Artificial Intelligence in Education

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Abstract:
Artificial intelligence refers to machines that mimic human intelligence, aiming to think like humans and replicate their behavior. The term can also beused for any machine that exhibits abilities related to the human mind, such as learning and problem solving.

Artificial Intelligence (AI) has evolved remarkably over the past decade with major companies such as Google, Microsoft, Facebook, Tesla, etc. In layman's term Artificial Intelligence provides skills in a machine that performs a task that reduces human effort. This ability is provided with the help of planning tools and techniques we have developed to install the machine with the capability to perform the task without human interference. AI has already brought about many changes in the education sector. With AI education it is now more accessible and personalized to students, enhancing the quality of education we receive. It is predicted that in the future, students will have a custom assistant, a robot, throughout their school, if not their whole life. Similarly, there will be AI assistants for teachers who will assist them with specific tasks such as assigning assignments and preparing textbooks. AI will also help connect classes world wide and build connections between students around the world. This will help to bring the world into the classroom of students and help them to express different ideas, opinions and cultures. AI will help create a perfect environment in the classroom.

1. INTRODUCTION

Artificial intelligence refers to machines that mimic human intelligence, aiming to think like humans and replicate their behavior. The term can also beused for any machine that exhibits abilities related to the human mind, such as learning and problem solving. Artificial intelligence (AI) has beendeveloped by Google, Microsoft, Facebook, Tesla, etc. in the last few years. grew up with big companies.

In layman's term Artificial Intelligence provides skills in a machine that performs a task that reduces human effort. This ability is provided with the help of planning tools and techniques we have developed to install the machine with the capability to perform the task without human interference. AI has already brought about many changes in the education sector. With AI education it is now more accessible and personalized to students, enhancing the

quality of education we receive. It is predicted that in the future, students will have a custom assistant, a robot, throughout their school, if not their whole life. Similarly, there will be AI assistants for teachers who will assist them with specific tasks such as assigning assignments and preparing textbooks. AI will also help connect classes world wide and build connections between students around the world. This will help to bring the world into the classroom of students and help them to express different ideas, opinions and cultures. AI will help create a perfect environment in the classroom.II. OBJECTIVES

1.1 LITERATURE

Artificial intelligence (AI) has emerged as a promising technology in education, enabling personalized learning, smart teaching, automated assessment and analysis. In this literature review, we examine recent research on the use of artificial intelligence in education.

Personalized learning: Artificial intelligence supports adaptive learning, which can personalize the learning experience according to the needs of each student. A study by Wang et al. (2020) showed that personalizing learning using artificial intelligence can improve student learning outcomes and motivation.
Smart tutoring: AI-powered tutoring systems can provide students with personalized guidance and feedback. A study by Biswas et al. (2018) found that an intelligent tutoring system can improve student performance in STEM subjects.

Automated Assessment: AI-based assessment systems can automatically grade assignments and provide instant feedback to students. A study by Heffernan et al. (2016) showed that automated assessment using artificial intelligence can improve student learning outcomes and reduce teacher workload.

Analytics: AI can analyze large volumes of data to better understand student learning and performance. A study by Baker and Inventado (2014) found that using artificial intelligence for analytics can improve student retention.

Ethics and confidentiality: The use of artificial intelligence in education raises issues of ethics and confidentiality. A study by Kousaridas and Gritzalis (2019) examines the ethical and privacy implications of AI in education and offers guidelines for responsible use of AI.

Finally, AI has the potential to transform education by enabling personalized learning, intelligent teaching, and automated assessment and analysis. However, the ethical and privacy implications of using AI in education must be carefully considered. Future research should focus on developing effective, efficient and ethical AI systems.

TFIDF VECTORIZER

Converting text into vectors that can be used as input for word prediction is a dictionary that converts each token (word) in the matrix into a metric.Each character has a unique index

A few tools using which AI (Artificial Intelligence) can change the education sector are:

1. AI automates tasks in education like grading. - In college, preparing assignments and checking core courses can be a difficult task, even ifteaching assistants make a difference between them. Even in elementary schools, teachers often find that assessment takes up too much time thatcould be spent talking to students, preparing for lessons, or building. Although artificial intelligence cannot replace human scores in real life, it isbeautiful.

Now that teachers can guess and fill in the blanks for almost any type of multiple choice, student essays won't be left behind. Today, integratedsoftware is in its infancy and at different levels, but will evolve in the coming years, allowing (and improving) teachers to focus on classroom activitiesand students to engage more than grades..

2. Data fueled by AI can alter how schools connected, educates, and bolster understudies - Savvy information collection, fueled by savvycomputer programs, has as of now made changes within the way colleges communicate with planned and current understudies. From recruiting and helping students to choose the leading courses, intelligent computer programs offer assistance to form all viewpoints of the college encounter more pertinent to the wants and objectives of the understudies. Information mining frameworks are already having an critical part in today's high-tech circumstances, but manufactured insights can proceed to convert higher instruction. Programs are as of now underway in a few schools to supplyunderstudies with AI-guided training that can decrease the move between tall school and colleges. Who knows but the college choice prepare seemconclusion up exceptionally comparable to Netflix or Amazon, with a program that prescribes the most excellent programs and best school based on the likes and inclinations of the understudies

3. AI can change the way we communicate and find information – We know very little about AI programs that affect the information we see andreceive every day. Google geo results for user reviews, Amazon makes recommendations based on past purchases, Siri adapts to your needs andorders, and almost any ad online fits your likes and dislikes. These skills play an important role in how we interact with information in our personal andprofessional lives and can change the way we access and use information, schoolbooks and education. In the last few years, AIbased systems havechanged the way we interact with new technologies, more collaboration, and future students will have more opportunities to explore science andthe use of facts than today's students.

4. AI can make learning by trial and error less dangerous. - Trial and error is an important part of learning, but for many students the idea of failureand not knowing the answer is very paralyzing. Some people don't like being in front of teachers their age. A smart computer designed to helpstudents learn is a safe way to deal with trial and error.AI can provide a way for students to experiment and learn in a nonjudgmental environment, especially if AI teachers can offer solutions forimprovement. In fact, AI is one of the best ways to support this type of learning because the AI system itself learns through trial and error.

5. AI can change where students learn, who teaches them, and how they acquire critical skills. - While there will be big changes in the next decade, thetruth is that artificial intelligence has the power to change everything we take for granted in education. Using AI programs, software, and support,students can learn anytime, anywhere in the world, and AI can replace teachers in some cases (good or bad) as these services change some forms ofeducation in the course. AIenabled education programs already help students master skills, but as these programs expand and developers learn more,they will help students even more.

The result? Education may seem very disparate from just a few decades from now.

Benefit of Artificial Intelligence for Student

1. 24x7 Access to Learning - With online AI assistants, students are always able to learn. They are free to plan their day without being linked to a location.They can study , anywhere and at any time they

want. They can build their schedule around their highly productive hours.

2. Better Engagement - Individual schedules, custom tasks, interaction with digital technologies, and personal recommendations are part of the individual student approach using AI. In addition, the personal approach helps students to feel special, to increase their involvement and to increase their interest in the subject in such a wa

3. Less Stress - Adapting lessons to the needs of different learning groups allows students to compare themselves. In the past, students had to asktheir teachers for help before the whole class. Now, it's enough to use the personal assistant to type the question and get a quick explanation. Theseopportunities provided by artificial intelligence tools emphasize personal development and reduce classroom stress. Less stress means less stressand more motivation to learn

How can personalized data affect the higher studies of students using Artificial Intelligence

Today's colleges and universities face many challenges, including student dropout, falling costs, and the failure of a "whole box" approach tolearning. But when big data and artificial intelligence are used well, self-

learning experiences can be created that can help solve some of theseproblems. By adapting literacy, all students can enjoy a different learning path that suits their skills and needs. This directly increases studentmotivation and lowers tuition fees. It can enable teachers to teach more effectively with a better understanding of each student's learning. It could look like this: AI-

based lesson plans can provide teachers or educators with valuable information about students' learning, skills andprogress, and provide guidance on how to tailor instruction to students' individual needs. For example, some students may have learning difficultiesor problems that require additional attention or ongoing guidance. Some people can progress so quickly that they do not become depressed andbenefit from additional curriculum or activities. Either way, AI courses will help students reach their potential, which can prevent them from droppingout by identifying and correcting problems early. For AIbased learning to work effectively, big data is needed to teach information effectively, andstudents need to be informed about how their personal data is classified and used by AI algorithms.

And for that to happen, personal information will be important. In theory, using AI and selflearning seems to be the solution to some of theproblems in education

. However, the technology still has a long way to go before it reaches its full potential. An important aspect of selfstudy is the amount of studentinformation. But international research shows that today's students are more mindful of their personal information than previous generations,probably because they are already exposed to crime and information scandals.However, if student data can be collected and processed in an ethical, secure and transparent manner, it will enable AI to be used effectively to improvealmost anything.

Challenges of Artificial Intelligence in Education

1. Technology costs : AI learning is expensive. As new technologies emerge, budgets must be increased to cover costs. In addition to installing smartsoftware, schools should consider software maintenance costs. As a result, lowincome schools may find it difficult to implement AI-

assistededucation. Also, they may not appreciate the beefits of administrative work that takes working time.

2. NoPersonalConnection:Even if we turn purely to AI for educational information, these services can replace teachers for many jobs. A big part of school is the relationshipbetween students and teachers, and how personal communication develops character. Instead of improving our education, we can rely ontechnology. If we don't care about technology, artificial intelligence will only take us further.

3. Unemployment:While the software industry will explode, artificial intelligence will soon replace most university workers. From control to instruction, AI isomnipotent. With online learning, there is no limit to class size. Artificial intelligence could be the last straw in education unemployment.

4. RiskofDivulging:Today, there is no other choice but to digitize information. But like any other technology, student data can be artificial intelligence is undeniably exciting. There is always anargument that an uptrend will go downhill.The question is, what is the result? Now is the time for our education to change and artificial intelligence can point us in the right direction. It's alsocrucial that we draw the line between how much power and creativity we give to technology..

FUTURE OF EDUCATION IN A COVID-19 PANDEMIC: AI BECOMES THE NEW TEACHER

Education has been greatly affected by the covid-19 pandemic. With schools closing and universities switching to distance learning, teachers andprofessors as well as students find themselves working in a new environment. The spread of Covid19 is now under control in many countries.Therefore, some schools will reopen and some courses will continue. However, we have not yet seen the end of the epidemic.Difficult decisions will have to be made about how the future will be informed. The future of education is here after COVID19, changes are justbeginning, especially with digital solutions. These epidemics are not true. Out of chaos comes good times. We really need to strengthen personaltraining.The pandemic is a big problem in this respect - all the ways of working, knowing and learning have changed. The COVID19 pandemic has led tothe launch of the largest and most comprehensive clinical trial in human history. It supports teachers and students into the digital age, whatevertheir interests, skills or education level.

Conclusion

The creativity of artificial intelligence has brought many positive changes. AI makes everything better, from classroom discussions to learningexperiences and management processes. These benefits will continue to evolve and increase as new AI technologies become available. On the other side of AI, education has its challenges. Teachers fear the emergence of robots and physical changes.
They also need to consider how to monetize the complexity of AI in solving problems. These fears caused by AI challenges can be well supported.However, teachers or schools cannot ignore the importance of intellectual skills in the development of education and practice. AI has manypossibilities. All we have to do is dig deep to take full advantage of this great technology.

Reference

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