EDUCATION AND ARTIFICIAL INTELLIGENCE

[1] Shamimunnisabi, [2] Roopa P, [3] Febina K S, [4]Aishwaraya P, [5] Tanuja H

[1] Assistant Professor , [2] Assistant Professor, [3] Assistant Professor, [4] Assistant Professor, [5] Assistant Professor
[1] Department of computer applications,
[1] VET First Grade College, Bangalore, India

Abstract: The way we live, work, and learn will all be altered by AI. Artificial intelligence could help teachers, personalized learning could be more effective and engaging, and learning could get better. There are numerous advantages to incorporating artificial intelligence (AI) into education, some of which include assisting teachers by taking over time-consuming tasks, grading reports, maintaining reports, enhancing virtual AI schools and AI classrooms, and many more. AI and today's digital learning system have combined to create a brand-new learning paradigm for the education and learning industry. Due to the growing preference for personalized learning, the eLearning market is anticipated to reach USD 4 billion in 2022 and grow at a CAGR of more than 10% between 2023 and 2032. A few examples of how artificial intelligence in education has revolutionized traditional learning methods include mobile digital courses, online references, and virtual classrooms.

IndexTerms: **Artificial Intelligence, Learning, Content, Higher Education,**

I INTRODUCTION

Numerous studies indicate that AI will soon replace jobs that involve routine and structured tasks due to their ease of automation. This is because AI will result in job replacements and displacements. On the other hand, jobs that are more unstructured and involve managing people will be harder for AI to replace. Colleges and universities are gradually accepting artificial intelligence (AI) as a useful tool for automating a number of tasks in an effective and efficient manner. Chat-bots can talk to students about their mental health or answer questions about class schedules. From its initial forays into digital transformation, which included digitizing workflows, developing more complex datasets, automating daily tasks, and creating dashboards to enhance analytics, higher education is making progress. Institutions are now using technology for more than just doing the same things better. They are using AI to accomplish better things.

II EFFECTS OF AI ON HIGHER EDUCATION

Higher education must be adaptable and constantly evolving. AI will have many effects on higher education, the two main ones being enrolment and curriculum. First, AI will significantly alter higher education curriculum. The speed, precision, and consistency of AI are its strengths. However, AI lacks soft skills like critical thinking, problem-solving, socializing, leadership, empathy, collaboration, and communication. Hard skills like science, math, and engineering cannot be ignored. Students should still be taught the fundamentals of science and math in higher education, and students should also be given opportunities and training to improve their soft skills. As business executives need to understand the capabilities, imitations, and implications of AI in the business world, some universities are already offering AI and Machine Learning courses to computer science students. Enrolments are another effect of AI on higher education. As these fields are less susceptible to "AI-invasion," liberal arts and humanities majors may gain popularity. Accounting and financial analysis, for example, may see a significant decline in enrolments as a result of AI. Additionally, the wealth gap and the possible loss of millions, if not billions, of jobs may make higher education unaffordable for many. The utilization of AI teachers and assistants in the classroom are additional options. We are underestimating the significance of AI in education. With an increasing emphasis on higher education quality, more than half of schools and universities rely on AI for administrative assistance.

III EDUCATION'S GROWTH BY AI TRENDS.

By increasing student engagement through personalized courses, interactive lectures, gratified classrooms for skill development, etc., AI trends accelerate education growth. Consequently, it is anticipated that the AI education market will reach $20 billion USD by 2027. This shows how businesses are collectively investing billions of dollars in a variety of AI applications, including educational app development, robotics, virtual assistance, natural language processing, and computer vision and machine learning. keeping these benefits of technology in education current.

IV   APPLICATIONS OF AI IN EDUCATION:

1. Personalized learning

Every student responds differently to new information. Some learn quickly, while others take time. The idea of individualized instruction for each student was absent from the conventional educational system. Artificial Intelligence steps in to save the day here.AI in education makes sure that educational software is tailored to each student. In addition, in the field of education, supporting technologies like machine learning enable the system to support how the student perceives various lessons and to adapt to that process in order to reduce workload. Through features like AI-embedded games, customized programs, and more, this combination of AI and education caters to the needs of each individual to help them learn effectively.

2. Automation of work

When AI is used in schools and virtual classrooms, the majority of the tasks that add value are done by the technology. AI software systems can manage other administrative tasks like checking homework, grading tests, organizing research pacers, maintaining reports, making presentations and notes, and creating a tailored teaching process.AI makes the learning environment more knowledgeable and productive by automating everyday tasks.

3. Creative content planning

Additionally, experts in research and education can use AI and machine learning to assist in the creation of novel content that facilitates convenient teaching and learning. Some examples of AI-aware content creation are as follows:

3.1 Translation of language: DeepL, a.k.a. ", is one example of an AI tool that can help with translation. Google Translate, which can translate both speech and text into a variety of languages, and the "world's most accurate translator," which makes use of neural machine translation to accurately translate texts from one language to another in real time.

3.2 Description on audio: For people who are blind or have low vision, AI can be used to create audio descriptions of visual content like videos and images. VEED generates audio descriptions of visual content using AI.

3.3 Subtitling: Make audio and video content more accessible to people who are deaf or hard of hearing by using AI to automatically generate captions. Captions for audio and video content are generated automatically by the AI tool Automatic Sync Technologies (AST), which makes use of machine learning.

3.4 Speech-to-text: For people who have trouble reading, AI can produce audio versions of text-based content like blog posts and articles. NaturalReader makes audio versions of text-based content using artificial intelligence.

3.5 Recognition of images: For those who are unable to view the images, AI can be utilized to analyze them and generate alternative text descriptions. These people may find it simpler to comprehend the content and context of the images as a result of this. The ability to analyze images and generate alternative text descriptions is built into Adobe Sensei.

3.6 Simplifying the text: AI can analyze text and suggest changes to make it easier for people with cognitive disabilities or learning a new language to understand. Rewordify makes use of AI to look at text and make suggestions for making it easier to understand.

4. Visualization of data

AI smart content creation encourages the real-world experience of visualized web-based study environments, whereas traditional teaching methods cannot provide visual elements other than lab try-outs. Students are able to perceive information in multiple ways thanks to the technology's assistance with 2D and 3D visualization.

5. Making digital lessons

Through low-storage digital study materials and other lessons, artificial intelligence in education can help generate bit-sized learning. The entire study material can be placed in this way without taking up a lot of system space by experts and students. Furthermore, we won't have to worry about remote learning because these materials can be accessed from any device.

6. Regular updates to the content

To keep the lessons current over time, AI also gives users the ability to frequently create and update the information. Additionally, users are notified whenever new information is added, which aids in task preparation.

7. Adaptable access

The information can now be made available to a global audience thanks to AI's entry into the education market. According to a recent survey, AI/ML-based education app development with modern tools and features is used by over 60% of education businesses. Multilingual support facilitates the translation of information into various languages, making it easy for native speakers to teach and learn. Preaching to people who are blind or hard of hearing also relies heavily on AI. Virtual lectures can be subtitled in real time using AI-powered converter tools like Presentation Translator.

8. Determining the weaknesses of the classroom

One of the significant AI technology benefits in education is maintaining a positive impact with remote learning on our environmental footprint. However, many experts believe that AI will soon replace the human touch in learning. Now, this might be the case for other industries but not for the education sector. AI and education go hand-in-hand, complementing manual and virtual teaching. AI merely supports the experts by automating several tasks and improvising the teaching and learning process for individuals.

9. Bridging the skill gap

Businesses that are still having trouble closing the technology gap can benefit greatly from upskilling students. Software and application development solutions based on AI and machine learning offer students affordable opportunities to improve their skills. This goes beyond just students; Training and upskilling current employees can boost morale and incite a company-wide commitment to innovation and improvement. In addition, by examining how individuals acquire skills, deep learning and machine learning for education have an impact on the L&D (Learning and Development) field. The learning process is automated as soon as the system adapts to human learning and studying methods.

10. Individualized feedback based on data

When designing learning experiences, whether in the workplace or the classroom, feedback is an essential component. The provision of ongoing feedback is a fundamental difference between effective teaching and simply imparting content. It is absolutely necessary for feedback to come from a reliable source; As a result, AI in education uses everyday data to analyse and create work reports. A feedback system based on data improves student satisfaction, removes bias from learning, and helps identify skills gaps. This feedback is individualized based on the system-recorded performance of each employee and student.

11. Assistance with conversational AI around the clock

Chabot are becoming an increasingly common illustration of how AI in education uses data to educate itself and provide assistance. Teachers and professionals in business will both benefit from this because it encourages user engagement in individualized learning. Intelligent tutoring is also provided by conversational AI systems that pay close attention to how users consume content and respond to their requirements. Global eLearning is anticipated to expand at a compound annual growth rate of 9.1% by 2026, according to industry research. People all over the world are choosing corporate training courses and distance learning, which don't require them to leave their jobs, families, or classes. AI catboats can assist 24 hours a day, 7 days a week with enrolment questions, instantaneous solutions, and access to required study materials.

12. Decentralized and safe learning systems

Despite AI's rapid innovation, the education sector frequently encounters obstacles such as outdated certification procedures, data accessibility that can be altered, and data protection. Decentralized AI-based solutions have the potential to bring a positive technical revolution to the education sector despite all of these obstacles. The Learning Management System is backed by AI and block-chain technology, providing data and information security solutions to millions of teachers and students.

13. AI in assessments

In interviews and examinations, AI software systems can actively help detect suspicious behaviour and notify the supervisor. Through web cameras, microphones, and web browsers, the AI programs monitor each individual and perform a keystroke analysis in which any movement alerts the system. There are numerous advantages to using an AI-based software and application solution.

CONCLUSIONS:

AI provides solutions to a number of contemporary educational issues, including bridging the technological divide between teachers and students, maintaining an ethical and transparent educational system, enabling remote learning, and creating high-quality data and information solutions for the contemporary educational process. The technology addresses every minor issue in the online education system, implying the future of AI in education. Better opportunities, assessments, and differentiation in learning are in store in the future with 70% of education centres switching to complete online learning platforms.

REFERENCES:

1. https://www.gminsights.com/
2. https://timesofindia.indiatimes.com/readersblog/newtech/artificial-intelligence-in-education-39512/
3. https://onlinedegrees.sandiego.edu/artificial-intelligence-education/
4. https://www.unesco.org/en/digital-education/artificial-intelligence
5. https://www.javatpoint.com/artificial-intelligence-in-education
6. https://www.indiatoday.in/education-today/featurephilia/story/explained-what-is-the-role-of-ai-in-the-education-sector-2007717-2022-10-03
7. https://tech.ed.gov/ai/
8. https://buffer.com/resources/ai-content-creation/