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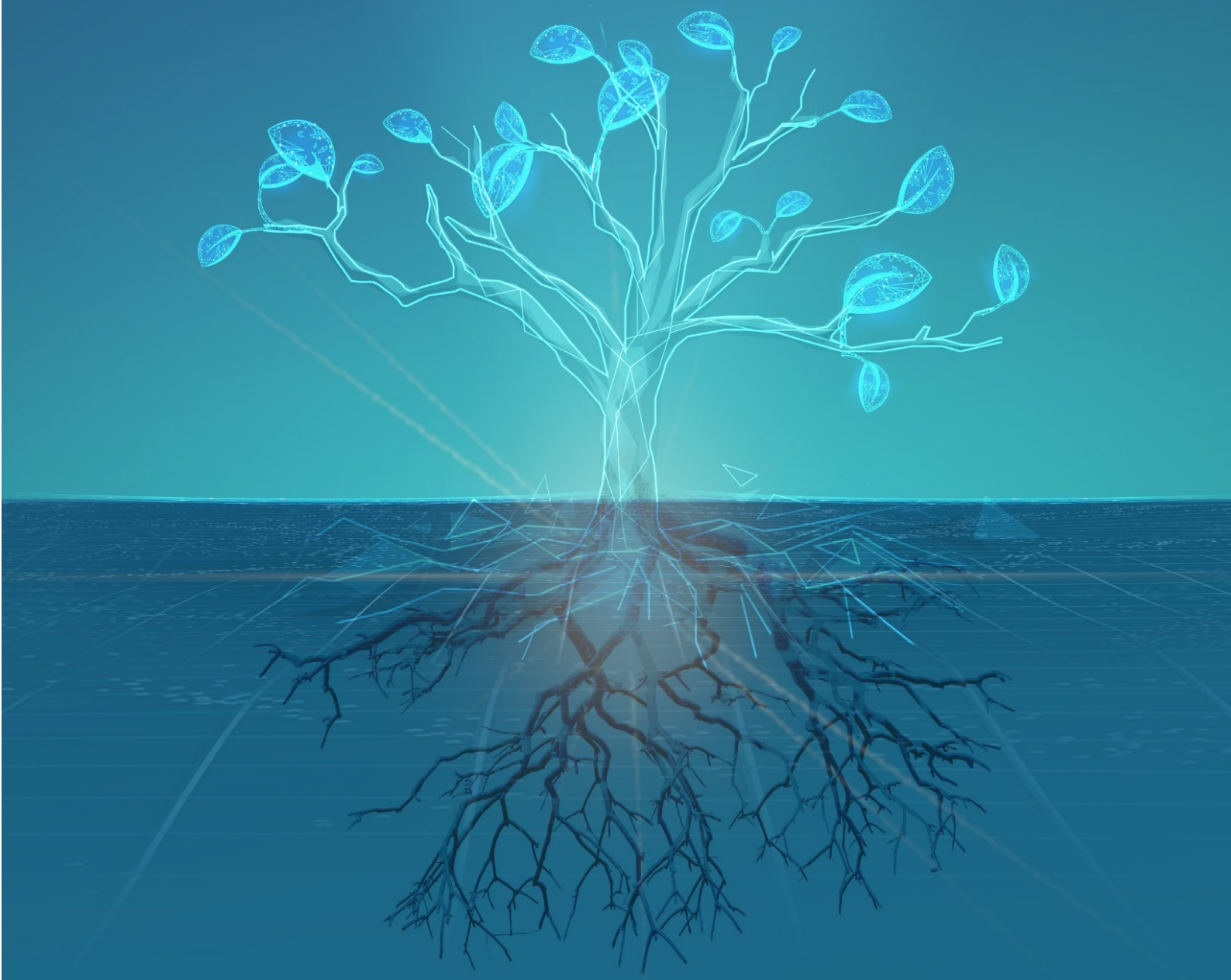

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International Institute of Research and Action on Fraud and Plagiarism in Academia (IRAFPA)

Website: https://irafpa.org

Postal Address:

IRAFPA c/o Tal Schibler, DGE Avocats

Rue Bartholoni 6

1204 Geneva

Switzerland

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Research Integrity and Generative Artificial Intelligence: An Oxymoron?

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Research Integrity and Generative Artificial Intelligence: An Oxymoron?

Helen TITILOLA OLOJEDE

Professor, Department of Philosophy at National Open University of Nigeria, Abuja, FCT.

ORCID: 0000-0001-9590-5037

Abstract

The prevalence of Generative AI (GenAI) poses several challenges. A study involving more than 1600 scientists found that almost 30% employed GenAI in writing papers, with another 15% in grant applications (Prillaman, 2024). The heavy influence of LLMs in academic writing is evident in an analysis of 950,965 papers between 2020 and 2024, with the swiftest and largest increase of 17.7% in Computer Science. Indeed, fraudulent research practices have increased since the launch of ChatGPT (Olojede, 2024). An overarching concern GenAI has brought into higher education is the issue of academic integrity. But what does research integrity specifically mean in the age of AI? Using philosophical tools of argument, critical thinking, and reconstruction of ideas, this paper argues that while the developmental process of GenAI is anathema to the principles of research integrity, the human using the tools can attempt to salvage the situation by adhering to integrity principles.

Keywords

AI, research, generative AI, integrity, higher education

Résumé

La prévalence de l'IA générative pose plusieurs défis. Une étude menée auprès de plus de 1 600 scientifiques a révélé que près de 30 % d'entre eux utilisaient l'IA générative pour rédiger des articles, et 15 % pour remplir des demandes de subvention (Prillaman, 2024). L'influence considérable des LLM dans la rédaction académique est évidente dans une analyse de 950 965 articles publiés entre 2020 et 2024, avec une augmentation rapide et importante de 17,7 % en informatique (Prillaman, 2024). En effet, les pratiques de recherche frauduleuses ont augmenté depuis le lancement de ChatGPT. L'une des principales préoccupations soulevées par l'IA générative dans l'enseignement supérieur est la question de l'intégrité académique. Mais que signifie précisément l'intégrité de la recherche à l'ère de l'IA ? À l'aide d'outils philosophiques d'argumentation, de pensée critique et de reconstruction des idées, cet article soutient que si le processus de développement de la GenAI est contraire aux principes d'intégrité de la recherche, les humains qui utilisent ces outils peuvent tenter de sauver la situation en adhérant aux principes d'intégrité.

Mots-clés

Intelligence artificielle, recherche, IA générative, intégrité, enseignement supérieur.

Introduction

This paper examines the tenuous relationship between research integrity and GenAI, as the principles and values which both incorporate seem to diverge. This discussion is significant because the use of GenAI in research and writing, if not correctly done, can easily subvert research integrity. To this end, the fundamental question this paper investigates is whether research integrity and generative AI are a contradiction in terms. This aims to find the right balance and uphold the highest ethical principles in research. This article is aimed at anyone interested in the responsible use of AI, drawing on philosophical arguments and discourse analysis.

The Nature of Integrity in Academic Research

Academic integrity has been variously described. The description mainly focuses on learners rather than on lecturers and researchers (Mejía & Garcés-Flórez, 2025). Many attempts to define academic integrity conceive it as abiding by the rules and procedures of educational institutions. At other times, it is seen as compliance with a set of general virtues intimately aligned with truthfulness, honesty, fairness, being respectful and responsible (Unisa, n.d.; University of Pretoria, 2024; Monash University, n.d.; University of Manitoba, n.d.; University of Reading, n.d.). In the words of Iowa State University (n.d.): “Academic integrity means being honest in your academic work, being fair to others, and taking responsibility for your learning. This is demonstrated by doing your own work, based on your understanding of the content, without the use of unauthorized assistance from start to finish for all of your academic work”. The violation of academic integrity refers to ‘academic misconduct’ or ‘academic dishonesty’.

Academic integrity should not be reduced to mere avoidance of plagiarism, while plagiarism is a big part of it as shunning plagiarism is fundamental to the legitimacy of a university and the knowledge earned in various degrees; academic integrity, however, transcends the classroom to adulthood, impacting students’ behaviour as ‘citizens’ of integrity in different life paths (National and Kapodistrian University of Athens Library, n.d.). Research integrity, an aspect of the overall academic environment, pertains to norms aimed at guaranteeing the soundness and reliability of research. Research integrity is vital to realise the societal value and benefits of research. The uniformity and harmonious compliance with standards such as honesty, accountability, professional courtesy, fairness and good stewardship are the distinctive features of research integrity (WCRIF, 2017).

Different practices constitute research misconduct. WCRIF (2017) further highlights fabrication, falsification and plagiarism (FFP) as constituents of research misconduct or severe contravention of research integrity. Detrimental research practices (DRP) are more widespread and more injurious to standard and plausible research than FFP. DP includes acts that contravene essential principles of research integrity, such as poor supervision of junior workmates, misplacement of research data, or indecorous allocation or exclusion of authorship. Other related terms include sloppy science, cutting corners, and incomplete and unusable reporting, all leading to research waste.

Research integrity also relates to every factor that supports responsible research practice and which promotes trust and confidence in research procedures. It reflects all aspects of research, from conceptualisation to design, through the actual conduct of the research, and eventual dissemination. It equally encapsulates the need for a responsible research culture, where environmental and systemic safeguards for responsible research conduct are in place (Armond et al., 2024; UK RIO, n.d.; Imperial College London, n.d; National Academies of Sciences, Engineering, and Medicine, 2017). Research integrity covers values and principles such as rigour, objectivity, honesty, openness, accountability, fairness, stewardship, transparency, respect, and accountability (ALLEA, 2023).

Generative Artificial Intelligence and Questionable Integrity Foundation

Since the launch of ChatGPT by OpenAI, which is arguably the most ubiquitous (Önden & Alnour, 2023), several studies have decried its questionable development and deployment process and the impact it has on various sectors. For instance, there is documented evidence of labour exploitation of Kenyans to remove toxic substances from ChatGPT ahead of its release (Perrigo & Zorthian, 2023), and also cases of various lawsuits filed for copyright and intellectual property of works (data) used to train AI models (Tech Policy Press, n.d.). Hao (2022) recounts a novel wave of digital apartheid in South Africa with the use of surveillance technology to further exploit the poor, marginalised and vulnerable. Berreby (2024), Fraga-Lamas et al. (2021) and Hao (2019) also criticised the energy and water use of AI and its tremendous adverse effect on the environment.

Resting on the UNESCO's Recommendation (2021), the subsequent AI competency frameworks for teachers and students (2024) and Guidance (2023) report highlights eight (8) controversies around GenAI which are: "worsening digital poverty, outpacing national regulatory adaptation, use of content without consent, unexplainable models used to generate outputs, AI-generated content polluting the internet, lack of understanding of the real world, reducing the diversity of opinions and further marginalising already marginalised voices, generating deeper fakes" (UNESCO, 2023,

pp.14-17).[1] Beyond this, there are tons of other concerns around academic and research integrity, data privacy, perpetuation of bias and stereotypes, hallucination and misinformation, widening digital divide and the illusion of social justice (Peters & Olojede, 2025; Alkaissi & McFarlane, 2023; Olojede, 2024; Resnik and Hosseini, 2024; Jaap Wieringa et al., 2021; Kasneci, Seßler, & Küchemann et al, 2023; Olojede & Olakulehin, 2024; Olojede, 2023).

Regulations on the Use of AI in Higher Education

Given these faulty foundations of GenAI and its consequent proliferation and impact on education, several regulations on how to preserve the integrity of research have been put forward (Resnik& Hosseini, 2025; Sage Publishing, 2025; WAME, 2023; Flanagin et al., 2023; COPE, n.d.). In particular, the Committee on Publication Ethics (COPE), Sage Publishing, American Psychological Association, Academy of Science of South Africa, through its South Africa Journal of Science, Journal of World Association of Medical Editors (WAME), and Wiley collectively agree that AI tools cannot be listed as co-authors. Authors must not deflect from their responsibility to certify the accuracy, ethical conduct, and overall integrity of AI-infused content. Routine use of AI need not be cited. All regulations, therefore, agree that transparency and disclosure of AI use are fundamental.

Resnik & Hosseini (2025) detail how AI research and writing disclosure should be conducted in three categories: mandatory, optional, and unnecessary.

Disclosure of AI use is mandatory in the following instances:

1. Craft questions or hypotheses, design and conduct experiments
2. Write portions of a paper, summaries, paraphrase, revise, review or synthesise or systemise content
3. Translate a paper in part or whole
4. Derive data for the literature review, be it systematic or not, quantitative or qualitative and establish gaps in knowledge or problem statement

[1] In addition, UNESCO (2025) anthology explores the philosophy, ethics and pedagogical dilemmas caused by tumultuous impact of AI in education.

v. Produce synthetic data and images used in the paper or research output, etc.

Disclosure of AI use may be optional in the following instances:

1. Edit an already existing text for grammar, spelling, and organisation
2. Locate references while verifying their veracity with search engines
3. Format references into various styles. E.g. MLA to APA

Disclosure of AI use may be unnecessary in the following instances:

1. To suggest words or phrases in an existing sentence for the sake of clarity and readability
2. As a part of a larger operational system but in which AI is not used to produce or

   3. synthesise content or make research decisions. E.g. when a system or machine uses AI.

There are, nonetheless, slight variations in the recommendations. International Committee of Medical Journal Editors (ICMJE) states that data analysis with the assistance of AI should be made known in the section on methods, WAME recommends "When an AI tool such as a chatbot is used to carry out or generate analytical work, help report results (e.g., generating tables or figures), or write computer codes, this should be stated in the body of the paper, in both the Abstract and the Methods section". Sage publications make a distinction between "assistive AI tools and generative AI tools". On the one hand, Google's Gmail, Microsoft's Outlook, Word and other similar tools, which suggest, correct and improve content that a human has authored, are assistive AI tools. On the other hand, "generative AI tools such as ChatGPT or Dall-e which produce content, whether in the form of text, images, or translations. Even if you've made significant changes to the content afterwards, if an AI tool was the primary creator of the content, the content would be considered "AI-generated" (Sage Publishing, 2025; Massachusetts Institute of Technology, n.d.).

Conclusion

To the question that forms the title of this paper, is research integrity and generative AI an oxymoron? Let us examine this in the form of an argument.

Premise 1 - the principles and values of integrity include: honesty, openness, accountability, transparency, and respect;

Premise 2 – the process of development and deployment of GenAI incorporates an ethically questionable database: full of copyrighted materials; the black box problem, new wave of incentives for plagiarism and misrepresentation from the internet. It thus lacks transparency, openness, and respect for people's copyrighted works and IPs.

Premise 3 – based on premise 2, there are regulations from various organisations addressing how integrity could be upheld in AI use for research and writing.

From the foregoing, the development and deployment of most GenAI models of today, if not an anathema to the process required for research integrity, often clash directly with the principles of research integrity.

Objections to this argument would go along the lines of appealing to the potential benefits of GenAI (Peters & Olojede, 2025; De Simone et al, 2025; Olojede, 2024; Clugston, 2024). While this is true, it conflates the benefits of AI in education with the meaning of research integrity and the core philosophical and practical challenges AI poses to the very foundation of research integrity. Nonetheless, while there is a lack of integrity in the process and the tool, there can indeed be integrity in the humans using the tools. The extent to which we can successfully 'integritise' a faulty process is up for discussion.

Statement on Transparency

Anthropic ClaudeAI (Sonnet 4.5) was employed to format the reference in APA style, while the author further formatted this. The abstract was translated into French using DeepL. Other than this, no aspect of this paper was either written or generated by AI.

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