intelligence algorithms in the field of digital educational media

Artificial intelligence applications provide a number of tools that enrich media work, whether in television or in print journalism. They help in video editing and reproduction, adding captions to images, and retrieving images according to content and user preferences. This makes the content more engaging and exciting, as artificial intelligence can be used to convert text to speech and provide suggested expertise in the editing process, such as cutting the video or adding adjustments and some sound effects, lighting, and colors (44). The main problem in applying artificial intelligence technologies remains the need for principles and ethics that ensure that the user does not violate the privacy of others through these applications, which are based on complex algorithms and data and do not tolerate errors. The danger of the content presented through artificial intelligence applications also includes the social aspect, as media messages represent a threat to humanity through personal robots) 45.(

Figure 6: Shows the preferred recommendation model for content deletion and addition according to user preferences and the nature of interaction with the content.

Artificial intelligence algorithms can also be exploited to produce defamatory content. Among the potential legal risks is the possibility of producing this content by providing it with biased or inaccurate information, as algorithmic thinking differs from critical thinking and it is difficult to predict its results (46). Community confrontation can play an important role in confronting algorithmic bias (47), as

studies have proven the methods of public resistance to platform algorithm bias by monitoring visual and audio deception methods) 48.(

Studies also indicate the ability of individuals to make choices and the exercise of user control over algorithms through what is known as reform policies or partial correction policies for biased algorithmic outcomes, which focus on improving algorithm outputs (49). There is a reciprocal relationship between human behavior and algorithms; user interaction through comments increases algorithm adaptability, and conversely, a lack of interaction leads to changes in the algorithm's design, even without engineer intervention. Furthermore, algorithms can influence human behavior through a range of patterns, including reinforcing cognitive injustice and racism by focusing on stereotypes when searching for, for example, a specific religion or ethnicity. They can also promote support by amplifying posts related to a particular event or group to encourage users to join, or through suppression, where algorithms hide certain information based on race or gender (50). Content classification algorithms, for instance, block posts containing certain words, confirming algorithmic bias and the importance of establishing strict standards to ensure fair and transparent AI systems that protect individual rights and do not perpetuate discrimination) .51(

Algorithmic bias reduces opportunities for individuals to interact with different opinions, thus reinforcing the phenomenon of echo chambers and societal division (52). Highlighting the general policy of algorithms in social media, given their broad impact on individuals' consumption of groups and their understanding of the world, one study indicated that social media companies develop algorithms to challenge content appropriate to users' interests in order to reach and influence the largest number of users. It also confirmed that negative feelings towards some are more successful in eliciting user reactions and comments compared to positive feelings. It also indicated that any problematic content is dealt with by algorithms by deleting it, reducing its reach, or blocking ads on it as a form of pressure on the creator of this content (53). The harms that algorithms may cause to society have been classified into several areas, including algorithmic errors resulting from their being technical tools, as well as their use as tools that serve manipulation and techniques that enhance and amplify controversial content, in addition to enhancing the power of the platform and supporting its authority over all users, society, and markets, enabling harmful practices, disrupting public discourse, and reinforcing inequality in society) 54.(

As a result of these risks and threats, the urgent need for digital media literacy has emerged and become an important requirement for developing conscious citizenship. Digital media literacy aims to enable students to benefit from such applications without being swept away, dependent, and losing their minds. This is achieved through the principles and judgments that students acquire from studying its various skills and dimensions, as well as introducing them to the correct method and training them to deal consciously with the fabricated content presented to them through deepfake applications through the processes of selection, perception, benefiting from the positive effects and avoiding the negatives. They should be more capable of using such applications consciously through understanding, analysis, criticism, evaluation, and assessment of the content presented to them in its various and diverse forms and participating in its production) 55.(

There are strategies to address the harms of algorithms on social media platforms, the first of which is to set more precise goals when designing content moderation algorithms, and to change the order of content to promote productive interactions instead of rewarding divisive content with greater distribution, in addition to placing reasonable restrictions on the use of platforms to widely disseminate messages to better reflect the safeguards of life off the internet, as well as the need for platforms to pay attention to algorithmic designs that support peacebuilding) 56.(

Algorithms can be used to promote positive emotions and mental health at the individual level and achieve social cohesion at the community level. They can also clarify the degree of moderation or extremism of users and reduce incentives to participate by hiding the visibility of participation metrics. Algorithms can reduce the visibility of toxic and angry content and positively affect the achievement of well-being and social cohesion (57). Artificial intelligence algorithms personalize or customize content based on user interactions, such as likes, comments, and shares, which enhances the user experience. They also reinforce pre-existing social biases by prioritizing content that aligns with users' opinions, which may limit the diversity of information and help algorithms spread fake news by repeatedly displaying content similar to what users interact with (58).

Studies have confirmed the necessity for artificial intelligence systems to enhance social values through

natural language processing techniques that prioritize or deprioritize word lists. Feed algorithms must also be designed to allow equal access for all users (59). Furthermore, the digital age necessitates preparing and training educational media specialists on how to employ artificial intelligence algorithms in school journalism, radio broadcasting, and educational theater. To achieve this effectively, it is essential to address the challenges and obstacles facing educational media specialists, who often suffer from a lack of digital skills. This is one of the most significant challenges they face in the digital age, stemming from a lack of experience and limited or no development of their skills. To be effective, they must combine specialization with experience and participate in numerous training courses and conferences in developed countries that will help them keep pace with the digital age and develop their professional competence (60). It is also crucial to cultivate students' awareness of the importance of digital transformation and train them to understand and use artificial intelligence applications in educational media. Preparing a generation educated in the knowledge age requires educational media specialists to educate and guide students on how to utilize modern applications in media content gathering and production. Radio and television production of various educational media arts. This comes through increasing the student's awareness of technological culture and safe interactions with virtual environments (61)

One of the biggest challenges facing the implementation of artificial intelligence applications is the low awareness among parents regarding the importance of educational media activities in light of digital transformation (62). They are apprehensive and lack awareness of the positive aspects of using digital transformation and its modern applications in developing their children's skills and abilities when applied to educational media. It is crucial to provide them with opportunities to benefit from this activity, whether by acquiring new experiences and knowledge, developing their talents, or addressing certain behaviors in creative and innovative ways (63). Other challenges include technical difficulties in schools due to the lack of sufficient equipment and studios for students, and the sudden network outages resulting from weak internet connections, which negatively impact live broadcasting of school news. The use of educational media in digital transformation applications and artificial intelligence algorithms requires high-level equipment to accommodate advanced programs and deliver educational media content in a high-quality digital format (64). Administrative problems also exist, as digital transformation is linked to the astonishing progress in artificial intelligence and digital transformation. The effects and applications of the artificial intelligence revolution are spreading rapidly, and this digital transformation in educational institutions can only occur through a qualitative shift in school administration, its functions, and performance development. Its employees, and this transformation had multiple and varied reasons and justifications related to keeping pace with global developments and achieving global competitiveness) 65.(

Financial problems are also one of the most important obstacles to its application in educational institutions, due to the lack of financial incentive for educational media specialists to consider or access digital media education by obtaining sufficient training and developing their skills to be interested in education and technology. However, they are rarely fully integrated into the digital education market due to the lack of financial resources, which leads to an increase in the rates of digital educational media participation. In addition, there is a lack of the necessary infrastructure, which requires financial cost and which hinders institutions from being able to reach the required digital transformation and activate artificial intelligence applications and algorithms in all areas and activities of digital educational media) 66.(

Therefore, ways to employ and activate artificial intelligence algorithms in the field of educational media must be studied, overcoming the obstacles and challenges that prevent the employment of artificial intelligence algorithms in the production of digital educational media content. It is necessary to qualify students of educational media departments to deal with artificial intelligence algorithms efficiently and professionally, by supporting educational media practitioners and students to benefit from artificial intelligence technologies to improve the quality of media content, by activating a professional development program based on the requirements of the era of the Fourth Industrial Revolution in developing the skills of writing journalistic articles with artificial intelligence for educational media specialists, and holding training courses to develop competencies in employing artificial intelligence technologies and applications in educational media activities.

Recommendations

Study ways to employ and activate artificial intelligence algorithms in the field of educational media

Overcome the obstacles and challenges that prevent the use of artificial intelligence algorithms in producing digital educational media content

Train students in educational media departments to deal with artificial intelligence algorithms efficiently and professionally

Emphasize the need for educational media practitioners and students to utilize artificial intelligence technologies to improve the quality of media content

Identify the risks of misusing artificial intelligence applications and develop advanced technological tools to detect deepfakes and automated content

Implement a professional development program based on the requirements of the Fourth Industrial Revolution to develop the skills of educational media specialists in writing journalistic articles using artificial intelligence

Conduct training courses to develop competencies in employing artificial intelligence technologies and applications in educational media activities

REFERENCES

(1) Sowmyshree A, H. G. (2021, April). Impact of Artificial Super Intelligence in Human life. International Journal of Innovation Research in Applied Science and Engineering, 914.

(2) Andrew B. Barron1, *, Eileen A. Hebets2, *, Thomas A. Cleland3, Courtney L. Fitzpatrick4, Mark E. Hauber5, Jeffrey Stevens, (2023), Embracing multiple definitions of learning

(3) Chen, X., Zou, D., Xie, H., Cheng, G., & Liu, C. (2022). Two Decades of Artificial Intelligence in Education: Contributors, Collaborations, Research Topics, Challenges, and Future Directions. Educational Technology & Society, 25(1), 28 47.

(4) Sun, M., Hu, W., & Wu, Y. (2022). Public perceptions and attitudes towards the application of artificial intelligence in journalism: From a China-based survey. Journalism Practice, 1-23

(5) Informal document GRVA-09-23 9th GRVA, 1- 5 February 2021, Provisional agenda item 12(c)(2023), Artificial intelligence definition and specifics of its application for automated road vehicles-Submitted by the expertfrom the Russian Federation

(6) Carlson, M. (2021). The Potential of AI Journalism: A Review of Automated News Writing and the AI News Landscape. Journalism, 22(2), 333-352

(7) Sowmyshree A, H. G. (2021, April). Impact of Artificial Super Intelligence in Human life. International Journal of Innovation Research in Applied Science and Engineering, 914

(8) Lima-Santos, Mathias-Felipe, and Wilson Ceron (2022). Artificial Intelligence in News Media: Current Perceptions and Future Outlook. Journalism and Media3: 13–26

(9) Amponsah, Peter N., and Atianashie Miracle Atianashie. (2024) "Navigating the New Frontier: A Comprehensive Review of AI in Journalism." Advances in Journalism and Communication 12(01):1–17.

(10) Cancers. Hematopathology Diagnostic in Applications croscopyMi Digital and Intelligence Artificial: JD Khoury, H Achi ,2020

(11) Underwood, C. (2024). Automated Journalism – AI Applications at New York Times, Reuters, and Other Media Giants. Retrieved 4 Dec

(12) Jabbar, N. W., & Dabakh, W. G. (2023). Digital Interactive Elements in The Twitter Platform: An Analytical Study. ALBAHITH ALALAMI, 15(62), 118-132.

(13) Pihlajarinne, T., & Alén- Savikko, A. (2022). Introduction to Artificial Intelligence and the Media. In T. Pihlajarinne& A. Alén- Savikko (Eds.), Artificial Intelligence and the Media: Reconsidering Rights and Responsibilities. Cheltenham, UK: Edward Elgar Publishing

(14) Filipovic, I. (2024). The Usage of Artificial Intelligence in Media. 125-126.

(15) Leppänen, Leo (2020), Hanna Tuulonen, and Stefanie Sirén-Heikel.)69("Automated Journalism as a Source of and a Diagnostic Device for Bias in. Reporting."Media and Communication, Volume 8, Issue 3, Pp 39–49

(16) Canavilhas, J. (2022). Artificial intelligence and journalism: Current situation and expectations in the Portuguese sports media. Journalism and media, 3(3), 510-520.

(17) Miroshnichenko, A. (2020). AI to Bypass Creativity, Will Robots Replace Journalists? (The Answer is yes). Switzerland Information, 9(7).

(18) Cioffi, R,Travaglioi, M, pisitelli, De Felice, F. (2020). Artificial intelligence and Machine Learning Applecations in Smart Producation Sutaninability, 12 (2)

(19) Zamith, R. Zamith. R, Algorithms and Journalism (2020). Oxford Research Encyclopedia of Communication. Retrieved 24 Sep.

(20) Julie Brinton and William H. Huggins, (2019)" algorithm, "Marriam Webster online dictionary," accessed

September 12, 2019“
(21) John Loeffler,” How Algorithms Run the World We Live In, “interest ingengineering.com, April 29, 2019,” accessed September 13, 2019
(22) Rustambek, M. (2023). Examining the influence of artificial intelligence on journalism: the viewpoint of professionals, reporters, and scholars. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 22(3), 110-114
(23) Suad Muhammad, (2019) The uses of social media by communicators in educational media and the gratifications obtained from them: A field study, Scientific Journal of Radio and Television Research, Issue 18
(24) Suad Muhammad, the same previous reference, p. 105
(25) Amal Al-Saeed Muhammad Aqdah, (2025) The Use of Artificial Intelligence Applications by Educational Media Students in Media Projects and Their Relationship to Developing Their Radio and Television Production Skills: A Study in Light of the Theory of Acceptance and Use of Technology, Journal of Media Research, Al-Azhar University, Issue Seventy-Five, Part Three
(26) Wang, Y., The Application of Artificial Intelligence in Chinese News Media. In 2021 2nd International Conference on Artificial Intelligence and Information Systems, ICAIIS 2021, pp. 266-269. Association for Computing Machinery.
(27) Arvind Narayanan, Understanding Social Media Recommendation Algorithms. (2023) Knight First Amend Institute.pp 1-39
(28) Ekaterina Zhuravskaya, Maria Petrova, Ruben Enikolopov, (2020) Political Effects of the Internet and social media, Annual Review of Economics, Vol.12, p416.
(29) Meske, C., Bunde, E., Schneider, J., & Gersch, (2020) M. Explainable Artificial Intelligence: Objectives, Stakeholders, and Future Research Opportunities. Information Systems Management, Vol.39, NO.1, p53
(30) Allam, J. Dempere, V. Akre, D. Parakash, N. Mazher and J. Ahamed, (2023) Artificial Intelligence in Education: An Argument of Chat-GPT Use in Education," International Conference on Information Technology Trends (ITT), Dubai, United Arab Emirates, VOl.9, P.151-156
(31) Bruyn, A., Viswanathan, V., Beh, Y. S., Brock, J. K.-U., & Von Wangenheim, (2020) F. Artificial Intelligence and Marketing: Pitfalls and Opportunities. Journal of Interactive Marketing, Vol.51, NO.1, P.91
(32)B, Sima. S, Mats. P, and Ilhan. K. DAIS Project – (2023) Distributed Artificial Intelligence Systems: Objectives and Challenges. Ada Lett. 42, 2, PP.96–98.\
(33) Coding Freak, (2028)” Top Algorithms/Data Structures/Concepts every com puter science student should know, “medium.com, Jun 26,” ac cessed September 14, 2019“.
(34) Alsalloum, A. A., & Gainous, J. (2025). Female social media influencers in the Arab Gulf: Shaping marketing and advertising on Instagram. Frontiers in Communication, 10:1518386
(35) Shahd Ayman Nassif, Mohamed Ben Moussa, (2024) Algorithm Literacy among Youth: Understanding and Navigating Social Media Algorithms, Egyptian Journal of Mass Communication Research, (Third Part, p.p 33-72.
(36) Mohamed, E. A. S., Osman, M. E., & Mohamed, B. A. (2024). The impact of artificial intelligence on social media content. Journal of Social Sciences, 20(1), 12–16
(37) Anwar, M. S., Schoenebeck, G., & Dhillon, P. S. (2024). Filter bubble or homogenization? Disentangling the long-term effects of recommendations on user consumption patterns. In Proceedings of the ACM on Web Conference 2024 (WWW ’24) (pp. 123–134). ACM.
(38) Livia Norström, Anna Sigríður Islind, Ulrika M. Lundh Snis, (2020) Algorithmic Work: The Impact of Algorithms on Work with Social Media, Twenty-Eighth European Conference on Information Systems,
(39) Samuel Hardman Taylor, Mina Choi, (2022) An Initial Conceptualization of Algorithm Responsiveness: Comparing Perceptions of Algorithms Across Social Media Platforms, social media + Society, pp 1- 12.
(40) Nuanwan Soonthornphisaj;Taratep Sira-Aksorn;Pornchanok Suksankawanich, (2018) Social Media Comment Management using SMOTE and Random Forest Algorithms, Publisher: IEEE. Published international
(41) Purva Grover, Arpan Kumar Kar & Yogesh K. Dwivedi/ Annals, (2020) Understanding artificial intelligence adoption in operations management: insights from the review of academic literature and social media discussions
(42) Hua Hu and Ding Lin, (2019)” Feature Analysis of the Social Media, “) paper presented at International Workshop on Computer Science in Sports, IWCSS 2013(,” accessed August 22
(43) Yan, dingtian, (2022) robotic cameramanfor augmented reality-based broadcast and demonstration, doctoral dissertation, university of essex. 2, p 25

(44) Hepp, Andreas (2020). "Artificial companions, social bots and work bots: communicative robots as research objects of media and communication studies. "Media, Culture Society (2020(
(45) James Bingaman ,2021 Paul R. Brewer, Ashley Paintsil & David C. Wilson, ―Siri,‖Show Me Scary Images Of AI‖: Effects of Text-Based Frames and Visuals on Support for Artificial Intelligence‖, Science Communication, Vol. 43(3), 2021 P.P 388 –401
(46) Canavilhas, João, (2022) "Artificial Intelligence and Journalism: Current Situation and Expectations in the Portuguese Sports Medi", Journal. Media, 3pp510;530
(47) Daman Preet Singh, Algorithmic Bias of Social Media, The Motley Undergraduate Journal, Oct. 2023. Vol. 1, Issue. 2, P: P109: 118
(48) Reham Hosny and Mohamed A Nasef (2025), Lexical algorithmic resistance: Tactics of deceiving Arabic content moderation algorithms on Facebook, Big Data & Society, April–June, Vol.12, No.2, p.5. sagepub.com/journals-permissions
(49) Julia Velkova and Anne Kaun (2021), Algorithmic resistance: media practices and the politics of repair, Information, Communication & Society, VOL.24, NO.4, p.p,523– 540
(50) Matias Nathan, Lucas Wright, (2022) Impact Assessment of Human- Algorithm Feedback Loops, Social Science Research Council, March
(51) European Union Agency for Fundamental Rights. (2022) Bias in algorithms: Artificial intelligence and discrimination. Publications Office of the European Union. ISBN 978-92-9461-935-8.
(52) Peralta, A. F., Kertész, J., & Iñiguez, G. (2021) Opinion formation on social networks with algorithmic bias: Dynamics and bias imbalance. Journal of Physics: Complexity, 2(4), 045009
(53) Constanza M. Vidal Bustamante, Social Media Recommendation Algorithms, (2022) The Belfer Center for Science and International Affairs, pp1-34.
(54) Florian Saurwein, Charlotte Spencer-Smith, (2021) Automated Trouble: The Role of Algorithmic Selection in Harms on Social Media Platforms, Media and Communication, Vol.9, Issue.4, , pp 222-233
((55) Ahmed Ali Saad Ali Gaballah, (2025) Motives for the participation of educational media students in Egyptian universities towards volunteer work in NGOs and civil society organizations via social media: A field study, Journal of Media Research, Al-Azhar University, Department of Media, Issue Seventy-Three, Part Four,
(56) Jonathan Stray, Ravi Iyer, Build Up, (2023) The Algorithmic Management of Polarization and Violence on Social Media, Draft for Knight First Amendment Institute, KnightColumbia. Org
(57) Hannah Metzler, David Garcia, (2023) Social Drivers and Algorithmic Mechanisms on Digital Media, ASSOCIATION FOR PSYCHOLOGICAL SCIENCE, Sage pub, pp1-14.
(58) Sirisha, D., Lokesh, C., Manikanta, D., Kumar, D. T., Akshaj, D., & Indrani, E. K. P. (2024). How Social Media Platforms Use Algorithms: An In-Depth Analysis. International Journal of Research Publication and Reviews, 5(11), 2931-2933.
(59) Michael S. Bernstein, Angèle Christin, Jeffrey T. Hancock, Tatsunori Hashimoto, Chenyan Jia, Michelle Lam, Nicole Meister, Nathaniel Persily, Tiziano Piccardi, Martin Saveski, Jeanne L. Tsai, Johan Ugander, and Chunchen Xu, Embedding Societal Values into Social Media Algorithms, Journal of Online Trust and Safety, September 2023, pp 1- 13.
(60) Zainab Mahmoud, 2019, The Digital Age Teacher: Aspirations and Challenges, Faculty of Educational Journal, No. 68, Sohag University, pp. 3112-3113
(61) Zainab Abdul Wahid, (2024) The Reality of School Radio in Light of Digital Transformation from the Perspective of Educational Media Specialists: A Field Study, Journal of Research in the Fields of Specific Education, Volume Ten, 1296
(62) Sahar Mohamed, 2022, A Proposed Vision for Parenting in Egyptian Society in Light of the Implications of the Digital Age, Scientific Journal of the Faculty of Education, Vol. 38, No. 9, 02, Research and Scientific Publication Department, Assiut University
(63) Zainab Abdul-Azim Abdul-Wahid, (2024), previous reference, p. 1270
(64) Zainab Abdul-Azim Abdul-Wahid, the same previous reference, p. 1271
(65) Tweeted on 2023, "The Development of Leadership Skills of Public-School Principals in Light of a Field Study in the Education Directorate of the Liwa (University Digital Transformation Skills)," Scientific Journal, Vol. 39, No. 1, Faculty of Education, Department of Scientific Research and Publication, Assiut University
(66) Sarah Ghazan 2024, Digital Learning, Education and Skills in the Digital Age