

# Artificial intelligence in Education

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## ABSTRACT

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The goal of this study was to see how Artificial Intelligence (AI) might affect schooling. The study's scope was limited to the use and effects of AI in administration, instruction, and learning, based on a narrative and framework for analysing AI discovered through preliminary investigation. The study purpose was effectively realised using a qualitative research approach that leveraged the usage of literature review as a research design and approach. Artificial intelligence is a branch of study that has resulted in computers, machines, and other objects with human-like intelligence defined by cognitive abilities, learning, adaptability, and decision-making capabilities. According to the findings, AI has been widely adopted and used in education, notably by educators. AI began with computers and computer-related technologies, progressing to web-based and online intelligent education systems, and finally, the use of embedded computer systems in conjunction with other technologies, humanoid robots, and web-based chatbots to perform instructor duties and functions independently or in collaboration with instructors. Instructors have been able to execute many administrative responsibilities, such as reviewing and grading students' assignments, more effectively and efficiently using these platforms, as well as improve the quality of their instructional activities. On the other hand, because the systems make use of machine learning and adaptability, curriculum and content have been adapted and individualised to meet the needs of students, resulting in increased uptake and retention, as well as a better overall learning experience.

## I. INTRODUCTION

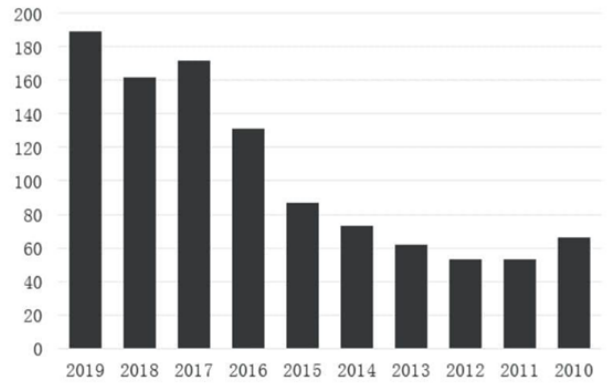
As Henry Ford demonstrated in the instance, innovation does not imply that society should stick to the status quo, such as finding ways to make horses run faster. It is sometimes important to look beyond the conventional and create fresh methods of doing things. Instead of making horses quicker, create a car that is

faster than a horse and can transport a person from point A to point B faster[1]. These principles and approaches have fueled rapid technological advancements in recent years, particularly in the education sector. It is the year 1950. Dr. Potter, a tenured professor at a nearby university, shuffles into class with a heavy weight of papers under his arm[2]. He's just finished marking all of the Xiaochun Cheng,

an assistant editor, was in charge of managing the review of this manuscript and authorising it for publication, as well as grading the grammar and substance of each of the 40 papers submitted by his students. Dr. Potter suspected that the information in some of the papers had been plagiarised from other sources, but he had no means of knowing where the student had copied the content materials. Dr. Potter now arrives into a class in 2019, scarcely carrying any papers but having read, reported plagiarism situations for disciplinary action, and assessed papers for an even bigger number of students. He can sometimes dial in or video conference into the class while off campus and still accomplish his duties and responsibilities[3]. The introduction, advances, and widespread use of technology, particularly artificial intelligence, has made it easier for instructors to carry out their tasks more successfully and efficiently. Other areas of academics have benefited from these technological advancements, which have improved efficacy and efficiency.

**ARTIFICIAL INTELLIGENCE IN CURRENT EDUCATION:**

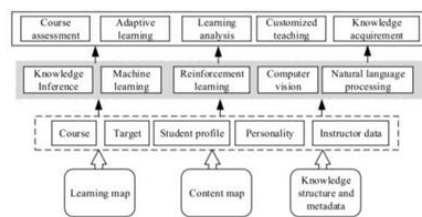
The term "artificial intelligence" conjures up images of a supercomputer, a machine with enormous processing power, as well as adaptive behaviour, such as sensor integration, and other capabilities that enable it to have human-like cognition and functional abilities, and thus improve the supercomputer's interaction with humans. Indeed, other films have been made to demonstrate AI's capabilities, such as in smart buildings, such as the ability to manage air quality, temperatures, and/or play music based on the felt mood of the space's occupants. Artificial intelligence has seen significant use in the education sector, expanding beyond the traditional idea of AI as a supercomputer to encompass embedded computer systems.



**THE ROLE OF AI IN EDUCATION:**

Timms raises an important point: AI is extremely powerful and has the ability to pervade and significantly alter several aspects of society, with the education sector being one of the most likely to be significantly impacted by AI. Indeed, it is clear from the several publications studied that AI has been embraced and deployed in the education sector, where it has facilitated advancements in various areas[4]. More precisely, within the context of Chassignol et al narrative 's and framework, which also determines the study's scope, it is clear that AI has been used in education, particularly in administration and teaching, affecting or impacting students' learning.

Scenarios of AI education	AI-related techniques
Assessment of students and schools	Adaptive learning method and personalized learning approach, academic analytics
Grading and evaluation of paper and exams	Image recognition, computer-vision, prediction system
Personalized intelligent teaching	Data mining or Bayesian knowledge interference, intelligent teaching systems, learning analytics
Smart school	Face recognition, speech recognition, virtual labs, A/R, V/R, hearing and sensing technologies
Online and mobile remote education	Edge computing, virtual personalized assistants, real-time analysis



**II. LITERATURE SURVEY**

Machine intelligence is known as artificial intelligence (AI). The field of AI in computer science is defined as the study of "intelligent agents." When a machine simulates functions that humans identify with other

human minds, such as learning and problem solving, the term "AI" is employed.

In recent years, a substantial quantity of software that incorporates artificial intelligence aspects has become available. Machine learning, natural language processing, image processing, and data mining are examples of AI subfields that have become major topics for today's tech giants[4]. Google's predictive search bar, Gmail's spam filter, and Netflix's show recommendations all use machine learning.

Apple's Siri and Google Voice both use Natural Language Processing. Face recognition tagging software on Facebook and Google's self-driving cars both require image processing. [5] Because of the massive amounts of data generated every day, data mining has become a slang term for the software business. Companies like Facebook and Google acquire massive amounts of data from their consumers every second and require a way to understand it[7].

In today's technology-driven world, Artificial Intelligence has already shown to be a beneficial new tool.

### III. ADVANTAGES OF AI IN EDUCATION

1. Education is available at any moment. Young people are constantly on the move. They prefer to use their cellphones or tablets for routine tasks. AI-based programmes allow you to learn in your spare time for ten or fifteen minutes[6]. Additionally, students can receive real-time feedback from tutors.
2. A variety of solutions based on the needs of the kids. Due to the students' degree of expertise, fascinating themes, and so on, AI-based solutions can adjust. The system usually assists students with their weak areas. It provides learning resources tailored to their specific shortcomings. For example, before using the app, the student takes a test; the app analyses the results and suggests appropriate projects and courses.

3. Online mentors. Virtual mentors are available on AI-based platforms to track students' development. Of course, only real teachers can truly comprehend the demands of students, but it's helpful to have immediate feedback from the virtual tutor..

### IV. CONCLUSION

The goal of this study was to determine the impact of artificial intelligence on schooling. A qualitative research study was conducted, with a literature review as the research design and method. Journal papers, professional publications, and professional conference reports were selected and employed in an analysis to help the study's goal be realised. The development and usage of computers and computer-related technologies paved the way for research and discoveries that led to the development and application of AI in various fields. The emergence of personal computers, as well as subsequent breakthroughs that increased processing and computing capabilities, as well as the capacity to integrate or embed computer technology in various devices, equipment, and platforms, has aided AI development and application.

### V. FUTURE SCOPE

People can pursue their educational goals from anywhere in the world thanks to artificial intelligence. AI technologies have made it possible for anyone who desire to enhance their knowledge to forget about time and space constraints. They can learn whenever and wherever they want, and they may tailor the learning process to their individual requirements and circumstances.

### VI. APPLICATIONS

#### 1. Personalized Education

To personalise learning for each learner, Artificial Intelligence is being used. The AI technology is

incorporated into the hyper-personalization concept, which is enabled by machine learning, to design a customised learning profile for each individual student and tailor-make their training materials, taking into account the student's preferred learning mode, ability, and experience on an individual basis.

## 2. Voice helpers have arrived.

Voice assistants are another another AI component being successfully used by educators in the classroom. Amazon's Alexa, Apple's Siri, Microsoft's Cortana, and others are among them. These voice assistants allow pupils to interact with instructional materials without the need for the teacher's involvement.

Deduplication Approach for Cloud Backup Services in the Personal Computing Environment,” in Proc. 13th IEEE Int’l Conf. CLUSTER Comput., 2011, pp. 112-120.

## VII. REFERENCES

- [1]. M. Armbrust, A.Fox, I.Stoica, M.Zaharia, "A view of cloud computing," Communication of the acm, April 2010,vol.53,no.4
- [2]. Y.M. Huo, H.Y. Wang, L. A. Hu , and H. G. Yang , "A cloud storage Architecture model for data-intensive applications " , in Proc. Int. Conf. Compute. Manage. May 2011, pp. 14
- [3]. Tin-Yu Wu, Member, IEEE, Jeng-ShyangPan , " Improving Accessing Efficiency of Cloud Storage Using De-Duplication and Feedback Schemes ", IEEE SYSTEMS JOURNAL, VOL. 8, NO. 1, MARCH 2014 , pp.208-218
- [4]. A.Katiyar and J. Weissman, "ViDeDup: An Application-Aware Framework for Video De-Duplication," in Proc. 3rd USENIX Workshop Hot-Storage File Syst., 2011, pp. 31-35.
- [5]. A.ElShimi, R. Kalach, A. Kumar, J. Li, A. Oltean, and S. Sengupta, "Primary Data Deduplication Large Scale Study and System Design," in Proc. USENIX ATC, 2012, pp. 285-296.
- [6]. P. Anderson and L. Zhang, "Fast and Secure Laptop Backups With Encrypted De-Duplication," in Proc. 24th Int’l Conf. LISA, 2010, pp. 29-40.
- [7]. Y. Fu, H. Jiang, N. Xiao, L. Tian, and F. Liu, "AA-Dedupe: An Application-Aware Source