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MEJO 588: Assignment 4

7 November 2023

As Artificial Intelligence (AI) becomes more prevalent in our day-to-day lives, the more questions it prompts. This is especially true in the topic of education. It is still a new concept to most and has sparked significant interest and debate. The technology has found its way into K-12 education and has revolutionized the way students learn and educators teach. It has become a priority for schools to figure out the best way to navigate AI. There are many advantages and disadvantages to the access of this technology. In this paper, I will discuss the integration of AI into K-12 education that offers various advantages, disadvantages, and controversies.

The K-12 education system can benefit in many ways from AI. To start off with the most important feature is personalized learning. An AI- powered adaptive learning feature can analyze students' performance data and adapt the learning materials to cater to each student's unique needs. AI can assess the individual strengths, weaknesses, and preferences. By using this data and personalizing it to each student, it can ensure that students receive assignments that match their current level of knowledge. Not only does this make sure that the students are on the right track but it also prevents them from boredom if it is too easy or discouragement if it is too difficult. If AI continues to analyze a student's work, then it can catch onto patterns and identify specific weaknesses. Teachers can then use this information to alter their curriculum's pace or even a specific teaching style.

The next obvious benefit of using AI in K-12 education would be for its automated grading. The efficiency and accuracy of using AI for grading in school systems would save time and work for teachers. Especially nowadays, with 86% of public schools in America struggling to hire teachers, AI could be an asset. Another benefit of an automated grading system would be its ability to detect plagiarism or cheating. This would enforce a strong honor system within schools and hold students accountable. With an automated grading system using AI, it is also an

advantage in the aspect of it consolidating the reports. By having one system of grading it would be able to oversee certain patterns and trends amongst the students' weaknesses and strengths. Then it could report back to the educators so that they can improve their teaching tactics and curriculum pace.

Amongst many other advantages of using AI in K-12 education, it can also act as a virtual tutor for students. This would allow students to access help 24/7 and have immediate feedback. AI can be creative with it too and offer gaming style homework help or exam prep. This not only benefits the students but it would also be a major help for teachers. Teachers can be comforted knowing their students are getting the help they need and this makes it so that the teachers do not need to work overtime for office hours.

A specific example of a time where AI was successfully implemented into the education system can be seen through Jill Watson. Jill Watson, an AI teaching assistant developed at Georgia Tech in 2016, has become a valuable resource in education. Originally used in a computer science class, Jill effectively answered student questions alongside human teaching assistants, and students could not even tell she was AI. The time to create a customized version of Jill has been drastically reduced to under ten hours, thanks to the Agent Smith program. This AI assistant is versatile and can be used by teachers from various grade levels and subjects, making it easier to handle routine tasks and freeing up more time for teachers to engage with students. In short, Jill Watson and similar AI assistants enhance the educational experience by helping teachers with their work.

The introduction of AI in K-12 education has brought several advantages but also raises concerns. Firstly, there's a worry about students relying too heavily on AI for answers, potentially diminishing their critical thinking skills. This overreliance might hinder their ability

to analyze and solve problems independently. Secondly, AI can facilitate plagiarism and academic dishonesty. With easy access to information, some students may be tempted to copy content without fully understanding it, compromising the educational process's integrity. Privacy is another issue as AI systems can collect and store student data. This raises questions about data security, potential misuse, and whether it's used for surveillance or targeted marketing. Lastly, there's the concern of job displacement for educators. While AI can aid teachers, it might reduce the need for human educators in administrative roles, which could lead to job loss and diminish the human touch in education.

While there are valid concerns about the negative impact of AI in K-12 education, it's important to note that specific instances of harm are relatively limited and often tied to how technology is used. Responsible use of AI tools, proper oversight, and a balanced approach to education that incorporates both AI and human instruction can help address these potential drawbacks. By harnessing AI's advantages while mitigating these challenges, we can ensure that K-12 students receive a well-rounded and effective educational experience

There have been specific instances where AI has proven to have a negative impact on K-12 education. The skepticism and criticism surrounding AI in education is not based on the technology itself but rather on historical precedents where previous educational innovations, such as television, computers, and the internet, fell short of delivering revolutionary results. Any new technology that is being presented in K-12 education should address the age-based cohort system, standardized curriculum, and other aspects that were originally designed over a century ago.

With the integration of AI, it brings many advantages and disadvantages to the K-12 education, but it also raises several controversial issues that require careful consideration. Two

significant and contentious topics in this context are algorithmic bias and surveillance in schools.

One of the primary concerns surrounding AI in education is algorithmic bias. AI systems often rely on historical data to make predictions and recommendations. If this data reflects bias or discrimination, the AI can perpetuate and even exacerbate these biases. For instance, an AI-driven personalized learning platform may recommend different learning paths or materials for students based on their demographic or historical performance data. This can lead to disparities in educational outcomes, reinforcing inequalities. Many studies have highlighted instances where AI algorithms exhibited bias. For example, AI- powered grading systems have been criticized for showing bias against students from certain racial or socioeconomic backgrounds.

On the contrary, some may argue that AI can be designed to minimize the bias and that it has the potential to provide more personalized and effective learning experiences, tailored to individuals' needs and learning styles. Additionally, people believe that human biases can also influence traditional teaching methods and that AI can be used to address them.

Another controversial issue amongst AI for education is the use of surveillance technology in educational settings. AI-driven facial recognition and monitoring systems can track students' behaviors, attendance, and engagement in real time. While some argue that this technology can enhance security and help identify students in need of support, others are concerned about privacy violations and the potential for a surveillance state in schools.

Advocates of surveillance systems in schools argue that these technologies can help ensure the safety and well-being of students by identifying potential threats and addressing issues like bullying or truancy more effectively. They believe that when used responsibly and transparently, surveillance can be a valuable tool for both students and educators.

There have been specific instances where the use of surveillance technology in schools has raised concerns about privacy and data security. For example, facial recognition systems may compromise students' privacy, and the collected data could be vulnerable to breaches. These concerns highlight the need for robust policies and guidelines to govern the responsible use of surveillance technology in educational settings.

The growing integration of AI into K-12 education offers various advantages, such as personalized learning, automated grading, and virtual tutoring, benefiting both students and educators. However, it also raises concerns about overreliance on AI, plagiarism, privacy issues, and the potential job displacement of educators. These concerns are valid but often tied to how AI is implemented. Responsible and balanced use of AI tools, coupled with proper oversight, can mitigate potential drawbacks and ensure a comprehensive and effective educational experience for K-12 students. Additionally, specific instances like Jill Watson and AI assistants have showcased AI's positive impact on education. In the broader context, addressing issues related to algorithmic bias and surveillance in schools is crucial, with valid arguments on both sides. Algorithmic bias can lead to disparities in educational outcomes, but some argue that AI can be designed to minimize bias and provide more personalized learning. The use of surveillance technology in schools raises privacy and security concerns, necessitating robust policies for responsible use. Ultimately, the integration of AI in K-12 education is a complex journey marked by both promise and challenges, and understanding and addressing these concerns is key to ensuring AI's valuable and balanced role in enhancing the educational experience for students.

Part 2:

As I mentioned before, AI has many advantages and disadvantages. Here, I asked AI to generate an image of "a dog holding a burger on top of the eiffel tower." As you can see, the quality is very good and it included the objects I wanted it to but the actions were a little off. That is where AI will sometimes fail; if you do not give it very specific details or do not use the best grammar, it will not complete the task you want it to. The dog is not on the tip of the eiffel tower and it is not holding the burger either.

Here, I asked AI to generate an image of "harry styles holding a cup of coffee on a space ship" and while it did get the actions down right, the "harry styles" does not really look like that actual singer. This is a good example of what AI can and cannot do. Overall, I think the pros of AI outweigh the cons as long as people set boundaries with it. For right now I think that it can be beneficial for people but if it does not follow basic human standards and gets out of line, I think it could be very harmful.

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