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The Role of Machine Learning and Artificial Intelligence for making a Digital Classroom and its sustainable Impact on Education during Covid-19

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\textbf{ABSTRACT}

During the Disease outbreak and in the future, there will be a lot of learning. Since the pandemic has interrupted global schooling, remote learning has emerged as a viable option, depending on machine learning to accomplish its goals. Using the example of ten international science journals that speak out about artificial intelligence in education today and the future of earning, we hope to gain a better understanding of the large extend of the power of artificial intelligence in education, both during the COVID-19 period and during the future learning time frame. Additionally, in addition to evaluating 10 articles, we used an internet search engine to look for relevant material. We conducted searches using terms such as artificial intelligence, learning during a pandemic, and Machine learning, among other things. After that, we used a phenomenological technique to confirm that our results answered the research questions, which was done in accordance with a qualitative approach. Our findings can be summarized by taking into account the evidence from research and literature. Among our findings are that the detailed assessment of artificial intelligence in education, the use of AI in education, typical learning in the pandemic era, and the role of artificial intelligence (AI) disease outbreak learning are all important for both current and future residents. While statistical methods and automated based on learning jobs that are smarter than normal continue to be important, learning is becoming more automated. It helps individuals to be more concentrated on their learning opportunities and to recognize when they do not grasp a subject completely. First and foremost, the instructors provide valuable assistance throughout the assessment process of student learning outcomes.

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\section{1. Introduction}

The significance of artificial intelligence (AI) and machine learning (ML) is presently being researched and developed on a global scale, and it has attracted the attention of educational institutions. Today's artificial intelligence will mimic and, in some cases, completely replace humans in activities that are now performed by them. Several IT firms, including Amazon, Facebook, Microsoft, and Google, have incorporated AI and machine learning. Few people, meanwhile, are aware that artificial intelligence and machine learning have made their way into the realm of education and instruction. The growth of schools was followed by the development of technology. For example, online textbooks and practical software are used in the accounting area at the university level [1]. Even Bill Gates, the founder of Microsoft, is a proponent of artificial intelligence and machine learning in education. Gates even thinks that artificial intelligence and machine learning will be able

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to enhance human learning in a variety of ways. The efficacy of artificial intelligence and machine learning in teaching throughout disease outbreaks and future learning is something we wish to investigate based on these ideas. It has been successful in differentiating the COVID-19 from infection that affects the chest's community as a result of artificial intelligence and machine learning. Talking education refers to the process of learning to talk more intelligently than was previously possible before the invention of AI and machine learning. The learning programme for this artificial intelligence and machine learning system is a customised learning system that improves the learning experience of students more deeply and pleasantly. Understanding how artificial intelligence works in particular systems demonstrates that it may enhance student concentration. The rationale for this is that artificial intelligence can educate students individually and highlight areas that need more investigation in order to develop more effective methods of educating students via artificial intelligence [2]. For example, if a student's AI and ML technology is interested in a certain pastime, the AI and ML machine will be utilised as an example or explanation to help the student comprehend the subject matter more effectively. In other words, if pupils do not comprehend anything, this computer will recognise it.

Furthermore, artificial intelligence and machine learning (ML) intelligence can identify which ideas are likely to be misunderstood by pupils. This means that later on, AI and machine learning may make changes to discover new methods to aid student learning. This is the benefit of using an AI and machine learning engine to improve today's generation learning services, which is the advantage of this AI and machine learning engine. AI & Machine Learning is intended to improve the preparedness of artificial intelligence programmes in modern-generation education expenditures via research and development. It is also held to assist students in applying artificial intelligence and machine learning to develop technological literacy, which is in line with the implementation of the Industry 4.0 programme in each country that is already looking at advanced technology-based educational projects in the 21st century. In many nations that have begun to take an interest in artificial intelligence, schools have created answers to many of the problems that the world of teaching, and particularly the world of education, has encountered. Through the realm of education, the society must continue to learn and to contribute to the greater good. Students will learn a great deal, and they will be able to protect themselves against the spread of the COVID-19 disease outbreak in the future, thanks to artificial intelligence. Experts in the field of learning often say that teaching in the Fourth Industrial Revolution (4.0) is intended to explain different ways of integrating digital technology, both physically and non-physically, into the newer generation's learning [3]. As a result of this instruction in the Industrial Revolution Era 4.0, a phenomena is introduced that reacts to changes brought about by the industrial revolution by adapting new objectives in accordance with present circumstances. This curriculum programme for the Fourth Industrial Revolution (4.0) will open a window of education via digital means, with the assistance of the internet of things. Education, on the other hand, is becoming more diverse, with a greater variety of instructional techniques that are becoming more popular in developing nations [4].

2. When it comes to teaching, artificial intelligence and machine learning are very beneficial

Knowledge successful AI and machine learning provided a more in-depth knowing of how artificial intelligence may be a major learning partner. This artificial intelligence software seems to be dismissive of social duties as well as cognitive brilliance. AI and machine learning are being used to streamline different learning models and develop systems that motivate students to master new abilities. Understanding new areas that offer fresh perspectives into meta-analyses that produces energetic methods of learning in which instructors may shift much of the regular human labour to artificial intelligence systems in education for acceptable reasons as towards learning productivity is essential. The efficacy of a number of practical methods for manipulating, organising, and exploring data produced by clever Artificial Intelligence has been investigated. It is the goal of this research to mine data and knowledge recorded by the AI & ML machine system in order to better comprehend knowledge and data that will be helpful to data consumers (students, researchers, authors, instructors, and other professionals). Artificial intelligence and machine learning are advantageous for individuals who need knowledge that can provide accelerated instruction in an expedited way, according to the researchers. Greater efficiency and productivity, as well as being more sensitive to the requirements of each person. By doing these research, they were able to factor in the finding process into techniques for changing instructors, mapping diverse artificial intelligence and machine learning workings into a collection of knowledge, and exploring. They discovered marking road maps for current regions of communication repeller data storage as a result of their investigation. It may react to user data and frameworks in order to maintain track of past, current, and future work in the area of artificial intelligence and machine learning research. They illustrate this framework model via experiments in which they evaluate interventions by interpreting machines auto to assist students in solving issues and comprehending problems in order to help them learn more effectively [5].

3. The importance of E-learning in the COVID-19 crisis

Education is one of the most important elements in the development of a decent country. Following the emergence of the COVID-19 virus, schools, colleges, universities, and other government institutions were forced to close their doors without warning. Teachers have been using e-learning platforms to deliver knowledge to pupils in the midst of these difficult economic times. E-learning refers to a learning system that is delivered via the use of digital media. It was originally used in 1999 at a conference on cognitive behavioural therapy systems. It is referred to as virtual or online learning in other contexts. Sharing reading materials via the internet through emails, papers, presentations or webinars is made possible with this tool. It has emerged as a critical component of contemporary education, as shown by the significant role played by information and communications technology (ICT) in the current teaching–learning process. Educators may provide learning material and lectures in the form of PowerPoint, PDF, or Word documents to as many students as possible by posting them to their individual university websites, sending them through Whatsapp, or sending them via e-mail during this lockdown. Lectures have also been conducted via WeChat, by sending audio-visual videos through e-mail, and by using other online teaching applications like as Voov, Zoom, Superstar, g-suite cloud meeting, and so on. Because of technological advancements, teaching–learning processes now have a more favourable environment to operate in [6]. It provides instructors with the opportunity to alter their educational methods. In addition, it improves the processes for teaching and learning. Teachers may inspire pupils to improve their learning abilities by using creative methods to encourage them. Traditional techniques of learning and teaching have been drastically altered as a result of the advent of electronic learning. As COVID-19 continues, an increasing number of kids are using the learning platform and applications, which is a good thing. Some
of the platforms, such as ED-TECH and cloud computing, are already well-established since they are accessible at affordable costs and are simple to use and acquire.

4. Typical lessons learned during a pandemic COVID-19

The use of artificial intelligence in education and the use of alternate teaching methods while the epidemic is underway. As a consequence, teachers in ecology and evolution often undertake outdoor education to introduce new concepts and courses. Distance learning, which was formerly taught in a conventional manner prior to the internet, has created new difficulties for students, teachers, and institutions of higher learning alike. Significant decrease in educational objectives usually taught in the field, with field activities often being replaced with less active and more instructor-centered distant activities. The study showed that the majority of instructors had unfavourable feelings about several of the instructional substitutes that were used in the classroom. But even if there are certain possible problems on a fair basis, this research demonstrates several methods that AI considers to be more effective teachers in the classroom. Barton proposes several small substitution models for conventional field teaching based on identifying overall learning with the impact of COVID-19 on-field instruction and remote teaching from the point of view of teachers and instructors, as well as identifying the impact of COVID-19 on-field guidance and distant teaching. The relevance of artificial intelligence in coping with the learning crisis that occurred during the epidemic has emerged as a worldwide concern in recent years. Artificial intelligence, such as machine learning, has become a component of the area of artificial intelligence, where it plays a significant role in assisting humans in doing heavy jobs in automating, among other things [7]. One of the strategies being followed to combat this pandemic scenario is the use of technology to fulfill the requirements of the school community, which is one of the methods being explored on an ongoing basis. Similarly, when the COVID-19-induced learning crisis resulted in many setbacks in human learning, different research reacted with various studies that were attempted with innovations in order to overcome existing learning impairments. The Table 1 shows the major benefits of E-learning technology in education. In addition, Fig. 1. Shows the major advantages of e-learning in brief sections.

5. Understanding artificial intelligence and machine learning for human purposes

The Turing Test method has shown that AI and machine learning are capable of acting in the same way that people do. It has also demonstrated that AI and machine learning are intended to answer the fulfilling meaning of human jobs from Artificial Intelligence. Table 2. It demonstrates the challenges of e-learning. Fig. 2 shows some of the issues that E-Learning Technology has to deal with. A computer is considered to have passed the Turing Test if a human tester can ask many questions and then answer them by comparing the computer’s response to that of someone else or another computer. Computers must have the bare minimum capabilities to pass tests, such as communication skills, the ability to represent skills and knowledge in order to store what is known or respond, the ability to reason independently in order to use the stored information to answer questions while also drawing conclusions, and the ability to pass reasoning tests. Finally, artificial machine learning can adapt to a variety of situations by recognising and extrapolating new patterns in a variety of different areas.

6. Artificial intelligence and next-generation learning

On the efficacy of future learning, many experts were persuaded that deep artificial machine learning was limitless in many artificial intelligence research, and this was confirmed by many experts. His research contributes to a broad knowledge of future learning styles, with a particular emphasis on studies that have just been started. The need of ensuring that each learning framework has both strengths and limitations is critical in this situation. It is dependent on the programme as well as the material that is used. Their research results provide a sneak preview into the present status of AI and machine learning from the deep-rocky field of future Learning, as well as differing viewpoints on how that field of AI and machine learning can be useful and innovative in future Learning, as well as a significant commitment to further research in the field [8].
Experiences of artificial intelligence (AI) and machine learning (ML) were the capacity to comprehend and take action while addressing abilities and knowledge. Consequently, it may be concluded that derived from Latin, which implies a machine with a wide range of future generations. If you go back in time, artificial intelligence is interesting to consider the challenges and possibilities for using today's learning pandemic and in the future of education. I find an individual race, are how machine intelligence is beneficial in ways that humans cannot. Aspects of artificial intelligence that are beneficial to the agricultural and industrial systems Many experts have been drawn to his research since it has prompted them to reconsider sustainable business strategies in the context of the COVID-19 scenario in order to achieve long-term economic and educational growth. With the advancement of artificial intelligence and machine learning, COVID-19 and the entrepreneurial education community should be a viable option. He also emphasised the need of literacy and numeracy models in the classroom. He also demonstrates how Learning becomes active, much like machines, and how AI and machine learning may learn and behave in ways that vary from the input at times. This is accomplished via the development of machine learning, expert computing equipment, and intelligence, which address the criteria for a computer to be deemed intelligent. Experts believe that if a computer is able to mimic human behaviour, it may be considered intelligent. Being able to start instruction for the next collection of information is a huge accomplishment.

8. Conclusion

Have the results been summarised by the efficiency of artificial intelligence and machine learning in future education? It involves comprehending the world of the teaching and education of artificial intelligence and machine learning. In the course of pandemics, the utilisation and effectiveness of AI&ML in attempting to solve human problems, particularly learning, the unique teaching solution provider for COVID – 19 pandemics and the critical role of AI&ML in pandemic education, so long as future citizens and machinery still depends on disease outbreak and future learning machinery and data patterns and a machine Intelligence Machine It helps many individuals concentrate more on experiments and errors if AI&ML is not understood well in terms of comprehension and role. The most essential point is that instructors are greatly assisted in assessing student and academic learning results in the contemporary day.

CRediT authorship contribution statement

Asmat Ara Shaikh: Investigation, Writing – original draft. Anuj Kumar: Conceptualization, Writing – review & editing, Supervision. Krutik Jani: Formal analysis, Data curation. Saloni Mitra: Conceptualization. Diego A. García-Tadeo: Writing - review & editing. Agilandeswari Devarajan: Conceptualization, Writing - review & editing, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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