

Towards Bridging the Ethical Gap in Using Artificial Intelligence Writing Tools in Academic and Research Writing

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Abstract

The pace of development in artificial intelligence (AI) is quickening, and it holds immense potential to transform different facets of our existence. The use of AI-powered writing assistants has become increasingly popular in recent years. However, there are ethical issues surrounding this technology in the academic environment and the lack of an ethical framework in some academic institutions to guide its use creates more ethical dilemmas for students, academicians and researchers. This study argues for the inevitable need for ethical consideration and a framework to ensure the proper use and application of AI such as GPT in academia to promote the integrity and authorship of academic work. The study systematically assesses the literature to explore ethical gaps in using artificial intelligence in academia and its implications for academic integrity. In addition, the study proposes the reconciliation of the two sides of research, the new presence of AI in academia and academic integrity. We advocate for the creation of ethical frameworks to counter the misuse of AI in academics, research and writing, and promote authorship integrity for both AI and human scholars and a healthy juxtaposition of the two seemingly irreconcilable entities. There is a need for collaborative efforts among stakeholders, including students, faculty, administrators, and policymakers, to combat ethical issues in using AI in academics effectively. Institutions to develop more comprehensive and sustainable strategies to combat ethical issues surrounding the use of AI in academics and promote a culture of academic integrity in higher education settings.

Keywords: Ethics, Artificial Intelligence, Generative Pre-trained Transformer, Academic Writing, Academic Research.

Introduction

It is important to recognise that academic integrity can become more complex and easier to manage with the advancement of technology, including artificial intelligence (AI). As technology progresses, educational institutions must remain vigilant and implement strategies to foster ethical behaviour and discourage students from engaging in AI-related academic misconduct. These services enable students to purchase pre-written or custom-generated essays, raising concerns about originality and ethical practices. AI refers to the capacity of a machine or computer system to perform tasks that would otherwise require human intelligence, such as logical reasoning, learning, and problem-solving. Utilising machine learning algorithms and technologies that empower machines to apply certain cognitive abilities and execute tasks independently or with minimal human intervention made this ability possible. The degree of autonomy displayed by AI is largely determined by its level of cognitive capacity, which distinguishes it from other forms of automation. For Frankenfield, (2020) AI is a field of computer science whose goal is to build machine-based systems with the ability to accomplish undertakings that would involve human cognitive abilities. According to Naqvi (2020), AI systems are empowered by cutting-edge machine learning algorithms and technologies, which enable them to learn from the data they receive and make decisions based on this learning. The degree of autonomy displayed by an AI system varies based on its cognitive capacity, which is determined by the complexity of the task it is designed to perform. Arguably, AI has the potential to revolutionise various industries, including healthcare, finance, and transportation, by enabling machines to perform tasks more efficiently and accurately than humans do.

Ethical issues surrounding this technology in the academic environment and the lack of an ethical framework or theory to guide its use create more ethical dilemmas for students, academicians and researchers. For this reason, this study argues for the inevitable need for ethical consideration and framework to ensure the proper use and application of AI such as GPT GPT-3, GPT-4 (generative pre-trained transformers) and other writing mills as writing assistants in academics, research and writing. The consulted studies in this paper acknowledge the existence of ethical gaps in using AI in academia and other pieces of research argue for the benefits of the use of AI in academia. However, this study intends to reconcile the two sides of the research and advocate for the creation of ethical frameworks to counter the misuse of AI such as GPT in academia to promote integrity and authorship of academic works.

In today's world, the advancements in AI have brought a multitude of benefits to society. However, with its increasing prevalence, ethical considerations surrounding AI have become more crucial than ever before. To gain a comprehensive understanding of AI in academic contexts and the ethical issues that arise from its use and how it can be used ethically, we turn to the principles of utilitarianism and deontology. On the one hand, utilitarianism emphasises the importance of maximizing overall happiness and minimizing harm. On the other hand, deontology focuses on the moral duty to do what is right in a given situation.

By examining the ethical implications of AI through these lenses, we can better understand how to use this technology in a way that is beneficial, safe and fair for all. Moreover, the combination of the two theories increases our comprehension and knowledge of how to implement ethical considerations in using AI in academic environments.

Utilitarianism

This ethical theory Jeremy Bentham and John Stuart Mill is based on the consequences of actions and strives to achieve the greatest good for the greatest number of people by maximizing overall happiness or well-being. According to Felzmann (2017), utilitarianism evaluates actions based on their outcomes. It is a type of consequentialism. Utilitarianism asserts that the best ethical choice is the one that can produce the greatest benefit for the maximum number of individuals (Vokrug, 2024). When integrating AI systems into academic settings, it is important to evaluate their potential advantages. This theory allows us to reflect on whether AI, such as GPT, may or will improve research, teaching, or administrative processes. Also, consider the positive effects they may have on students, faculty, and the institution (Evans, 2023). When considering the adoption of AI, it's important to weigh the benefits against any potential harm it may cause. For example, while automated grading systems can improve efficiency, and GPT makes writing and research easier and faster, they may also introduce biases and ethical issues. Utilitarianism ideologies in education if used to balance benefits and risks, can guide decisions about how to allocate technological resources, that would promote the beneficial but ethical use of AI. Therefore, it's recommended to prioritize AI projects that provide significant benefits in areas such as education, research, or student support (Cornelius, 2002).

Deontology

Moral duties, rules and principles are the focus of deontology. The emphasis is on the intention behind actions, rather than their outcomes. Immanuel Kant is a well-known figure who is associated with deontological ethics. It is crucial to note that deontological ethics indicates significant characteristics. Primarily, performing a duty is essential for the sake of fulfilling it. The decision of whether an act or rule is right or wrong is dependent on the inherent moral qualities of that kind of act or rule, at least to some extent (Moreland, 2009). It is important to establish unambiguous guidelines and regulations for implementing AI in academic settings, taking into account values such as impartiality, openness, and confidentiality. Deontological ethics stresses the importance of complying with these regulations even when the consequences are unclear (Evans, 2023). It is important to obtain informed consent from participants when gathering data for AI models. Deontology places great emphasis on respecting individuals' autonomy and treating them as ends in themselves, rather than simply means to an end. Transparency and accountability are key components of deontological ethics. Academic institutions should be open about their AI algorithms, decision-making

processes, and potential biases to uphold these principles (Cornelius, 2002). Deontology and utilitarianism have contrasting approaches while the former can prioritize certain principles even if they cause harm to society, the latter can defend morally ambiguous actions if they benefit the greater good (Vokrug, 2024). Arguably, deontological ethics may result in rigidity in scenarios where the consequences of an action hold more significance than the intention behind it. This inflexibility can undermine the true purpose of students and academicians while utilizing AI to compose their academic works.

Balancing Utilitarian and Deontological Ethics in Appreciating AI in Academics

Though there is a tremendous difference between how utilitarianism and deontological ethics interpret ethical issues, with applying ethics in academics, then it is important to attempt a balance between maximizing overall benefits and adhering to ethical principles. There is a need to consider both the consequences and the moral duties associated with AI deployment (Bakiner, 2022). It is necessary to evaluate AI applications individually. For instance, some situations may require prioritizing utilitarian outcomes in improving student learning, while others demand strict adherence to ethical rules, data privacy, beneficence and others (Cornelius, 2002). It is essential to consider AI as objects with inherent moral values and treat them as an end in themselves, rather than using them as a means to achieve some other objective. The moral principle governing the treatment of AI should be a collective categorical imperative, which applies equally to all individuals under similar moral circumstances (Moreland, 2009). Ethical decision-making in AI is complex and many-sided. Integrating both utilitarian and deontological perspectives can help create a more ethical, robust and responsible AI ecosystem within academia (Bakiner, 2022).

AI Writing Tools and Their Functions

The writing process can be challenging and time-consuming, especially with generating and refining ideas, selecting appropriate vocabulary and ensuring accuracy and coherence. AI writing tools are software that simplify the creation of data or documents, with a focus on content or data use (Ali, 1999). AI writing tools are software that leverages advanced algorithms and machine learning techniques to simplify the creation of data or documents. Their primary focus is on content or data use, and they offer a range of features to enhance the writing process. It provides users with a set of tools that help them refine their writing style and improve the overall quality of their work.

In recent years, the capabilities of AI writing tools have significantly improved, and in some cases, completely transformed the writing process. They can help writers generate new ideas, refine their writing style and improve the accuracy and coherence of their work. As a result, they have been found to offer significant benefits to both students and teachers, particularly when integrated into writing

instruction and practice. These tools have significantly improved and in some cases, completely transformed the writing process, with capabilities such as automated writing evaluation, machine translation and text generation (Godwin-Jones, 2022). Research has shown that AI can help students improve their writing skills by providing them with personalised feedback and suggestions for improvement. They can also help teachers save time by automating the evaluation process and providing them with data-driven insights into their students' writing performance. AI-powered writing tools are a valuable resource for anyone looking to improve their writing skills and streamline their writing process. They have been found to offer significant benefits to both students and teachers, particularly when integrated into writing instruction and practice (Alharbi, 2023).

GPT and its improved versions GPT-3 and GPT-4 are OpenAI's GPT language model that has become well known for its conversational abilities because of its extensive training on vast amounts of written data. These implications include social and monolingual biases, credibility and trustworthiness concerns, privacy and data security concerns, the generation of toxic content, difficulties in human-computer interaction and environmental impacts. Researching these concerns can provide valuable insights into educators, administrators and students, raising awareness of the ethical risks associated with GPT and its various versions. Integrating AI methods into the tools can improve their efficiency. The trend of integrating artificial intelligence into tools is becoming increasingly important because of continuous advances in AI.

Reasons Students and Academicians Use AI Writing Tools in Academic Writing

To make our argument viable, it is important to delve into the reasons students, researchers and academicians use AI writing assistants. Recent studies have shown that there has been a significant increase in the usage of AI-powered writing tools among students and academicians. These tools include automated writing evaluation, corrective feedback, machine translation, and text generators. Various studies have established their effectiveness in improving writing skills and enhancing the quality of written texts carried out by experts in the field (Alharbi, 2023). Despite the advantages of using AI writing assistance tools, concerns have been raised regarding their impact on the originality of academic writing. Some researchers argue that the use of these tools may diminish students' creativity, resulting in less original work. However, others believe that AI-powered tools can help promote creativity and originality by providing writers with new ideas and perspectives (Godwin-Jones, 2022). Despite the ongoing debate, the overall consensus is that AI writing assistance tools offer significant benefits and can be integrated effectively into writing instruction and practice. They provide students and academicians with useful tools to improve their writing skills and enhance the quality of their written work. Furthermore, these tools can help students who struggle with writing to overcome their challenges and produce high-quality work.

However, we consider that the fast pace of modern communication necessitates the use of AI writing tools.

Towards Bridging the Ethical Gap in Using AI in Academic and Research Writing

Ethical Gaps in Using AI Writing Tools, Implications and Solutions

To appreciate the need for ethical considerations in the way AI writing assistants are used in academics, it is relevant that we explore the ethical issues surrounding the use of AI in academics. The use of AI-powered writing tools has become increasingly popular in recent years, and while they can certainly be beneficial in improving the quality of written work, they also raise several ethical concerns that must be addressed. The use of AI writing assistance tools raises several ethical issues, including responsible authorship and transparency (Hosseini et al., 2023). Besides these issues, there is also a need for oversight to ensure that the use of AI writing tools is conducted ethically. This includes the need to ensure that users appropriately use the tools and do not violate any ethical standards or norms. Educators and teachers, in particular, play a key role in ensuring that students are using these tools appropriately and responsibly. They can also help students develop their meta-linguistic knowledge, which is critical for understanding how language works and how to use writing tools effectively. These tools, while beneficial in improving writing quality, also require oversight to ensure ethical conduct (Etzioni and Etzioni 2016).

The use of AI in academic and research writing has been a topic of intense discussion in recent years. AI-powered language models have made it easier for researchers and scholars to generate high-quality content. However, there are also concerns about the ethical implications of using AI in academic writing. To address these concerns, several researchers have called for caution and the development of critical thinking skills when using AI language models. For instance, Kovachov (2023) emphasises that researchers need to be careful not to rely too heavily on AI-generated content without proper verification. On the other hand, Alahmed et al., (2023) have called for the development of robust ethical frameworks that prioritise societal values, privacy and human rights. We propose that to address the ethical concerns about using AI in academic and research writing; it is important to consider the following three points. Firstly, AI-generated content may lack originality and creativity, and it may not contribute significantly to the advancement of knowledge in a specific field. Secondly, AI-generated content may perpetuate biases and inequalities, especially if the data used to train the AI model is biased. Lastly, the use of AI in academic writing may lead to the de-skilling of researchers and scholars and may undermine the value of human expertise and judgment.

Another important issue that has been raised is the need to ensure accuracy, reliability and trustworthiness in AI-generated content. Caprioglio (2023) underscores the importance of taking measures to ensure that AI-generated content is transparent, unbiased, and free from errors. It can be argued that content created

by AI is sometimes transparent, impartial and devoid of mistakes. Nevertheless, Borg (2022) suggests that a subfield of “Translational Ethical AI” be established to bridge the gap between AI research and practice. This subfield would focus on the ethical implications of AI and how they can be addressed in real-world applications. These studies collectively highlight the need for a multi-faceted approach that includes education, regulation and collaboration to address the ethical challenges of AI in academic and research writing. By taking a comprehensive approach, researchers and scholars can ensure that AI is used ethically and responsibly in academic writing.

Baskara (2023) suggests solutions that include the development of explainable AI strong data protection measures, comprehensive ethical guidelines and standardised standards. Additionally, the improvements could include personalisation, the development of trustworthy assessment metrics, the creation of domain-specific data training models, and the promotion of an AI culture among educators and students. To apply AI in liberal arts education in universities, Hong and Yoon (2023) propose strengthening creative education for convergence, enhancing AI teaching through specialised majors, strengthening ethical education and social responsibility, and combining various teaching and learning methods. We contend that the incorporation of AI in disciplines like liberal arts can diminish the humanistic features of the field.

Arguably, AI writing tools have the potential to cause a lack of critical thinking skills if used excessively and may be utilised for cheating or plagiarism. In educational settings, the integration of these tools can offer significant benefits but also requires teacher mediation to develop students’ meta-linguistic knowledge (Godwin-Jones, 2022). Despite the benefits that these tools offer, there is still a need for organizations to develop more comprehensive strategies for addressing the ethical issues that arise from their use. This could include developing guidelines for the responsible use of these tools, as well as implementing training programs to educate users about the ethical considerations involved in their use. Ultimately, it is important to strike a balance between the benefits of using AI writing tools and the need to ensure that they are used ethically and responsibly. As a result, it remains a challenge to educate students on the appropriate use of AI-powered writing tools to prevent ethical violations such as plagiarism, and the use of GPT to cheat in examinations, ghostwriting and others.

GPT plays a critical role in numerous areas, including customer service, education, research, product development, language skill development, and technological advancement, and represents a significant advancement in human-machine interface technology (Prananta 2023). Additionally, there is concern about the possibility of GPT ultimately replacing human teachers and the potential impact this may have on the quality of education. While GPT in its variations has become a popular tool to support research and writing in the digital age and technological advancements, it also poses risks related to ethics and academic integrity, with students relying on it to create research content without realising the ethical consequences involved (Rosyanafi, 2023). Universities and educational institutions

need to increase their students' understanding of academic integrity and the risks associated with using GPT in research, implementing stricter policies and preventative approaches to ensure research integrity and maintain the integrity of the academic community (Rosyanafi, et al. 2023). Moreover, we must take into account the potential hazards of relying exclusively on GPT to produce research material and its potential effects on the authenticity and academic honesty of the material. Moreover, we must contemplate the implications of the capacity for critical thinking and independent research if students become overly dependent on AI-powered assistants such as GPT.

Steneck (2006) defines research misconduct as unethical acts, including plagiarism, data manipulation, and other violations of scientific integrity. Previous studies have identified this issue as a serious challenge in technological advances, where complex algorithms such as ChatGPT can influence the frequency and types of misconduct in academic research (Fang et al., 2012). For Kumbhar et al. (2021), AI has brought about a fundamental change in research methods and data analysis by automatically analysing data and generating human-like text content, giving researchers significant advantages in solving complex data challenges. However, the potential misuse of AI in academic research has become a pressing ethical issue requiring attention (Shi et al. 2020). The integration of AI into academic research has recently accelerated because of the need to process large amounts of data and efficiently extract valuable insights.

Using AI in academic writing has given researchers significant benefits in addressing intricate data issues and revolutionising research methods and data analysis. AI technology can analyse data automatically and produce textual content that closely resembles human writing (Kumbhar et al. 2021). However, there are numerous obstacles to effective integration into the education system, including lack of interpretability, privacy concerns, ethical dilemmas, and standard issues, as per chemistry (Jafarzade, 2023). However, using GPT for self-directed learning raises ethical and pragmatic concerns, such as privacy, data security, and algorithmic bias issues, which could affect its effectiveness and reliability. Baskara (2023) has evaluated GPT as being useful for education and research purposes, but it also poses risks, such as the dissemination of misleading content, lack of transparency, biases, academic rigour, academic integrity, accuracy, reliability and data privacy. Furthermore, security and potential misuse of confidential information, authorship and attribution and plagiarism could have long-term effects on research ethics and integrity. Dependence on GPT-generated content may result in a reduction of critical thinking faculties and a devaluation of human expertise. Employing GPT for self-directed learning raises ethical issues, including the likelihood of data breaches and the potential exploitation of personal information.

The Need for Ethical Framework of AI in Academics and Research

The field of development of AI is happening at a rapid pace, and it can bring about a revolution in various areas of our lives (Uddin, 2023). As AI becomes increasingly prevalent, ethical considerations must be integrated into the research

and development processes. These studies underscore the importance of integrating ethical considerations into AI research and practice to ensure this powerful technology is developed and used responsibly and beneficially for society (Huang, 2023). Three key concerns have been identified as we work towards establishing an ethical framework for AI usage in academia. The first concern pertains to the potential hindrance of innovation and progress in education by AI ethics. Another concern that arises is the perceived high cost and time investment required for companies to incorporate ethical considerations into AI research and development. The last concern is the difficulty in standardising AI ethics across different cultures, which poses a challenge in effectively integrating them into the development process.

The recent advancements in AI have significantly affected the field of academic and research writing. Various AI-powered writing assistance tools, including automated writing evaluation, corrective feedback, machine translation and text generators, have been developed to improve the quality of written texts (Alharbi, 2023; Godwin-Jones, 2022; Woo et al., 2023). These tools are highly effective in identifying errors, enhancing the quality of content, and improving the dissemination of scientific information in scholarly publishing (Razack et al., 2021). Studies have shown that integrating AI-powered writing assistance tools into language learning classrooms can benefit students and teachers significantly. However, it is crucial to keep in mind that the use of these tools requires careful consideration and teacher mediation. While they have the potential to improve the quality of written texts, they may not always be suitable for many writing tasks (Godwin-Jones, 2022). It is important to note that the use of AI-powered writing assistance tools in academic and research writing should be approached with caution. Therefore, teachers should have a clear understanding of the strengths and limitations of these tools and integrate them thoughtfully into their instructional practices (Alharbi, 2023). We believe that utilizing AI-powered writing tools is a dependable and effective alternative to relying solely on human editors and instructors. Nevertheless, it is crucial to bear in mind that these writing tools may not fully grasp the nuances of language and context, leading to occasional errors and misunderstandings. There is a need to approach the integration of AI-powered writing tools into language learning classrooms with careful consideration, recognizing that while their use can enhance efficiency, it may also potentially hinder critical thinking and creativity in students.

Given the literary findings of this study, we therefore recommend the following for institutions, policymakers, academic departments and others involved in academics and research to enforce the ethical use of AI in academic environments:

1. Academic institutions should consider implementing plagiarism detection software and AI-powered plagiarism detectors with caution, as these tools can sometimes produce erroneous results. Additionally, disciplinary actions

should be taken against faculty members who engage in AI-related academic misconduct.

2. Proper training on the ethical and appropriate use of AI tools is necessary to improve research outcomes for both students and researchers. However, since these tools have proven to be effective, some students may attempt to evade detection by using sophisticated techniques.
3. To effectively address ethical concerns related to the use of AI in academic settings, there must be a collaborative effort among all stakeholders involved, including students, faculty, administrators and policymakers. This will require a comprehensive approach that takes into account technical details and the complex nature of AI systems.
4. Developing robust evaluation mechanisms to measure the effectiveness of implemented strategies and modifying them based on feedback and outcomes is imperative for the sustained enhancement of the ethical utilization of AI in academic settings.
5. It is crucial to engage students in the efforts to prevent and address academic dishonesty related to AI abuse. Involving students in the development and implementation of ethical AI practices that support academic integrity policies can promote a sense of accountability and integrity in the student community.
6. Institutions must formulate more comprehensive and sustainable strategies to address the ethical concerns associated with the implementation of AI in academics. Additionally, they should foster a culture of academic integrity in higher education settings by deploying AI-powered solutions that ensure fairness, transparency and accountability in all aspects of learning and research.

Conclusion

AI has revolutionized data analysis and research methods by allowing researchers to analyze data and generate human-like text content automatically. However, the use of AI in academic and research writing presents ethical considerations such as promoting plagiarism, laziness and loss of author and scholarship integrity among other ethical issues. To address these issues, personalized and standardized ethical guidelines and a culture of honesty among students and scholars are highly recommended. Academic and research environments need to establish verifiable ethical frameworks that govern research submission, evaluation, and publication, ensuring the academic integrity and honesty of reported biases and false evaluations. Although AI tools are faster in producing academic works, because of their inefficiencies, the integration of human abilities is a must to avoid overdependence on them. Further research evaluating the ethical frameworks put in place by academic and research environments and how they are managing the ethical issues that arise with the use of AI must be done. To achieve the best possible outcomes, it's essential to engage all pertinent parties in a concerted effort to reinforce the impact of the given recommendations. By

joining forces towards a shared objective, stakeholders can leverage their distinctive viewpoints, tackle obstacles, and jointly forge solutions that meet the requirements and desires of all involved. This approach not only improves the quality and efficacy of the recommendations concerning bridging ethical use of AI in academic and research writing but also amplifies the endorsement and commitment of all stakeholders, resulting in more successful implementation and long-term viability.***

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