ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN HIGHER EDUCATION

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ABSTRACT

The present conceptual paper explores on the Role of Artificial Intelligence (AI) in Higher Education. Artificial intelligence (AI) is gaining significance in all the sectors of the economy and hence in higher education too. From last few years, this concept of "Artificial Intelligence (AI) in Higher Education has experienced significant developments. This study attempted to discuss the role and concept of Artificial Intelligence (AI) can be applied in teaching and learning in higher education and importance of using AI in Higher Education. AI is a study of how human brain think, learn, decide, and work, when it tries to solve problems. The aim of AI is to improve computer functions which are related to human knowledge, for example, reasoning, learning, and problem-solving. AI gives opportunities to higher education services to become easily accessible at an extraordinary speed, not only inside the class but also outside the classroom. This report attempts to figure out the how AI can become an integral part of universities and tried to access it's immediate and future implications on different areas of higher education.

The present paper deals with the study Role of Artificial Intelligence (AI) in Higher Education with prime objectives are (i) To understand the concept of Artificial Intelligence (AI). (ii) To analyses the role of technologies related Artificial Intelligence (AI) in Higher Education. (iii) To discuss the importance of Artificial Intelligence (AI) in Higher Education.

The methodology of the research is a different type involving an interpretative, conversation, observation, and study secondary sources, like books, articles, journals, thesis, university news, expert opinion, and websites, etc.

Keywords: Artificial Intelligence (AI), Higher Education

INTRODUCTION

Recently there are numerous kinds of technology booming up such as robotics, virtual reality, 3D printing or networks, Blockchain, 5G, Autonomous Vehicles, Quantum Computing, Edge Computing, Microchips, and Cryptocurrency Technology. Apart from all these new technologies Artificial Intelligence (AI) is one of the most valuable and smart technology recently coming in this era. There is continuous upgradation and advancements are being taking place in digital technologies and computer sciences which leads human society towards a techno-savvy society where consistently machines are designed, upgraded, and developing progressively to meet human needs while simultaneously becoming smarter. Artificial Intelligence (AI) is booming up technology in each aspect and becomes a one part of human lives. If we see around everywhere. It might not be wrong that we are surrounded by the technology world, digital world. If you observe recent 21st technologies are automated ones, such as automated vehicles, automatic machines in which smart sensors are adopted, hence their efficiency will increase and it will get good market value. Human life is transforming to digital life.

In education Artificial Intelligence is being adopted in the teaching-learning process, hence traditional teaching methods are transforming drastically. In this 21st century era the academic world is becoming more and more personalized and thus the way of learning is transforming to traditional to App's based education system. In the pandemic outbreak numerous learning management systems came forth to assist students to learn in online mode such as: WAC, WebEx, Zoom, Microsoft team, and Google Meet. Hence students have no need to attend the class physically.

In AI, a system substantial magnitude of label training data Ingested then data is analysed and correlated with patterns ingested in a system. Because of its future prognostications will be made.

There is not a certain universal definition of AI, describes the integration of artificial (not a natural process, but one induced by machines) and intelligence (skills of learning, to extract concepts from data and to handle uncertainty in complex situations). Curugullo.

Finally, the author concludes that AI is "an artifact able to acquire information on the surrounding environment and make sense of it, to act rationally and autonomously even in uncertain situations.

OBJECTIVES OF THE STUDY:

Researcher finalised the following objectives as per the topic concern-

(i) To understand the concept and role of Artificial Intelligence (AI).

(ii) To analyses the role of technologies related Artificial Intelligence (AI) in Higher Education.

(iii) To discuss the importance of Artificial Intelligence (AI) in Higher Education.

CONCEPT OF ARTIFICIAL INTELLIGENCE (AI):

Artificial intelligence (AI) is the impersonation of human knowledge procedures, for example, discourse and visual acknowledgment, interpretation of the dialects and virtual decision making by machines and robots. The capacity of machine to think and act like people, has given AI an extraordinary place in all fields. Artificial intelligence is available wherever in different parts of our lives beginning from smart sensors to individual associates.

Recent developments in AI have gotten numerous enormous changes in the higher education field. "Artificial intelligence helps students and teachers to make their educational experience wonderful".

- An intelligent entity created by humans.

- Capable of performing tasks intelligently without being explicitly instructed.

- Capable of thinking and acting rationally and humanely.

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN HIGHER EDUCATION:

AI may be adopted in administrative duties in higher education, Universities, and educational institutions. Academicians spend a lot of time and effort on grading the examination, accessing homework, and making available valuable suggestions and guidance to their students. In accordance with this automated grading system may be applied with the help of Artificial Intelligence (AI), academicians have no need to spend a long time in evaluation and assessment which may be saved and utilized for some other important tasks. Recently numerous software companies are coming up with their Learning Management System (LMS) to provide better ways of grading written answers and essays.
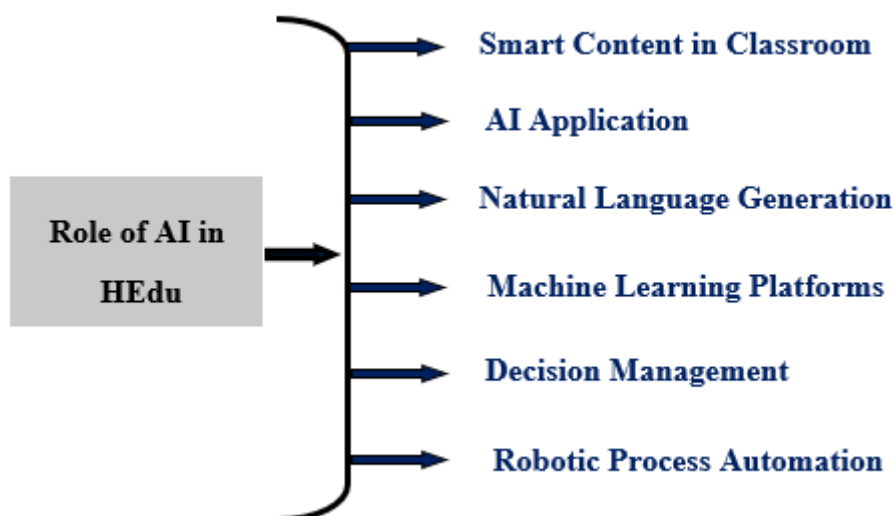
Smart Content in Classroom:

A Content which can changes dynamically according to the viewers' requirement since previous search results, content changes are based on the interests or past behaviour of the viewer is termed "smart content." It also referred as dynamic content.

Technologies and Education go hand in hand from last some of the decades. Educator must ensure that, does Artificial Technology fulfils the learners need? Does it attain academic excellence?

Smart content is very interesting topic of 21st century
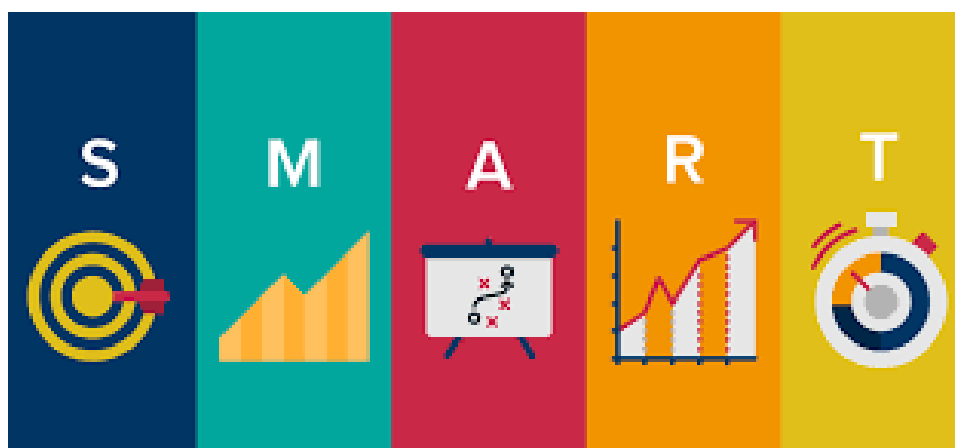
Elements of Smart Content

Targeted: It understands the customers' preferences and interests

Optimised: Smart content is meant to catch eyeballs and is high on visual elements

Relevant: Smart content stays up-to-date and is current

Platform-agnostic: It can be integrated across devices. The convergence is also seamless

Profitable: Since smart content is more personalized, it fetches more customers and as a result, more leads and conversion

Smart Content:

AI and education go hand in hand and the new techniques could be all that is required to ensure that all students attain their ultimate academic success. Smart content is a very hot subject matter today.

Robots can produce digital content of similar quality as what different AU essay writing services can create. This technology has already reached a classroom setting. Smart content also includes virtual content like video conferencing, video lectures. As you can imagine, textbooks are taking a new turn. AI systems are using traditional syllabuses to create customized textbooks for certain subjects. As a result, textbooks are being digitized, and new learning interfaces are being created to help students of all academic grades and ages. An example of such mechanisms is the Cram101 which uses AI to make textbook contents more comprehensible and it is easy to navigate with summaries of the chapters, flashcards, and practical tests. The other useful AI interface is the Netex Learning which enables professors to create electronic curriculums and educative information across a myriad of devices. Netex includes online assistance programs, audios, and illustrative videos.

Role of AI and its application in H E:

student support, which is a growing use in higher education institutions. Schools utilize machine learning in student guidance. Some applications help students automatically schedule their course load. Others recommend courses, majors, and career paths—as is traditionally done by guidance counsellors or career services offices. These tools make recommendations based on how students with similar data profiles performed in the past. For example, for students who are struggling with chemistry, the tools may steer them away from a pre-med major, or they may suggest data visualization to a visual artist.

Another area for AI use in student support is just-in-time financial aid. Higher education institutions can use data about students to give them microloans or advances at the last minute if they need the money to, for example, get to the end of the semester and not drop out. Finally, one of the most prominent ways that predictive analytics is being used in student support is for early warning systems, analysing a wide array of data—academic, non-academic, operational—to identify students who are at risk of failing or dropping out or having mental health issues. This particular use shows some of the real advantages of artificial intelligence—big data can give educators more holistic insight into students' status. Traditionally, an institution might use a couple of blunt factors—for example, GPA or attendance—to assess whether a student is at risk. AI software systems can use much more granular *patterns* of information and student behaviour for real-time, up-to-the-minute assessment of student risk. Some even incorporate information such as when a student stop going to the cafeteria for lunch. They can include data on whether students visit the library or a gym and when they use school services. Yet while these systems may help streamline success, they also raise important concerns about student privacy and autonomy, as I discuss below.

Lastly, colleges and universities can apply artificial intelligence in *instruction*. This involves creating systems that respond to individual users' pace and progress. Educational software assesses students' progress and recommends, or automatically delivers, specific parts of a course for students to review or additional resources to consult. There are often called "personalized learning" platforms. I put this phrase in quotation marks because it has been sucked into the hype machine, with minimal consensus about what personalized learning means. Here I'm using the phrase to talk about the different ways that instructional platforms, typically those used in a flipped or online or blended environment, can automatically help users tailor different pathways or provide them with feedback according to the error they make. Learning science researchers can put this information to long-term use by observing what pedagogical approaches, curricula, or interventions work best for which types of students.

Finally, to be successful, anyone considering an AI implementation within higher education should ask six essential questions:

What functions does the data perform? You can't just see a red, green, and yellow light about student success and take that at face value, at least not if you are the one implementing the systems and you want to do so responsibly.

What decisions don't we see? These are decisions not just about the computer processing but also about the categorization and the visualization.

Who controls the content? Is it you, or is it the technology provider? How comfortable are you with that? How comfortable are your professors with that?

How do we check outcomes in terms of efficacy, in terms of distribution, and in terms of positive and negative outcomes?

What gets lost with datafication? I use this word to describe doing these things based on data as opposed to on interpersonal or bureaucratic systems.

What—and whose—interests do we prioritize?

There are no easy answers but asking these questions will give you a template for considering the less obvious aspects of these systems.

Natural Language Generation:
Even for humans to communicate efficiently and clearly can be tricky. Similarly, for machines to process information is an entirely different process than the human brain, And it can be extremely tricky and complex. Natural Language Generation is a sub discipline of AI that converts text into data and helps the systems to communicate ideas and thoughts as clearly as possible. It is used in educational institute, customer service, widely, to create reports and market summaries.

Machine Learning Platforms
Machine Learning is a sub discipline of computer science as well as an important branch of Artificial Intelligence. Its objective is to develop new techniques enabling computers to learn and hence become more intelligent. With the help of algorithms, APIs (application programming interface), development, training tools, big data and applications, machine learning platforms are becoming more popular. They are widely used for the purpose of categorization and prediction.

Decision Management:
Artificially Intelligent machines have the capability of introducing logic to AI systems in order to gear them up to be used for training, maintenance and tuning. In order to add value to the business and profitable, decision management is already being used by organizations by incorporating it into their applications to propel and execute automated decision.

Robotic Process Automation:
Robotic Process Automation refers to the functioning of corporate processes due to the mimicking human tasks and automate them. In this particular sphere, it is important to bear in mind that AI is not

meant to replace humans, but to support and complement their skills and talent. Companies like Pega systems, Automation Anywhere, Blue Prism, UiPath and Work Fusion focus on this process.

IMPORTANCE AND ROLE OF AI IN HIGHER EDUCATION

AI has the potential to automate and democratize personalized adaptive learning for students. It will help to mitigate the learning gaps and generate learning interests among students, increase learning ability, language affinity and improve learning pace.

Student Success: Attract students, drive student outcomes, and connect with students in lifelong relationships.

Teaching & Learning: Build an environment that empowers academics to do their best work with personalized learning systems and collaborative spaces that empower students to reach their full potential.

Academic Research: Empower all researchers with a powerful and flexible computing environment to perform their research without constraints from the underlying infrastructure and collaborate with other researchers across the world.

Secure & Connected Campus: Reimagine how to configure, optimize, and manage campus resources by connecting the physical infrastructure with digital technology to deliver a seamless and modern campus experience.

CONCLUSION

In conclusion, implementation of AI in Higher Education is late in comparison to the corporate sector, many educational institutions that have already adopted Artificial Intelligence (AI) and are continuing to invest more into AI applications will surely remain ahead of their competitors. Higher Education institutes that incorporate AI into all its programs remain leaders in their field and are already reaping the benefits associated with it. At the end from all the discussion and analysis done in the paper we can now say that AI is impacting higher education institutes in a significant way. AI expansion is forcing many jobs to become obsolete and thus an entire new skill sets will be required. Higher education institutes are required to train and develop their students to upgrade them to face the challenge of the AI revolution and fight successfully in the AI age.

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