



Research Article

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Artificial Intelligence in Journalism: An Overview of its Applications and Uses

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ABSTRACT

The given paper explores the Artificial Intelligence and the use of it in the Journalism and Media. A decade earlier, this technology of AI was introduced with an insight of developing the tech sector of the countries. The introduction of AI in different fields made their work easy. This paper explores the impact of AI on Journalism encompassing the opportunities and challenges faced during the use of these tools. A survey was conducted on a small scale, samples were selected randomly from different professional backgrounds, this survey provided a detailed summary of what people think about AI and how do they think it will impact Journalism. A large number of people think that if used correctly, AI can make a big change in this sector, it can help us to explore the field with a different mindset. But the technology that is used now-a-days affects the Journalism negatively. The biasness of the computer algorithms, the algorithms used incorrectly, the ability to deep fake the original content, are some of the problems that can inculcate while using the tools. The newsroom may find these tools effective but it can impact the human thinking. The content generated through AI cannot compete with the human ideas and their emotions.

Thus, this research paper finds that though AI is competent to deal with the fast-pacing environment, specifically the Journalism and Media sector which advances itself on daily basis, it lacks to deal with the human element in this sector. This technology can only make the humans incompetent to deal with their own fast-pacing work environment and life, it can make them lethargic to deal with a burden. Also, AI demands the judicious use as it can influence and manipulate the person easily. The biases of algorithms need to be identified thus one cannot fully depend on the tools of AI.

INTRODUCTION

Today's world is more of a synthetic world made up of Artificial Intelligence and this AI has a deep penetration in our system. Over a period of time, we have been nourishing it with our immense knowledge and resources but it has now started dictating humans what to do and how to do anything and everything. Artificial Intelligence has come to change the way we live and interact with technology. AI is the ability of machine to perform complex tasks that humans can do such as reasoning, learning and problem solving. To be more precise, it is the stimulation of human intelligence in machine that are programmed to think and learn like humans. It is the machine designed to think and

react like humans and handle the work load done by them. This technology has its strong impact in almost every field. The recent boost in Internet and technology has given the way for the development of digital media, journalism and communication. Media has huge impact on our lives, and Artificial Intelligence has not left any side unaffected. AI in news media is employed for tasks like automated artificial generation, sentiment analysis and personalized content recommendation. [Crespo & Pinto-Martinho, 2021]. With the advancement of Information and Communication Technology (ICTs), news media industries have gone to sea changes. Moreover, the emergence of Artificial Intelligence and machine learning has redefined the

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implication of technology in numerous field and Journalism is no exception to it. Over the last decade, AI has been so prevalent in Mass Media and news agency newsroom that it has now transformed Journalism and mass media into a business model with tiring work routines and unleashing flood of information which can be evenly managed by the development of AI. It assists the collection, production and distribution of news. The work done by humans in the newsroom is now being done with a major help of AI. Though the work done is commendable but it lacks the sense of human creativity, human touch and the emotions. Globally, newsrooms are adopting the AI technology for the production and distribution process which makes a significant impact on the jobs in the journalism and mass media sector. [Biswal, & Gouda, 2020]

The feature of automated reporting in journalism assists the newsroom by creating news articles based on certain details which frees up the journalists from their regular work and also freeing them up from their jobs.

The algorithm of machine learning makes the AI aware about the audience's preferences and then shows the content on their feed according to their personalized choices.

Another algorithm of Generative AI makes Artificial Intelligence produce and create its own photos, videos and audios based on the large datasets it has collected or it has been trained on. [Jones, Luger, & Jones, 2023]

These are some of the algorithms and unique feature that attracts anyone and everyone towards this trap of the world of Artificial Intelligence. This trap fascinates everyone, but is not very beneficial for regular use. Though it may provide us some great ideas or enable us to think diversely and makes our perspective even broad irrespective of any issue or any conflicts, but the more we limit its use the more we can preserve our own capability of thinking. It is good to ignite our thought with the help of AI but we can storm our brains for the rest of the content, at least we can make ourselves contribute somewhere and where ever possible.

This research paper is with a point of view that will help us study about the perspective of Journalism that AI has re shaped and the pros and cons of AI on our society. The paper has also studied the thinking of a layman in this particular direction. The survey conducted asked several questions from the respondent regarding the AI and Journalism, which will make your perspective broad to understand whether the society is completely ready for this change or not.

Research Objectives

- The objective of this research is to study about the impact of AI on Media and Journalism.
- To know how the AI tools affect the working of Journalist and newsroom.
- To know whether the AI is a boon or bane for the Journalism.

Review of Literature

There are numerous researches that has taken place already which depicts various aspects in the field of Artificial Intelligence and Journalism. Every author has its own thoughts and beliefs but they surely provided a guideline to follow.

Generative AI

The paper that outlines the existing and potential risks of generative AI if incorporated in the Journalism, Newsroom and News Agency. Jones, B, Luger, E & Jones, R (2023): *Generative AI & journalism: A rapid risk-based review*, defined the algorithm of Generative AI and have given a broad aspect of knowledge about the same.

Deepfakes

The evolution of the algorithm of Machine learning and deep learning in Generative Adversarial Network has given the way for the development of Deepfakes. Y. Patel, 2023, : *Deepfake Generation and Detection: Case Study and Challenges*, explains the evolution of deepfake era. This deepfake technology can mimic someone in such a way in which they can wrongly interpret themselves as someone else, also can efficiently copy any photo, video or audio.

Transformation of Business Strategy in Journalism

The AI has impacted Journalism in terms of Business Models and relationship with audience. Túñez-López, J. M., Fieiras Ceide, C. & Vaz-Álvarez, M. (2021): *Impact of Artificial Intelligence on Journalism: transformations in the company, products, contents and professional profile*, identify the transformation that Journalism is expected to experience due to the impact of AI on its business Strategy.

Automated Journalism and Robot Reporters

The development of new and updated technology has invented new terms in Journalism referred as Automated Journalism and Robot Reporters. These terms are now emerging as an integral part of new Journalism and also transforming the form of Journalism. The research paper Biswal, S. K., & Gouda, N. K. (2020): *Artificial Intelligence in Journalism: A Boon or Bane?* author defined how this AI technology is transforming the production, consumption and distribution of news media.

Ethical Work by AI

In a Newsroom AI can also be used for the ethical work, Kim, Haley, "AI in Journalism: Creating an Ethical Framework" (2019), examines How AI helps in the story production and distribution for the masses and by using the algorithm of machine learning how they are able to achieve the satisfaction among audience by distributing their personalized Content.

Blockchain and cloud journalism

The modern Journalism has added some new words to the dictionary as Hassan, A., & Albayari, A. (2022). *The*



usage of artificial intelligence in journalism, has introduced various terms regarding the working of robots in the newsroom; these are, Open data journalism, big data journalism, blockchain journalism, cloud journalism. AERIAL JOURNALISM: In this Contemporary World, where everything is interlinked, we cannot ignore the technology, neither we can exist without each other nor we can imagine a life without the means of any communication. *Almalki, F. A., Aljohani, M., Algethami, M., & Soufiene, B. O. (2022)*, has explained that how technology and media are interwoven. It has termed aerial journalism as the type of journalism which provides timely information and in an efficient way.

RESEARCH METHODOLOGY

This research paper has a quantitative approach and follows random sampling method. The survey was conducted among 18+ age group to know their views regarding AI and Journalism. To collect the data, survey was conducted on Google Forms and on more than 50 samples, randomly selected from various kind of professions.

RESULTS

The people were asked whether they think that AI can help in exploring the field of Journalism, 75% of them thought that AI can be of major help whereas 19.6% thinks that it is of no use. This 75% percent people may have the view of developing themselves as well with the fast-pacing world. They might believe in working with the technology so as to understand the modern updates.

50% of them believes that AI is responsible for the spread of Unethical and fake new while 37.5% people were not sure of this. A lot of people work with technology which has its own cons. The digitalization can spread a rumor like a fire in a forest. This digital era may spread fake news so easily, that's why 50% people believe that AI can make its way for fake news in Journalism easily if incorporated blindly.

A large number of people believes that AI have both negative as well as positive impact in Journalism, it is upon us, humans, how to use and handle it. If used correctly and limitedly, AI can be very useful for the human kind. Almost

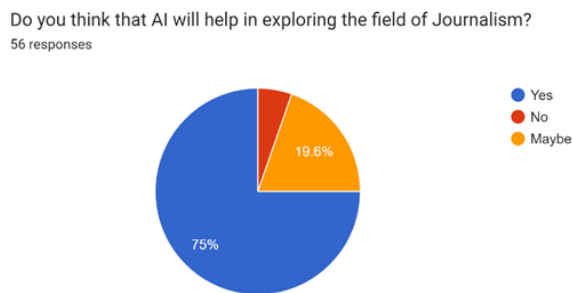


Figure 1: Pie chart od AI in exploration of Journalism

Is AI also a reason behind unethical news, fake news or rumours?
56 responses

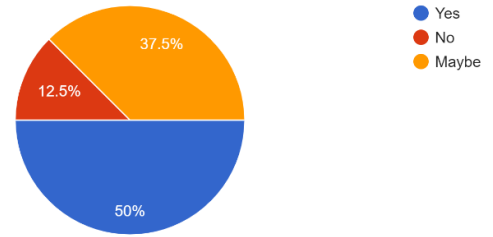


Figure 2: AI behind unethical and fake news

What kind of impact does AI have on Journalism?
56 responses

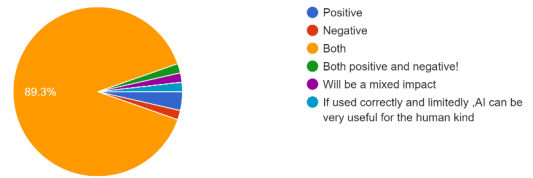


Figure 3: Impact of AI on Journalism

everyone believes that if the technology is used judiciously in a wise manner it can surely be of great help.

This concludes that the newly developed Artificial Intelligence can prove to be so beneficial for everyone and every field, we must also consider its use judiciously. The technology should not under estimate the human capabilities, wisdom and knowledge.

Machine Learning- A Boon to The Audience?

The growing trend of AI is because of Machine Learning i.e. algorithm of machine that makes it excel in learning from the data. AI has an algorithm that focuses on the pattern of consumer's actions and then predicts the future actions. In this, the technology observes keenly the habits on the daily decisions made by any person which helps it to forecast the future actions or the choices and preference made by the person before the time. This algorithm of AI has made it so powerful and popular and is a reason for its inclusion in the whole structure of Media and Journalism. This feature allows to satisfy the consumer with the content of their choice and preference, thus making the particular channel or the platform more entertaining to the audience. This also helps in influencing them or to persuade their mindset with constant interventions.

The algorithm of machine learning recommends the content on various platforms (like Netflix, You-tube, Spotify, Prime video etc.) to the audience according to their preference which enhances the customer fulfillment.

This algorithm used in Journalism helps the Journalists to write articles, features or editorials according to the viewers who visit their websites. This may help to propagate and persuade them and their ideas.

Thus, the algorithm of machine learning may help to

enhance the effectiveness and the contentedness among the readers and viewers, as this directly aims at the creation, production and distribution of the content.

Generative AI- Can Create Everything

AI has such an advanced technology that it increases the efficiency and speed in news production. It makes the optimum utilization of resources which leads to fuller satisfaction of the audience and the newsroom. AI assure of a greater diversity of perspective than a person and have better hold at data analysis. All this is possible just because of another algorithm-Generative AI. Generative AI is an algorithm that can create new content in response to prompts. It can construct its own answers based on the queries of a user. This is the algorithm that can create and generate its own photos, videos, audios basically it helps to create content and tries to mimic human creativity. This can help to create the articles, features, news editorials and reports based on the large data inputs. This algorithm assists the journalists in data analysis and reporting.

Unnatural AI

The most interesting fact is that now-a-days technology are no longer used as a helping hand to Journalism, rather they are re-shaping the way journalism is (Goni and Tabassum, 2020). Big organizations like New York Times and Washington, are using AI over half a decade and has seen a lot of changes. The Robot Journalist, which is machine basically with some data have written over 850 articles within one year. Though this technology is structuring journalism, this is the most UNNATURAL THING. This machine technology is only spoiling the future of journalism. Unlike journalist, an AI robot cannot go into courtroom and interview the victim behind the bars. This AI machine cannot replace any human's creativity, humor and credibility. The machine is a machine, human made and unemotional, neither it can have sympathy nor empathy towards anyone.

Is The Feature of Generative AI That Much Useful?

Though this algorithm turns out to be of great help but there are some harms of using this. It may cause menace and a loss of human creativity. The best of the best advanced machine learning can not beat the human's brain and its continuous working. The more use of generative AI in journalism can question its most basic element i.e. accuracy. Every person with also a little exposure to journalism wants every news to be accurate and authentic. The AI may pose threat to the credibility and accountability through the introduction of fake and misleading news. Thus, this growing technology is raising a question mark on the standards, moral values and ethical principles of journalism.

Generative AI can also provide us the fake and misleading information which is difficult to detect. This feature can fabricate the original data available online and present it

as the real one. This may lead to the unauthenticity to data and content generated. The content created are pleasing to humans but lacks to have any originality.

Generative AI can display the information or the photos, videos without the source information. It can plagiarize the already existing content as a new piece of information without any of its reference.

Though Generative AI can be of great help for the newsroom but it can hamper the commitment of the media house towards its readers (Dr Jones, Dr Jones, Prof Luger, 2023)

Deepfakes- A False Way of Creating

The practical advances in AI, have given rise to the phenomena of Deepfakes, which can be considered as a form of fake news. The origin of Digital Media and AI and the inclusion of it in journalism, increase the chances to spread fake news. The Artificial Intelligence provides with the technique that creates the realistic photos and videos [digital production] of someone or something that seems to be real but actually is fake content that is made to attract more and more viewers. With the help of AI generated deepfakes, many scammers use the exact voice, face structure and surrounding of someone they are pretending to be and this has caused so many frauds and scams in recent years.

These deepfake scams are used by many scammers to mislead the other person. Mimicking a famous personality on social media, deep faking their pictures only to have a good number of viewers, or to promote their brands. This technique makes it harder to identify what is fake and what is real.

Deep faking in journalism can harm the authenticity of the news, it can prevent the audience to have faith in the process of journalism.

The penetration of AI in Digital Media has caused many more problems as it indicates that as a Society we are not ready to deal with the emergence of deepfakes at any level. That we have not witnessed any severe impact so far is due to the early stage of development, which shows imperfections to address the issue, a combination of technology, education, training and governance is urgently needed (Karnauskos, 2020).

Is AI Literally That Good it Seems to Be?

Biasness of machine learning

The algorithm of machine learning makes the AI system biased, as the machine learns from the large datasets which are entered and developed by humans and humans are biased. So, if a dataset reflects human biasness, how an AI can be unbiased. Moreover, it cannot understand the tone of the speaker, it cannot understand the sarcasm, thus falls out to understand the major aspect of human communication. After all it is just a human creation, it is us who are making it something it is not.



Wrong information created by AI

As AI is growing more and more as a part of journalism or emerging as a new and different source of information. The true journalism requires to be more accurate and of high quality in order to counterbalance the disinformation created by AI. It can spread Unethical and fake news among people in a few seconds only with the help of social media, which creates a disbalance.

Lacks nuance of human journalists

Articles or the news stories developed by AI lacks the human touch and emotion. The data can also mislead the masses, the information published can be inaccurate. This inaccuracy can generate due to the AI which can synthesis the already present information on the internet and mold it accordingly, which can destroy the reliability as well as authenticity.

The biased algorithms

AI is like talking in front of a child, when we talk, they don't completely understand us but eventually start picking up the words used by us. So, we need to be very cautious of what we have to say in front of them. Machine learning process is just like this where the system learns from the data we provide, thus, we need to be extra cautious to avoid AI biases. These biases can be created by system by the use of mistaken AI assumptions in the machine learning process. For an example, the AI don't understand the gender- neutral terms and can translate it in the gender specific terms, based on the stereotypes created in the society.

Who is at fault for the AI biasness?

Actually, we can't really point the system's fault at this biasness. As this whole structure is being created by humans, they have entered the large datasets, collected the data and done all the required work. We cannot blame the technology, because it just reflects the human biasness. It reflects the basic stereotype in the society and we need to be extra careful while using these AI tools without being a prey of these biasness.

So, the use of AI in journalism requires the journalists to be very cautious while identifying the AI biases.

The unknown sources

The algorithm of generative AI provides the information without any source information. The AI system lacks to tell the source of the information which erode the trust of readers in the journalism. This lack of transparency can cost so much to the journalist as the readers cannot verify the source behind the generated content.

Job displacement

The work that was done prior by human journalist is now being done by using the AI tools, can endanger the jobs of the human journalists. The automated reporting, content generation, data analysis etc. are some works that requires

the human creativity but now can be done by Artificial Intelligence, which can hamper the creation of jobs in this particular sector.

Correct use of AI technology

The AI tools are used in the fact checking, data analysis, identification of deep fakes. While the AI technology is the system behind the occurrence of these in journalism. We, humans have a strong faith upon the technology created by us and which is also responsible for the destruction. Thus, while handling the AI Technology, we must be aware and should use the technology wisely.

CONCLUSION

For sure, Artificial Intelligence has been of great help in Journalism and Media, it can help to better explore the field to its very length. AI can help to dig the hidden capabilities of the Media and journalism. It can help journalists with a lot of work including data analysis, paper records, script writing etc. The tools of AI can help in fact checking the background of the information, and gathering the news which can help reporters to focus more on crafting compelling narratives. The survey proves the thinking of various kind of people regarding AI and Journalism. According to them, this AI technology if used properly can provide the effective outcomes than expected. The technology can help us to think out of the box and differently. This technology can be of great assistance only if we use it limitedly, overuse of the AI will only make us depend upon it. AI can control the creativity and ideas of a human. Various algorithms of AI are outstanding but it only increases the human dependency on the machine, it will only make the human element replaceable, which is obviously not good. Thus, AI tools must be used in a correct way, preserving the human capabilities and not making AI superior than their masters.

RESULT AND DISCUSSION

The paper discusses various aspects of using AI in Journalism and Media sector. With the development of internet and the boost in Information and Communication Technologies (ICTs), the modern technology has been in trend. From a decade, Artificial Intelligence has been widely used and recognized. The upcoming engineers are mastering their skills in the AI tools and algorithms. Artificial Intelligence is a wonderful technique to reduce the burden but if used in a limited way. Journalism is a field where the audience trust blindly over the Journalists, they cannot risk the accuracy of the information. Acting as a watchdog of the country, neither they can manipulate the content nor they can grab any information from unknown sources. Their responsibility is to provide authentic information with all the fact checking. Although the algorithms of machine learning and Generative AI has made a lot of work easy but the main thing is that

it prohibits the way a human can think and perform. Newsroom is not just a room with all the reporters and editors instead it is a place where the journalists meet and gather all the different type of news for the sake of general public. It is a place where they use their abilities to write a news that is worth enough. AI can surely reduce the work load from the journalists but it may also reduce the brain storming done by them. AI can be used explicitly in journalism as a tool that can write news story, editorials and features. AI has brought the major transformation of newsroom. All the important function of Journalism can be in risk if a Journalist depend upon AI. Though, the algorithms of AI always try to meet the human standards by mimicking them, it lacks to perform effectively due to certain reasons. The technology has started overpowering the vast human capabilities. It somehow restricts us to know our full potential. Thus, we can say that, the inclusion of AI in each and every field is not acceptable.

Recommendation

AI and Journalism is a broad concept as both the fields keep developing themselves with regular updates. This provides us a vast area for the research purpose in the field of AI and Journalism. Journalism, itself is a wide sector covering Print Media, Broadcast Media and Electronic Media, there can be further researches on the mentioned areas. There can be Theme Based Researches on the AI and Journalism.

The sample size we have chosen for this research is quite small, so a large survey can be conducted on even more respondents that may provide us a clear point of view of large audience.

Research could also speculate the future and emerging trends in Artificial Intelligence, such as emergence of AI driven reporting and Automated Journalism.

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