ROLE OF ARTIFICIAL INTELLIGENCE IN EDUCATION SYSTEM

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ABSTRACT

Artificial intelligence precisely means development of computer systems able to perform tasks normally requiring human efforts and intelligence. The use of artificial intelligence in education system is not new and it has been in use over a decent period of time. Artificial intelligence has already been applied to education stream primarily in areas that develop skills and testing systems. In today’s era of education system it has become the basic need of the educators to get their statistics and other related characteristics right to evaluate various performances on different parameters which else wise needs lots of human efforts and time to reach at desired results. Artificial intelligence can help fill needs and gaps in learning and teaching and, allow institutes and educators to analyze their performances to improve the outcome. The basic concept of artificial intelligence is to utilize the work of both the computer systems and human capabilities for the best outcome for the learners. The purpose of this study is to identity the role of artificial intelligence in the education sector, their prospects and challenges which are faced by the academicians after adopting the technology and explore the further direction of the research.

Key words: Artificial Intelligence, Educators, Teaching Methodology, Performance Analysis, Education System

RESEARCH METHODOLOGY

Primary Data Collection – Interview with the academicians
Secondary Data Collection – The research papers, articles and journals available on Artificial Intelligence
INTRODUCTION

Artificial intelligence is currently arising technology in the education sector, it is around the system more than the three decade now but the educators have not still aware about the technology and its aspects and the wider benefits of the system. AI Technology is prominently features as essential development in educational technology, despite the massive opportunities in AI gives the various prospective and challenges in the field of education system, it also has low error rate than the humans, it has the various advantages like accuracy, Speed and provides the digital assistance whenever required. The rapid progression of AI has impacted the education industry and shown the advantages like improving the students learning and student’s development; however few educators fear the development of AI that might change the role of individual.

Objective of the Research:

This study aims to identify the role of artificial intelligence used in education system. The objective of using this Artificial Intelligence in education system is anticipated to be one of the fastest-growing technologies in the coming years. Personalized learning has become very popular in the education system it has the taken the place of traditional teaching methods, learning is always guided by the curiosity of the student, educator would guide the student with the required learning material or product that reflects the student interest.

Objectives-

1. To Study concept of artificial intelligence and its applications in Education System.

2. To study applications of AI in Teaching and Learning Stream.

3. To study applications of AI in Institution Administration

4. To study impact of Artificial Intelligence on Education System.
ARTIFICIAL INTELLIGENCE & ITS APPLICATIONS

Artificial intelligence is increasingly becoming an essential part of every working professional’s life and educational institutions are not behind in the utilization of same. And this is not only limited to science, technology, engineering, and math curricula, but the education industry as a whole is being transformed by AI. AI is being used at all levels of education whether it be primary, intermediate, secondary or higher education.

The biggest challenge the education institutions and the educators faces is that each student learns at a different pace and with a different technique, and AI helps to introduce such teaching and learning mechanisms which suits all. The utilization of basic applications of AI in education could be seen in below mentioned departments:

1. AI in Teaching and Learning
2. AI in Institution Administration
3. AI in Institution Admissions

The use of Artificial Intelligence in each department is discussed below in detail:

AI IN TEACHING AND LEARNING STREAM

The effectiveness and implementation of AI in teaching and learning could be highlighted through the points discussed below:

a) Personalization of learning scheme:
   AI systems could be termed as tailor made systems which can be customized for each individual as the need may be. AI systems are being used to create individual learning based systems along with the learning material based on their ability. Here how AI comes as a sigh of relief to the educators is that they don’t have to make the learning material repeatedly and may take the leverage of the resources available via AI system. Customization is possible at each stage of implementation. Big textbooks are now sorted into smaller study guides, chapter summaries, flashcards, as well as short smart notes for better reading and understanding. The future of textbooks is not very ling as AI shall
make education paperless. Also, AI systems have an online interactive interface which aids in feedback from the students to their educators for follow-up and feedback purposes in areas where they might be struggling or have not yet fully grasped.

An AI system not only provides with the learning materials but also augments tutoring with conversational assistants. These conversational agents can answer questions from students, provide assistance with learning or assignment tasks, and reinforce concepts with additional materials that can help reinforce the curriculum. These intelligent assistants are also enhancing adaptive learning features so that each of the students can learn at their own pace or time frames.

b) **Introducing voice assistants:**

Voice assistants such as Amazon Alexa, Google Home, etc. are giving learners a chance to interact with educational material without the interaction of the educator. These devices can be used at any place of convenience to provide conversational interaction with teaching material and additional educational assistance.

In context of the higher education, universities and colleges are giving students voice assistants instead of the traditionally printed notes and to navigate through websites for help. Many universities are providing with Amazon Alexa, smart tablets or other technology based assistance equipment to their fresher students to answer their questions. These voice assistants can help answer common questions about campus needs as well as be customized for each student’s particular schedule and courses. This greatly reduces the need for internal support and decreases the cost of printing that can quickly get out-of-date. The use of voice assistant systems is very much exciting and interesting to most students and is expected to gain broader adoption in the coming years.

c) **Providing assistance to educators with organizational tasks:**

In today’s world even the job role of educators has become that of multi-tasking one and educators are expected to do certain administrative and organizational tasks pertaining to their curriculum. This includes responsibilities such as assignment evaluation, grading of exams, filing necessary paperwork, HR and personnel related issues, ordering and managing classroom materials, booking and managing field trips, responding to parents, dealing with absent students, and otherwise facilitating the learning environment. This
entire activity sums-up to half of the working time of the educators. AI systems are particularly helpful at managing these back office and task related activities. These AI systems can assist with grading activities and provide personalized responses to students. They can also handle routine and repetitive paperwork, deal with logistics related matters, and other personnel issues. AI systems can even provide a first-line interaction with parents and guardians and give access to resources or provide feedback as needed for routine matters giving teachers more time to focus on things that require a personal touch with the students.

**AI IN INSTITUTION ADMINISTRATION:**

Education administrators are also reaping the benefits of AI by using intelligent assistants to help with a range of administrative needs including budgeting, student applications and enrollment, course management, educator HR related issues, students attendance issues, feedbacks, purchasing and procurement activities, expense management, transport management and facilities management. Using AI systems can greatly improve the efficiency of many educational institutions, lower the operating costs, giving greater visibility into income and expenses, and improve the overall responsiveness of the educational institutions.

Following are the core administrative tasks which are eased to a greater extent with the help of artificial intelligence:

- Academic Course Allocation
- Infrastructure Management
- Academic Time-table
- Maintaining students attendance
- Auto-generated alerts to all concerned
- Employee Leave Management
- Employee Roster Calculation

This ensures and enables easy delegation of responsibility and also to keep a real time track on various activities with the help of AI system’s dashboard and generates required reports.
AI IN INSTITUTION ADMINISTRATION:
AI systems help to improve the fairness and quality of the admissions process. AI systems that are trained in a way that eliminates much of the human bias are starting to be used to provide a credible and fair admission using a given criteria when compared to humans. This has enabled to provide a more systematic way of handling admissions is proving to be fruitful. Very soon, one can expect that AI and system learning will be a core part of all educational experiences. AI is starting to show its benefits and application to a wide range of educational needs and the hope is that it will greatly improve overall learning outcomes for all.

IMPACT OF ARTIFICIAL INTELLIGENCE ON EDUCATION SYSTEM

Artificial intelligence can mechanize the expatiation of administrative tasks including the teachers and all kind of academicians. Teachers put in a lot of time in grading and assessing the student’s assignments and their overall academic performance and providing the valuable feedback to the parents regarding the growth of their ward which is actually a very time consuming process, however the influence of upgraded technology has made things easy for the Educators and instead of spending time on evaluating the performance of the student they can utilize their time with student, so harder work has revamped to smarter work due to the technology.

Source: https://medium.com/@IsaiahMiyazaki/how-ai-can-change-the-world-of-education-92f9e9036dddb
The role of AI in education system is to enhance human thinking and augment education process, not to decrease it to a set of procedures for content delivery and assessment, in school or colleges grading assignments, homework for large lectures can be a very tedious job.

In today’s era of education Artificial intelligence is surely one of the most captivating technological progression. It has given virtual teaching assistance the academic professional also helped the students by providing information they required when they are not in the classroom.

CONCLUSION:

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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