

ETHICAL CHALLENGES OF USING AI IN ACADEMIC RESEARCH

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Abstract

The use of Artificial Intelligence (AI) tools and applications in composing academic papers is becoming rampant. The problem is not the usage but the unethical use. This paper, therefore, examined the ethical implications of AI use in academic writing, defined their scope, outlined a clear methodological approach, and explained the relevance of the inquiry for contemporary scholarship. The paper adopted the descriptive and qualitative methods. Recent academic works on the use of AI were analysed in order to identify recurring ethical themes and areas of ongoing debate. The findings show that many are depending on AI to compose academic writings. Sometimes, AI gives biased, false, and unreliable information. Also, over-dependence on and the misuse of these tools can encourage or result in plagiarism, superficial analysis, and intellectual laziness. The paper recommends that schools should develop relevant policies on the use of AI. Also, school administrators and educationists should often organise seminars where students are taught effective and ethical use of AI. Finally, the paper concludes by noting that AI should not be eliminated from academics. Rather, its use should be transparent, ethical, and supportive of meaningful teaching and learning.

Keywords: AI, academic research and writing, ethical use, AI-tools and applications

Introduction

In recent times, the use of Artificial Intelligence (AI) is becoming the norm among students, teachers/lecturers, and authors. Due to the invention of these AI writing tools, tasks which were once guided solely by human judgement and intelligence are now increasingly totally or partially done and/or supported by AI tools. For example, people now use AI tools to compose literature reviews, generate data analyses, develop hypotheses, and write other aspects of academic writing.

The first time the author heard about AI as a tool for writing papers was when he was completing his PhD programme at the University

of Nigeria, Nsukka (November-December, 2023). At that point, he was already preparing for his final thesis viva voce (defence). That very day, he and some of his colleagues went to see one of the Senior Lecturers in the department (of Religion and Cultural Studies), in his office and met a young man who came to introduce the software to the lecturer. After listening to his explanations, every one of them took interest in it. However, the amount of money needed for him to install the apps for us scared the author and his colleagues away. After that incident, he went home and asked an undergraduate student who was his neighbour about it, and he took time to

explain the whole thing to me. According to him, he used ChatGPT to write his project.

Since the invention of these tools for content creation, academic writing, and photo/video editing, new possibilities for knowledge production have emerged. However, a lot of serious ethical issues are also raised. As an editor of our seminary journal, I have had to reject a lot of papers that were over eighty per cent to one hundred per cent AI-generated. In fact, at one point, I became annoyed with the whole issue. However, what can one do: can I stop people from using the tools?

This study therefore examines the ethical implications of AI use in academic research, defines their scope, outlines a clear methodological approach, and explains the relevance of the inquiry for contemporary scholarship. The paper thus focuses on how AI affects key principles of academic research, which includes integrity, transparency, accountability, and originality.

The paper adopts a qualitative and interpretive approach based on a critical review of relevant literature. Recent academic works and reflections on the use of AI were analysed in order to identify recurring ethical themes and areas of ongoing debate. The researcher took time to download a good number of recent articles from databases like Elsevier, Google Scholar, ResearchGate, and Academia published since 2019 so as to conduct a systematic review.

The relevance of this study lies in its contribution to ethically responsible research practice. As AI is gradually becoming embedded in academic work, there is the need to have a clear understanding of its ethical implications in order to sustain academic integrity and public trust. The paper does not in any way rule out the use of AI in academic research; it simply aims to support responsible use of AI tools while, at the same

time, safeguarding the core values of scholarly inquiry.

Concept and purpose of academic research

Generally speaking, academic research has to do with a systematic and critical investigation in order to discover, interpret, or revise facts, theories, and principles in a field of study. Though academic research has been viewed and defined from many perspectives that cannot be fully outlined and discussed here, however it is defined, one thing is clear: it is an important aspect of scholarship and education because it promotes new knowledge. It is often done to find a solution to a problem by skilfully applying appropriate scientific and conventional methodologies and/or principles.

Academic research and writing stand at the heart of university studies and scholarly work. Hence, they are not casual or personal activities; rather, they represent the organised pursuit of knowledge and the disciplined communication of ideas (Afifah, 2024). That is why Agbor et al. (2024) opine that “Because of its utility, it is important that its (that is, academic writing’s) existence should not be threatened” (p. 35). Through academic writing, students, scholars and experts demonstrate their understanding of complex concepts and theories in their areas of specialisation. Besides, Khalifa and Albadawy (2024) note that in academic writing, apart from one having to handle a vast amount of information, complex ideas, and empirical data with understanding and clarity, he or she is also to have the ability to simplify complex ideas for the reader.

Academic research and writing is what trains students to foster critical thinking and analytical skills. According to Imed (2026), this process also enables students to have a solid grasp of the field of study that they pursued. In addition, Imed believes that depending on the quality of

research a student prepares, they can make valuable contributions to their field of study. He further outlines some of the purposes of academic research and writing as thus: expansion of knowledge, solving problems, informing decision-making, and fostering critical thinking, among others.

Academic research and writing are not to be done casually. There are conventional standards, styles and patterns that must be observed and followed. Hence, Gupta, et al. (2022) opine that academic texts must meet high standards of accuracy, evidence, and logical structure. According to them, every idea and statement must be backed by credible evidence. Also, in academic writing, it is important to maintain integrity through proper referencing and citing of sources. In fact, the above fact is one of the reasons why many people in recent times use AI tools.

Understanding AI tools and machines: A historical overview

The term "Artificial Intelligence" (AI) in recent times has become a household name. Almost everyone, even in remote areas, talks about it. In the course of this study, the researcher interviewed over two hundred (200) people within the age range of 14-67 years, asking whether they have any idea of what AI is. The majority of the respondents, representing about 72%, admitted that though they are familiar with the term, they do not have full knowledge of what that means and how it works. About 46% of the respondents, who are majorly students, affirmed that they often make use of AI frequently. The students interviewed admitted that they often used AI tools to do their assignments and write papers. Some pastors in the Owerri metropolis also admitted using AI for sermon preparation. One of the pastors interviewed said he does not

need theological education again, since he can easily use AI in sermon preparation.

Given the above data, the question then is, 'What actually is Artificial Intelligence? What is the origin and what are some of the tools? Simply put, AI is any machine or tool (software) that has the ability to artificially do what human intelligence can do. According to Copeland (2021), quoted in Agbor et al. (2024), "artificial intelligence is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings" (p. 36). They are machines and tools designed to mimic, duplicate, and displace intelligent humans. Thus, Manyika (2022) identified them to include "visual perception, speech recognition, and the capacity to reason, solve problems, discover meaning, generalise and learn from experience" (p. 8). Agbor et al. (2024) further remark that there are "weak or narrow AI" and also "strong AI". According to them, the strong ones "go beyond that to mimic human intelligence and act with precision. It is a deliberate creation to undertake human intelligence unaided... Strong AI will be capable of understanding, reasoning, learning and applying knowledge to solve complex problems in a manner similar to human cognition" (p. 37; cf. Duggal, 2023). Weak AI are the ones that perform limited roles strictly based on what they were developed to perform, like visual perfection, speech recognition, etc.

Coming to the history of the development of AI, Halpin (2005) remarks that the idea of AI could be traced to the 1956 Dartmouth workshop (Hanover, New Hampshire, USA). It is believed that it was at this workshop that the mission and major players of AI were conceived. McCarthy et al. (1955) remark that it was during this Dartmouth conference that it was formally idealised and accepted that it is possible for a machine to simulate every aspect of human

learning and other features of intelligence so long as they could be described precisely. However, Agbor et al. (2024), citing Turing (1950) and Samuel (1983), acknowledge that before the Dartmouth conference in 1956, many scholars had made efforts in the context of AI.

In 1958, John McCarthy created List Processing (LISP), while Arthur Samuel created the term, “Machine Learning” in 1959. The first industrial robot, the Unimate, used on an assembly line at General Motors, was developed in 1961. This machine was used to move die casings and welding parts on cars considered hazardous to humans (Tableau, 2023 quoted in Agbor et al. 2024). From this time onwards, experts continued to research and create more developed machines and tools. The first expert system was created by Edward Feigenbaum and Joshua Lederberg. This machine was developed to replicate human thinking and decision-making abilities.

Over the years, AI research has developed and grown rapidly, as many innovations and breakthroughs have been achieved. Many AI machines and tools, such as robots, chatbots like ELIZA, developed by Joseph Weizengau, which use natural language processing (NLP) to discuss with humans, etc., have been invented (cf. Agbor et al., 2024).

Types of AI applications and their roles in research processes

In recent times, AI has become an important tool and/or support in composing academic writings. As already noted, many people – students, scholars, and even pastors – make use of various AI applications on a daily basis. Various AI applications are downloadable on the internet, and some of them are free of charge. From the researcher’s experience as a lecturer in a Nursing college and Seminary, many students use AI tools to write assignments, term papers, and even

projects and theses. Thus, across many disciplines, AI applications now seem to contribute to different stages of the research process, from idea development to data interpretation and analysis. Hence, having a good understanding of the major types of AI applications and their specific roles is important in this study.

According to Russell and Norvig (2021), one major type of AI application in research is Machine Learning. These systems are designed to learn from data and improve their performance over time without being explicitly programmed for every task. In research, machine learning is often used in data analysis, especially when dealing with large datasets. For example, researchers in the social sciences use these machine systems to analyse survey responses, voting behaviour, or migration trends, while scientists use them to detect patterns in climate data or genetic sequences.

Natural language processing (NLP) is another important category of AI applications. It focuses on how computers understand, interpret, and generate human language. These tools help authors with literature reviews, analysis of text, and document classification. According to Jurafsky and Martin (2023), these tools can scan a large number of academic papers, identify important themes, and summarise findings within a short time. Researchers, scholars and authors also make use of these tools to analyse interview transcripts, historical texts, or policy documents/papers. People like these tools because they save time and energy.

Again, there are Expert systems and decision-support of AI tools. These tools or systems are developed to imitate human intelligence and expertise in specific areas by using certain rules, models, or knowledge bases. They are used in research in experimental design, diagnosis, and planning research methodology.

For example, researchers use them in the fields of medicine and agriculture to choose appropriate variables, predict outcomes of studies, or assess risks. The role of these tools is more or less advisory, guiding researchers but not making final judgements (OECD, 2019).

There is also another growing AI application in research called Computer vision. This application enables machines to interpret images and visual data. Computer vision is used in archaeology, medical imaging, environmental studies, and engineering. According to Esteva et al. (2019), satellite images analysed through this application help scientists and researchers track deforestation, urban population growth, or even flooding. These applications or systems also assist in analysing X-rays or scans in health research. In essence, they help researchers to observe or measure visual data accurately and consistently.

Finally, there are automation and intelligent research assistants, which play a supporting role across the entire research process. These AI tools and applications help authors with reference management, plagiarism checks, data cleaning, and basic statistical reporting. The challenge with using these applications is being careful. When they are used carefully, they can help improve productivity without weakening scholarly responsibility. But if not used carefully and thoughtfully, they can weaken scholarly responsibility and creativity.

There are AIs that are super intelligent. Ahmanson (2023) observes that Artificial superintelligence (ASI) “is a hypothetical form of artificial intelligence that surpasses human intelligence across all fields from creative arts to scientific research.” These machines/tools are super intelligent because they perform better than the finest human minds (quoted in Agbor et al. 2024, p. 38). These machines are used in many fields: sciences, humanities, sports, medicine,

mathematics, industry, etc. They possess cognitive skills, problem-solving skills, social skills and creativity that are far beyond human ability (Barney, 2023; Kanade, 2022).

Major challenges of using AI in academic research

So far, the paper has discussed the meaning, history, types, and uses of AI; it is important to now briefly explore some of the major challenges of using AI in academic research and writing. Though, as has been noted, AI has become a useful support tool not only in academic writing and research reporting but also in medicine, engineering, agriculture and so forth. With the help of AI, researchers and authors can easily present data analysis, do literature review, and do many other things without much stress. Of course, AI tools and applications offer speed and convenience; however, their usage raises concerns related to ethics, accuracy of information, transparency, academic integrity, and unequal access.

This researcher believes that these concerns are not to be waved aside. If they are ignored, then AI usage in academics may likely weaken the quality of research. Not only that, it will reduce the quality of graduates produced in educational institutions. Recently, I have had cases of students submitting one hundred per cent AI-generated works (assignments, term papers, and projects/theses) to me for examination and grading. And as someone familiar with AI language and composition format, I easily would know that such works are AI-generated. This for me is so bad. The question then is: What kind of graduates are we going to be producing in the nearest future? Graduates who cannot compose research reports without “copying and pasting” AI-generated materials.

One of the major challenges of using AI in research and academic writing is the problems

of ethical responsibility and authorship: lack of originality and innovation. According to Floridi et al. (2018), it is wrong for researchers to heavily rely on AI tools. When this happens, it then becomes difficult to determine who is responsible for errors, bias, or misleading conclusions. This paper has already noted that academic research is built on honesty, accountability, and originality. The point is that AI systems do not take responsibility for outcomes; at the end of the day, the researcher does.

Again, there is this whole issue about whether AI-assisted outputs (information) should be acknowledged and, more especially, how such tools fit into existing academic ethics frameworks. As Floridi et al. (2018) note, this uncertainty threatens long-standing principles of scholarly integrity. In most cases, AI-tools only give suggestive ideas without depth. Sometimes, too, some of the information generated is false! They cannot be traced to any source.

Another serious challenge of using AI tools for research is bias in data and results. Even when AI tools and systems generate information from online sources, they do not filter it to give accurate information. Hence, if the data generated by the AI tool from the original sources is false or biased, the user will copy the same false and biased data or information. According to O'Neil (2016), in academic research, this can lead to distorted findings, unfair conclusions, and other social issues. In most cases, the unsuspecting user may not detect this false and biased information.

Furthermore, another challenge is the issue of lack of transparency and explainability. The truth remains that many AI systems and tools often produce data, information, and results without clearly showing how those results were reached. However, it is a well-known fact that in academic research and writing, what matters most is not the conclusion but how one arrives at such a conclusion. Hence, methods are important and

must be open to scrutiny and replication. When researchers, scholars, and authors cannot fully explain how an AI tool arrived at a conclusion, it then becomes difficult to defend the validity of the study. This lack of originality, validity and, more especially, clarity conflicts with the basic academic requirement that research processes should be understandable, verifiable, and replicable (OECD, 2019).

Based on the above explanations, it is obvious that over-dependence on the use of AI tools for academic writing can constitute academic misconduct. Over-dependence on and the misuse of these tools can encourage or result in plagiarism, superficial analysis, and intellectual laziness. In fact, from the researcher's experiences with many students and researchers, it seems that these days, many are tempted to rely heavily on AI outputs without proper critical engagement, and this is really weakening originality, critical thinking, and scholarly depth. Bretag et al. (2019) acknowledge that over time, this may erode essential research skills such as careful reading, critical thinking, argument development, and originality in scholarship. No matter how polished and convincing an AI-generated material is, it is the duty of the author to verify the sources, scrutinise the ideas and critically engage the material in his or her own language.

Finally, the issues of data privacy and security are another ethical challenge in the use of AI applications/tools in academic research and writing. Many AI tools require authors to upload data to online platforms. This can surely expose sensitive research data, personal information, and unpublished work to misuse or unauthorised access. Zuboff (2019) mentions that in fields such as health, education, and social research, breaches of confidentiality can have serious ethical and legal consequences. He opines that researchers

must therefore be cautious about how and where AI tools are used.

The above explanations show that even though AI offers valuable support for academic research and writing, it also presents major ethical challenges that cannot be waved aside. The researcher is of the opinion that though AI tools and applications should remain supportive tools in research, they are not, however, to be a substitute for human creativity, judgement, critical thinking, and moral responsibility. Hence, responsible use, clear guidelines, and strong academic values are important if AI is to serve research rather than undermine it.

Towards ethical responsible AI use in academia

Having discussed the challenges associated with the use of AI tools in academic writing, it is important to now briefly outline some of the ways these tools can be used responsibly. From the look of things, it is obvious that since the release of Chatbots in 2022, it is now almost impossible to stop or discourage people (students, instructors, researchers, and authors) from using these tools. And it is unfortunate that many universities and educational institutions globally do not have any formal guidance on AI. A 2023 UNESCO survey showed that less than 10% of schools and universities have formal guidance on AI. Amigud and Pell (2025), quoting the UNESCO report, observe that “[w]hile schools and universities appear to be taking their time to make recommendations and lay down rules, students and teachers are not waiting” (p. 2).

Some of the universities in Nigeria that have developed policies on AI include the University of Lagos, National Open University of Nigeria (NOUN), Edo State University, and Thomas Adewuni University (Oko-Irese, Kwara State). Thomas Adewumi University's policy on the use of AI among students states the following:

TAU encourages her students to leverage AI tools as learning aids while maintaining academic integrity and developing critical thinking skills. In all research and coursework, students are permitted to use AI for preliminary research, literature reviews, and understanding complex concepts. Students may use instructor-prescribed AI tools for language usage checks, writing improvement, and self-assessment purposes only. In special circumstances and subject to the permission of the instructors, students can use AI tools as supplementary resource to traditional learning materials and instructor guidance when seeking explanations or clarifications on specific topics/subject areas...When using AI for writing assistance, it is the responsibility of the students to substantially revise and verify all AI-generated content, ensuring original thought and analysis in their work. Given that academic integrity is paramount at TAU, students are strictly prohibited from submitting AI-generated content as their original work without substantial modification and proper attribution (pp.3-4).

The above policy shows that though the school welcomes the use of AI tools and applications, they are to use them responsibly by making sure they revise, verify, and humanise the contents generated. It is wrong to “copy and paste” AI-generated content without verifying it, explaining it in one’s language, analysing it, and interacting with it. This way, the work becomes somewhat original to the author or student.

Based on the above findings, teachers and instructors have a lot of work to do in this regard. They are to be updated with AI language and composition format. They are also to read through any assignment or paper submitted by their students before grading them. Amigud and Pell

(2025) suggest that teaching staff AI-proof their students' works by requesting rough drafts to track work progress. According to them, teachers and instructors are also too often replacing essays with authentic assessments and incorporating in-class writing exercises and group activities (p. 9).

According to the Concordia University (2023) policy on AI, any material generated from AI tools must be acknowledged properly. Students are also to make sure their own ideas are represented in their works. According to this policy, copying and pasting any idea that is AI-generated without verification and proper acknowledgement is an academic offence. The university policy allows students to use AI tools for generating ideas, creating outlines for an assignment, or polishing grammar; however, the final work must be original to the student. It must represent his or her own ideas. This is where originality comes in. The Concordia University policy further states that when AI outputs are directly quoted, paraphrased, or incorporated into a project, students should cite them in line with Concordia Library's guidance on acknowledging AI, as well as with disciplinary citation styles (e.g., MLA, APA).

From the above explanations, one can deduce that using AI tools is not bad per say; what matters is the responsible use of them through verification, documentation, evaluation of ideas, and originality. Students and AI users are to attach relevant AI outputs and prompts at the end of their works. They should be able to show what was generated, how they verified the sources of information, and how it was modified.

Furthermore, based on the above-cited policies, one could deduce that, first, authors are to use AI as a supportive tool, not as the author of ideas. According to Ayokunmi (2025), AI can help one brainstorm, improve clarity, and suggest language refinements; however, the intellectual creativity, contribution, and critical thinking must

be the author's. Thus, as already emphasised, it is wrong, an academic dishonesty, to submit an AI-generated work without revision, improvement, and refinement.

Recommendations

Based on the findings of this study, this paper recommends the following:

1. Schools should develop relevant policies on the use of AI.
2. School administrators and educationists should often organise seminars where students are taught effective and ethical use of AI.
3. Educators and teachers should be updated on AI technology, especially in recognising AI languages and composition formats.
4. Teachers and instructors should replace essays with practical assessments and incorporate in-class writing exercises and group activities.
5. The government should provide avenues for teachers' training on AI technology.
6. Authors should always verify sources of information generated by AI. They should also make their works original by engaging any AI-generated information.

Conclusion

Authors should not blind-trust AI tools. Most times, these tools do not really know facts but generate outputs based on what they have been programmed to generate. Authors should not thus cite AI materials without verifying them and understanding their origins.

AI is not to be eliminated from academics. Rather, its use should be transparent, ethical, and supportive of meaningful teaching and learning. As Ayokunmi (2025) rightly opines, AI should not be used to generate full papers that one passes

off as his or her own. It should not be used to summarise arguments that one hasn't read or to invent citations, data, and quotes that are non-existent. Furthermore, it should not be used to paraphrase without understanding or to hide one's voice under machine-produced text. Authors should know that their voice still matters. The beauty of academic research and scholarship is one's voice, reasoning, and depth of thought, critical judgement, and originality. These important items should not be replaced by AI. Transparency and integrity matter a lot in academics.

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