

The Impact of Artificial Intelligence on Academics: A Concise Overview

Dr. Ramadan Elaiess

University of Benghazi, Libya, Dept. of information studies
ramadan.elaiess@uob.edu.ly

Abstract: Artificial intelligence (AI) has developed into a powerful tool that Academics can exploit for their research, writing, and cooperation in recent years. AI can speed up the writing and research processes, improve teamwork, and provide fresh perspectives for the academic world. In addition to discussing the potential drawbacks of introducing AI into research and cooperation, this paper has also explored the positives and benefits of AI for Academics. In terms of methodology, a theoretical approach was used as the research technique for this study which involves doing a review of various publications, research papers, and studies published on this topic, but it focuses more on primary sources of information. The results show that AI is rapidly becoming a powerful tool with huge potential to improve academic work, and it is already being used in a variety of ways. AI can also enhance academic teaching and learning, as Academics can adapt their teaching to the needs of their students by using AI-powered educational tools to aid personalize training. The findings also demonstrate that AI has the potential to be an effective research tool but it also has the ability to be misused to get over moral constraints.

Keywords: Artificial intelligence, Academics, Information technology, Academic teaching, Educational technologies

1. Introduction

Artificial intelligence is a fascinating topic that is seen as the next significant technological advance. "The capability to combine artificial intelligence (AI), computers, and embedded systems, such as robots, that display cognitive advance, intelligence, learning, adaptability, and decision-making abilities, is referred to as intelligence." Devedic (2004) , With the growing use of smartphones and other technologies, artificial intelligence has become a part of our daily life. It is well known, that Artificial Intelligence (AI) is undergoing a revolution. It is gradually taking over the academic landscape as the technological world expands and changes. Organizations, particularly educational institutions, have adopted AI worldwide and deployed it in a variety of contexts and settings Alam, (2021). It is a matter of fact that Artificial intelligence provides enormous opportunities for automating and accelerating administrative work for educational institutions and instructors Timms, (2016). According to Sharma et al., (2019) the use of artificial intelligence in education has the potential to fundamentally alter a wide range of educational fields. In this regard, AI has reduced instructors' paperwork and workload, particularly in performing various instructing and teaching functions, allowing them to devote more time to their core function of educating as well as other critical tasks. Chassagne(2018) ,. Based on analyses and examines of several peer-reviewed research studies, J. P. Rowethere and others (2011) claim that there is evidence of a better and enhanced learning experience for students as a result of the usage of AI in education.

It is obvious that AI has the power to fundamentally change the way Academics conduct research, publish papers, and cooperate, as well as their ability to think, teach, and learn. Therefore, AI is attracting a considerable interest from scientists all over the world because of its immersive advantages. Moreover, Artificial intelligence, according to Pokrivcakova, (2019) enables the development and implementation of intelligent training systems and adaptable content that are personalized to each student's unique learning needs and abilities, such as intelligent virtual reality and its application in simulation teaching and learning. Trough the help of Artificial intelligence, Academics can also concentrate on more difficult subjects by using AI to automate complex activities. Furthermore, Academics may uncover information, evaluate data, and spot trends in huge datasets with the use of AI-powered technologies. Insights and predictions that would be challenging for humans to make can also be produced by AI. For instance, AI-based predictive analytics can be used to predict students' performance and identify areas that can benefit from further assistance. Pokrivcakova, (2019)

Academics have made extensive use of artificial intelligence in recent years. AI assisted academic researchers in writing more successfully and effectively. Recent advances in AI and AI-powered writing aides assisted researchers in detecting and correcting grammar and spelling problems, as well as providing appropriate citations. Academics can rapidly skim through extensive materials by using AI to summarize them, allowing academics to quickly get to the core of an article or a research paper . AI can also be used to improve academic collaboration. As Academics can utilize AI to collaborate on projects in real time using AI-powered tools, which make it easier for them to share ideas, monitor project progress, and provide feedback. When it comes to academic teaching and learning, AI can also enhance academic teaching and learning, as Academics can adapt their teaching to the needs of their students by using AI-powered educational tools to aid personalize training. Furthermore, AI has attracted significant attention from academics in the last few years as they begin to use it to automate grading, providing students with more accurate and timely feedback. Pokrivcakova, (2019)

AI is rapidly becoming a powerful tool with huge potential to improve academic work, and it is already being used in a variety of other ways. As AI technology advances, Academics should look for methods to use AI to improve their research and collaboration. By doing so, they can ensure that they are maximizing the potential of AI to alter the academic landscape.

2. The significance of this research:

The importance of this paper are as follows;

- Artificial intelligence (AI) is becoming an increasingly significant component of modern life, therefore its influence on numerous and several disciplines should be examined.
- AI has the potential to revolutionize the way students learn and instructors educate, accordingly it is critical to investigate how this can develop.
- knowing the possible advantages and disadvantages of AI can help educators and instructors plan for the future of education.
- Emphasizing the significance of artificial intelligence may help to boost awareness of AI and its uses in education.

3. The benefits and downside of using AI by Academics

One of AI's main advantages for academics is its capability to automate time-consuming research procedures. AI can automate tasks like data collection, organization, and analysis that would often involve a lot of manual effort. AI can also be used to identify novel correlations and trends in research data, which can shed important light on scholarly subjects. AI can also be used to extract insights from voluminous content, such as literature or abstracts, which would normally take a very long time to complete by hand.

AI can facilitate collaboration, which is another advantage for scientists. AI can aid with task and project coordination as well as communication amongst team members. AI can also be used to automate document exchange and evaluation, which makes it simpler for academics to work together on projects. AI may additionally be utilized to link academics with the resources they require to finish their work, making it simpler for them to locate and access the information they require to complete their research work. Moreover, academic research can benefit from the application of AI to develop fresh concepts and insights. Besides, AI may be used to find novel patterns in data and provide fresh theories and concepts. This can give academics fresh perspectives and enable them to conduct their studies with more knowledge. Alam, (2021)

Despite the obvious advantages of AI for academics, applying it to research and cooperation may have drawbacks. The potential for data manipulation or inaccurate results due to AI is one potential drawback. The possibility for AI to be utilized to avoid ethical problems when doing research is another possible drawback. Also, there is a chance that AI will be utilized to automate tasks that should be completed by humans, including peer review and proofreading. Chassagne(2018) ,

4. The Advantages of AI for Researchers and Publishers

The followings are some advantages of AI for researchers and publishers;

- Research-critical patterns can be revealed by filtering papers based on content rather than title, which enables trend detection.
- Find new peer reviewers: Using online resources, AI can find a list of potential peer reviewers that journal editors might not have thought of.
- Identify funding sources: Elsevier claims that AI can make it simpler for sponsors to locate the results of the study they have funded.
- Recognize inaccurate reporting and statistics: AI can determine whether a critical component of a study is absent and whether the data used were incorrect.
- Finally, it is capable to detect whether research data was modified in order to arrive at the desired outcome.

5. How can AI be used to avoid ethical consideration when conducting research

Artificial intelligence and research ethics have a long-standing relationship, with AI frequently considered as a tool to perform research without taking ethical considerations into account. This is a challenging problem because, while AI can be used to lighten the load of research, it can also be utilized to get over moral restrictions that might cause harm. According to Ryan, M, et al. (2021) "One of the main primary obstacles that preventing key decision-making for ethical Big data + AI use is that there are few rigorous empirical studies carried out on the ethical implications of these technologies across multiple application domains" This paper will look at how artificial intelligence can be utilized to avoid ignoring ethical considerations when conducting research.

It is crucial to first and foremost establish what is meant by "research ethics." The moral guidelines and standards that direct research as well as the procedures that make sure it is carried out ethically are referred to as research ethics. Ryan, M, et al. (2021) This domain covers issues including informed consent, data security, privacy, and animal care. In order to protect participants safety and stop research from being abused or misused, research ethics are crucial. In fact, research ethics are essential to ensure the safety of participants and to prevent research from being exploited or misused since, as researchers have noted, there is a significant tendency to ignore ethical considerations when it comes to AI.

Automating research procedures with AI has the potential to speed up the process and lighten the workload for researchers. This implies, however, that there is a chance that AI will be utilized to get beyond moral considerations. For instance, AI can be used to conduct research without getting subjects' informed consent or without following ethical standards. Jiya, T. (2019)

There are a few vital procedures to take while employing AI for research in order to prevent ignoring ethical considerations. First, it's crucial to make sure that the study procedures are open and that ethical standards are upheld. Obtaining consent from participants and ensuring that they are fully informed about the research are also part of this. Furthermore, it is important to test AI algorithms to make sure they are reliable and impartial. Jiya, T. (2019) Last but not least, researchers must ensure that AI isn't being utilized to game the system or violate moral obligations.

Concluding Thoughts:

Artificial intelligence can help academics in their research, writing, and collaboration in a variety of ways. AI can facilitate cooperation, automate time-consuming processes, and produce fresh insights. To ensure that AI is utilized properly, it is crucial to be aware of the potential drawbacks of introducing AI into research and cooperation. Furthermore, AI has the potential to be an effective research tool, but it can also be exploited in ways that cross moral restrictions. Researchers therefore must make sure that the research method is transparent and that ethical norms are followed in order to avoid this. Besides, it is important to test AI algorithms to make sure they are reliable and impartial. Researchers may ensure that AI is utilized responsibly and ethically by following these measures.

References:

- A. Alam, "Should Robots Replace Teachers? Mobilization of AI and Learning Analytics in Education," 2021 International Conference on Advances in Computing, Communication, and Control (ICAC3), Mumbai, India, 2021, pp. 1-12
Available at: https://www.enago.com/academy/academic-publishing-machine-learning-era/Enago_Academy_artificial_intelligence.
- Jiya, T. (2019). Ethical Implications of Predictive Risk Intelligence. ORBIT Journal, 2(2), 51. V. Devedic, "Web intelligence and artificial intelligence in education", Educ. Technol. Soc, vol. 7, no. 4, pp. 29-39, 2004.
- J. P. Rowe, L. R. Shores, B. W. Mott and J. C. Lester, "Integrating learning problem solving and engagement in narrative-centered learning environments", Int. J. Artif. Intell. Educ, vol. 21, no. 1-2, pp. 115-133, 2011.
- M. J. Timms, "Letting artificial intelligence in education out of the box: Educational cobots and smart classrooms", Int. J. Artif. Intell. Edu, vol. 26, no. 2, pp. 701-712, Jan. 2016.
- M. Chassignol, A. Khoroshavin, A. Klimova and A. Bilyatdinova, "Artificial intelligence trends in education: A narrative overview", Procedia Comput. Sci, vol. 136, pp. 16-24, Jan. 2018.
- R. C. Sharma, P. Kawachi and A. Bozkurt, "The landscape of artificial intelligence in open online and distance education: Promises and concerns", Asian J. Distance Educ, vol. 14, no. 2, pp. 1-2, 2019.
- R. F. Murphy, "Artificial intelligence applications to support Kf1 2 teachers and teaching", Tech. Rep. PE135, 2019.
- Ryan, M., Antoniou, J., Brooks, L. et al. Research and Practice of AI Ethics: A Case Study Approach Juxtaposing Academic Discourse with Organizational Reality. Sci Eng Ethics 27, 16 (2021). <https://doi.org/10.1007/s11948-021-00293-x>
- S. Pokrivcakova, "Preparing teachers for the application of AI-powered technologies in foreign language education", J. Lang. Cultural Edu, vol. 7, no. 3, pp. 135-153, Dec. 2019.
- V. Devedic, "Web intelligence and artificial intelligence in education", Educ. Technol. Soc, vol. 7, no. 4, pp. 29-39, 2004.