Concepts and Technologies of AI
Assignment 2:

AI: Balancing Innovation with Ethical Integrity: Opportunities and Challenges across various fields.

Name: Krishal Maharjan
Group: L5CG19
Student ID: 2408955
Lecturer: Bibek Khanal
Tutor: Ronit Shrestha

Abstract

This paper aims at discussing the ethical concerns about the usage of AI emphasising on the generative LLMs in learning environments. With the growing use of AI across different learning environments, issues of tokenization of generated content, robotization of interpersonal communication between teachers and students and the fairness of AI in total can be raised. These ethical tensions are addressed in the report to make certain that the AI tools will not cause injustice and that they will foster positive interaction, and offer clear identification results. If standard ethical norms and ethical codes are followed strictly then proper and fair use of artificial intelligence can be made for the benefits of learner across the globe and thus AI could definitely improve educational forums across the globe.

Introduction

Due to the advanced progress of artificial intelligence (AI), questions about ethic and morality have arisen that can be experienced in education. Another is that, like a society, AI systems may become prejudice that may make a particular race, gender, or class be discriminated against. For example, LLMs which were trained in biassed datasets may generate educational content that is bias with stereotyped thinking, which constrains the learning process for minority student **(Schiebinger, 2018)**.

In order to counter these ethical questions, some principles and regulations have been developed, such as equality, responsibility, openness and participatory **(Commission, 2019)**. The above principles play an important basis when it comes to designing ethical AI systems because then it can minimise the risks of biases or discrimination. Some desirable features of ethical AI included self-reflection about or debiasing, respect towards user data privacy, and explaining its choices to other autonomous machines **(Binns, 2018)**.

These ethical standards are meant to be constantly checked and assessed both in the process of AI systems implementation and in collaboration with different stakeholders. It is possible to develop a positive and responsible AI environment that will promote using the technologies to improve learners' performance and address equal and human rights concurrently.

Review: Major Ethical Dilemmas and Moral Questions in AI

LLM's and Education

The various discussion about the use of LLMs for improving teaching and learning cannot be overemphasised while at the same time appreciating that there are worthwhile ethical issues arising from such utilisation. This one of the primary concerns about utilising LLM-generated educational content because LLM might be biassed. They are developed from huge databases encompassing comprehensive information containing biassed data, prejudice, and wrong information. When not handled properly, it can be worse as LLMs offer educational content which tends to entrench divisions within the society or exclude specific demographics. For example, if an LLM is producing content that only has a certain side of the storey, the students from the other side of the lens may be left out and misrepresented **(Schiebinger, 2018)**. It can be a learning disability for students who cannot find themselves in texts and other forms of materials they come across since they are most likely to be dismissed or lose interest with what they are being taught.

To avoid such risks, there is a need to undertake measures that will enhance diversity in LLM created content. This entails developing training data sets to accommodate cultural, gender and or economic diversity of a certain society. Furthermore, to implement the outputs of LLMs, educators and developers have to consider generated material, metabolising and revising the production to match the educational policy and ethos **(Binns, 2018)**. Through this means, wise leadership will help produce content that appeals to every learner and promote fairness among all the learners.

The last ethical issues pertain to voice interactions between students and teachers through LLMs. The use of such systems has advantages of offering customised teaching and support; nevertheless, there is the disadvantage of less focus on human instructors. The feedback and emotional support, which teachers can give, is beyond any price, because teachers can individualise approach to each learner. Automation or exclusion of human interface in the learning activity could eliminate social interaction which is paramount in skills mastery of social interactions and emotional intelligence **(UNESCO, 2021)**. Moreover, involving LLMs in the tutoring systems may also lead learners to trust in the quality of information they are being provided with, while in fact the

explanation they get does not imply the richness and the context that come along with a human tutor.

Further, particular, the processes of the assessment and grading based on the LLMs cause important considerations associated with their fairness, accuracy and transparency. Automized feedback may contain some inaccuracy due to the absence of context provided in evaluation by a human assessor (O'Neil, 2016). For instance, an LLM may fail to evaluate a literary collection or a range of problems that solicit personal opinion. Furthermore, if students know that AI will grade their work, this can have a negative impact on learning and assessment since it motivates learners to adapt to what the system is testing, and therefore attempt to learn how to beat the system instead of mastering knowledge **(Holstein, 2019)**. It is imperative that mechanisms in AI assessment are clear for the general public to understand hence aligning the AI assessment systems to tested fair rates of fairness.

However, it is worth stating that the application of LLMs in the teaching and learning processes raises many ethical issues. When used responsibly, AI should be able to assume the duty of enlightening learners, reducing bias in material presented to students, respect the role of teachers as facilitators, and deliver fair assessments to all learners. In this way, the described ethical questions become meaningful and enable educators, policymakers and AI developers to collaborate for the common purpose of constructing the desirable future, in which LLMs are useful educational tools meeting the need of equal learning opportunities for all.

Discussion

Creating ethics of using artificial intelligence in the education sector is very essential in today's society. With the increasing adoption of LLMs especially in learning institutions it becomes crucial to do away with bias in AI systems. But when the LLMs are curated from a biassed dataset, then the displayed content is disparaging and unaccommodating to a student's progress, deepening the stereotype problem. Hence, there is a need to select various sets of training data and should always critique outputs to ensure compliance with ethical benchmarks.

However, even though the LLMs can become helpful in supporting students they will not give a human educator's analysis and empathy in a class. Ethical AI should work in synchronisation with teaching instead of replacing it rather it should improve the human interaction between the teacher and the students. This balance guarantees education is a balanced one and still provides for an enriching programme for students.

Ofcourse, the principle of transparency is the other major feature of ethical AI. This is why learners and instructors must be aware of AI system working mechanisms, particularly in evaluation. It is quite simple if the overall criterion as well as the process that has been adopted by the AI is comprehensible, the levels of trust, which has got its results, are heightened. This way we will be able to ensure that more individuals and specifically the educational community have an opportunity to come up with an informed perspective regarding the operations of AI. Finally, it will improve learning while promoting ethical practise in artificial intelligence, thus addressing equity issues.

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