ARTIFICIAL INTELLIGENCE IN EDUCATION: CURRENT INSIGHTS AND FUTURE PROSPECTIVE

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Abstract
Though only a dream a while ago, artificial intelligence (AI) has become a reality, being now part of our routines and penetrating every aspect of our lives, including education. It is still a field in its in fancy,but as time progresses, we will witness how AI evolves and explore its untapped potential. Against this background, this chapter examines current insights and future perspectives of AI in various contexts, such as natural language processing (NLP), machine learning, and deep learning. For this purpose, social network analysis (SNA) is used as a guide for the interpretation of the key concepts in AI research from an educational perspective. The research identified three broad themes: (1) adaptive learning, personalization and learning styles, (2) expert systems and intelligent tutoring systems, and (3) AI as a future component of educational processes.

Introduction

Artificial intelligence is a branch of science producing and studying the machines aims at that stimulation of human intelligence processes. According to the 2018 horizon report experts anticipate that the use of artificial intelligence in the education to grow by 43% in the period of 2018-2022. Application of artificial intelligence in education has been a subject of research from the past 30 years.

The artificial intelligence based applications for higher education have been growing rapidly across the world and have affected higher education. Artificial intelligence technology is continuously updated and widely used in various fields.

Artificial intelligence can continuously optimize and improve the learning, environment, stimulate the enthusiasm, initiative and creativity of students. The application of Artificial Intelligence in the field of education has resized full integration of teaching and learning and also provided an opportunity for the reform of teaching and learning.

Artificial intelligence technology has been applied to education with in the recent twenty year. Artificial intelligence in education has emerged as a key feature is what appears to be a science frictional future one is which uses interest and learn with hard and soft technologies.

Artificial intelligence is making its place is our day-to -day life a rapid pnak. Artificial Intelligence is already helping several types of machines and engineering system to minimize the chance of successfully achieving their goals. Artificial Intelligence will play a very important role in how we teach and learn these new skills.

Artificial intelligence in education can potentially be used to help identify the most effective teaching methods based on students contexts and learning background. Artificial intelligence does not only impact of what students learn through recommendation but also how they learn, what are the learning gaps which how to retain learners attention.

Review of Literature

Ahmet Gocen and Fatih Aydemir (2020), The research was designed as a phenomenological study, a qualitative research method, in which the opinions of participants from different sectors were examined. The results show that schools and teachers will have new products, benefits and also face drawbacks with the arrival of AI in education. The findings point out some suggestions for use of AI and prevention of possible problems. While participants generally seem to have positive perceptions towards AI, there are also certain drawbacks, especially highlighted by teachers and academicians, regarding the future of teaching. Lawyers and jurists tend to focus more on legal grounds for AI in education and future problems, while engineers see AI as a tool to bring quality and benefit for all in the education sector. In this regard, the purpose of this study is to examine what possible scenarios are there with the arrival of AI in education and what kind of implications it can reveal for future of schools.

Jagadeesh Kengam (2020),This work describes how Artificial Intelligence can be used and is being used in Educational sector. According to the 21st International Conference on Artificial Intelligence in Education held in 2020, AIED is one of the currently emerging fields in Educational technologies. The use of AI is still unclear for the educators how to make pedagogical advantage of it on a broader scale and how AI can impact on teaching and learning in higher education. The impact of AI in education and its pros and cons are presented here. It also describes a specific way to develop AI enabled platform for education and finally the after effects of AI in education.

Kandula Neha (2021), The contribution of computer science (AI) within the field of education has invariably been important. From robotic teaching to the event of an automatic system for answer sheet analysis, AI has invariably helped each the lecturers and also the students. during this research we've got done thorough analysis of the assorted analysis developments that were applied across the world like computer science techniques applied to education sector thus on summarize and highlight the role of AI in teaching and student's analysis. Our study shows that AI is that the backbone of all the information science enabled intelligent tutor systems. These systems helps in developing qualities like self reflection, responsive deep queries, partitioning conflict statements, generating artistic queries, and choice-making skills.

Nil Goksel, Aral Bozkart (2019), This study gives insight on Artificial Intelligence in education. The main purpose of this study research is to identify the areas of artificial with in the educational context. The highlights of though only a dream a while ago, artificial intelligence has became a reality, being now part of our routines and penetrating every aspect of our lives, including education. For the purpose of this study social network analysis is used as a guide for the interpretation of the key concepts in artificial intelligence research from an educational perspective. To achieve the purposes of this study, data mining and analysis are performed, and a social network analysis (SNA) is conducted to better understand the research findings.

Need for the Study

The study seeks to assess how the use of Artificial intelligence in its different forms in education, has imputed or affected different aspects of education. More particularly the study will seek to assess how Artificial Intelligence has affect teaching, learning and administration and management areas of education. It is anticipated that the study with ascertain the artificial intelligence has faster effectiveness and efficiently in the performance of administrative tasks in education, and overall fostered improved

instructional and learning effectiveness in education. The main purpose of this study is to identify the area of artificial intelligence with the educational context. AI aided education includes intelligent education, innovative virtual learning has impacted or affected different aspects of education.

Objectives of the Study
1. To know the students perception towards Artificial Intelligence.
2. To study the problems faced by students regarding artificial intelligence.
3. To analyse the importance of artificial intelligence in studies.

Significance of the Study
Artificial Intelligence performs frequent, voluminous, and computer-generated tasks reliability. Artificial Intelligence reduces errors, increasing the chances of accuracy and level precision. AI used in the field of medicines, engineers work and also in all educational field.

Research Methodology
Secondary data are the data already exists and ready available for processing collected through media channels like internet, textbooks, advertisement, newspapers, magazines etc.

Impact of Artificial Intelligence in Education
Almost artificial intelligence impacts every area of our life in the future and out of those education sectors will be impacted hugely became teaching and learning is a major part of life and the current education system has a lot of changes to be desired. The schooling in olden day are not as flexible as what the future AI in education will present. The teachers that play the most important role in education system are not scalable and are expensive as will. In some of the countries teacher are given a heavy loud of paper work and are undervalued.

The continuous improvement of AI technology has been widely used in all walks of life, and the education field is no exception. In particular AI technologies such as computer vision, natural language, processing and intelligent adoptive learning have changed traditional education and teaching and have provided universities and teachers with new ideas for teaching reform.

One of the important of Artificial Intelligence in education is it plays a role in promoting personalized teaching and learning. AI has changed the way teacher teach and the way students learn. It can form a personalized learning plan according to the needs and learning situation of students provide immersive learning experience and intelligent learning tracking to help students improve their learning ability and efficiency.

Artificial Intelligence technology promotes the realization of education equity. AI technology can help break regional differences and reduce the inequality of education geographical resource between students in areas with score teaching resources and students in big cities due to geographical regions.

It also allows teachers in remote areas to focus more on students personalised teaching, intelligent adoptive learning and ability development.

Role of Artificial Intelligence in Education
Global adoption of technology in education is transforming the way we teach and learn. Artificial Intelligence is one of the disruptive techniques to customize the experience of different learning groups, teachers, and tutors.

This is how Artificial Intelligence tools may be applied to improve study processes:

1. Personalize Education

Artificial Intelligence helps find out what a student does and does not know, building a personalized study schedule for each learner considering the knowledge gaps. In such a way, AI tailors studies according to student's specific needs, increasing their efficiency.

To do it, many companies train their AIs, armed by the Knowledge Space Theory, to define and represent the knowledge gaps, taking into account the complexity of scientific concepts relations between each other (one can stimulate the learning of another or become a basis for filling in the gap).

2. Produce Smart Content

1. **Digital lessons**: Digital learning interfaces with customization options, digital textbooks, study guides, bite-sized lessons, and much more can be generated with the help of AI.
2. **Information visualization**: New ways of perceiving information, such as visualization, simulation, web-based study environments, can be powered by AI.
3. **Learning content updates**: Besides, AI helps generate and update the content of the lessons, keeping the information up to date and customizing it for different learning curves.

3. Contribute To Task Automation

Administrative tasks simplification: grading, assessing, and replying to students is a time-consuming activity that could be optimized by the teacher using AI.Do you remember the hints Gmail provides in the messages you compose based on the overview of your current and past messages plus the business vocabulary essentials? It would be great to have such an option on any Learning Management System or learning platform envisaging the feedback.

Entrusting a set of routine tasks to AI helps teachers make room for something more important: concentrating on grading the assignments impossible to delegate to Artificial Intelligence, self-education, upgrading the quality of the lessons.

4. Do Tutoring

Continuously evolving personal study programs take into account student's gaps to fill during individual lessons. Personal tutoring and support for the students outside of the classroom help learners keep up with the course and keep their parents from struggling to explain algebra to their kids. AI tutors are great time-savers for the teachers, as they do not need to spend extra time explaining challenging topics to students. With AI-powered chatbots or AI virtual personal assistants, students can avoid being embarrassed by asking for additional help in front of their friends.

5. Ensure Access To Education For Students With Special Needs

The adoption of innovative AI technologies opens up new ways of interacting for students with learning disabilities. AI grants access to education for students with special needs: deaf and hard of hearing, visually impaired, people with ASD…Artificial Intelligence tools can be successfully trained to help any group of students with special needs.

Suggestions
1. Increasing awareness among specialists of the requirements of applying artificial intelligence in education.
2. Attention to the challenges arising from the applications of artificial intelligence to the jobs and roles of academics in education institutions.
3. Organize academic conferences on all AI issues.
4. Create community cooperation with specialized companies in AI field. Finally, the researcher encourages academic researchers to conduct more studies about the future of all levels of education in the light of AI transformations.
5. Revision of knowledge when you are just about to forget it is an effective educational and technological solution.

Conclusion
The purpose of this study is to highlight the need for inclusion of emerging technologies of the world like artificial intelligence in the education system of modern India. This could be a game changer for Indian education system in the 21st century. This will not only help our teachers and trainers to perform their duties efficiently but will save their time. With the help of technological advancements our teachers can focus more on students and develop better social skills along with providing experiential learning to students. The job of grading, assessment and keeping track of student's data is easily achievable and becomes less cumbersome through artificial intelligence. Also keeping in mind, the challenges, there is a need for digital learning and collaboration of I.T. industry with Education and Management. This change can only take place through participation of the responsible stakeholders in the learning process. The task of training school staff and resource allocation is required and should be given prime importance even before applying the artificial intelligence in schools.

AI tutors could allow for students to get extra, one-on-one help. They could also reduce anxiety and stress for some students that may be caused by tutor labs or human tutors. In future classrooms, ambient informatics can play a beneficial role. Ambient informatics is the idea that information is everywhere in the environment and that technologies automatically adjust to your personal preferences. Study devices could be able to create lessons, problems, and games to tailor to the specific student's needs, and give immediate feedback.

The Future of Education system fundamentally linked with the advancement of the technology, Artificial intelligence has definitely given the new possibilities to the education system in India. This is definitely changing the structure of education system. The assurance of AI applications lies partly in their efficiency and partly in their efficacy. AI systems can capture a much wider array of data, at more granularity, than can humans. And these systems can do so in real time.

AI systems can also analyze many students at a time. Given these possible benefits, the use of artificial intelligence is also being framed as a potential boom to equality. Lastly is the assurance of a more macro level use of artificial intelligence in higher education to make gains in pedagogy, to see what is most effective for a particular student and for learning in general.

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