AI Transformation and Future Scope in Electronic Learning Industry
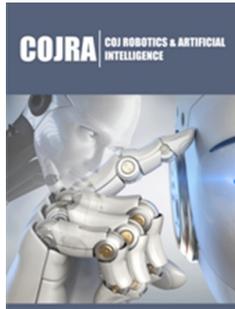
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Abstract

New technologies are evolving daily and growing fast in all real-world domains. One among that technology is Artificial Intelligence (AI). If the word AI comes, then automatically, the two other twin words, Machine Learning (ML) and Deep Learning (DL), come. But they are not the same. DL is a subset of ML and ML is a subset of AI. ML is the application of AI into a system or machine, which helps it to self-learn and improve continuously. It is used when we deal with large data sets. Then the question comes, how does AI contribute to eLearning? AI mimics human intelligence to perform different tasks, including problem-solving and decision-making, which can solve more complex real-world applications. This article focus on how AI transforms electronic learning (e-Learning) with the future scope.

Keywords: Artificial intelligence; Machine learning; Deep learning; AI transformation; Soft computing

Introduction

Below are a few challenges of traditional learning methods [1].

A. Long-form modules: In traditional learning programs, there will be a stack of modules, and creating that content takes many hours, resulting in a waste of time.

B. Lack of personalized experience: As there are extended modules and it is already time-consuming, these courses will be too generic.

C. Don't track the program's effectiveness: The data collection will be complex in traditional training and time consuming. Nowadays people prefer to learn at their own pace. According to a LinkedIn report, today's workforce prefers to self-manage their learning experiences.

These challenges can be solved by incorporating AI along with corporate training.

AI Transformation in E-Learning

The transformation of AI in e-Learning is discussed in this section.

Personalized learning paths

The target is to suggest the correct information whenever and wherever required to the learners. All students are not at the same pace. The e-Learning platforms with AI first study what content to provide to individual students rather than providing the same content to all. In this personalized learning, each student's performance can be tracked, and the results can be predicted using ML algorithms and adapted information to redirect every learner's preferences. For instance, different students have different perspectives and ways of studying to learn a particular topic, especially on complex topics [2]. This process is not easy as it is not the same for each student. Different students learn by different methods. One may find it easy to learn from a video, while another can learn from several recommendation systems

based on the learner's interests. The result makes the students the director in making theirselves understand the concept [3,4].

Better decision making

It would be difficult for the trainers to evaluate the student's performance as the data is uncertain. However, with AI-based e-Learning, we can quickly analyze extensive data and identify different structures further to improve the learning experiences. Through this, we can get a lot of information like students' strengths, performance, attendance issues, and struggling areas. With this, it will be easy to judge the students by their performance.

Less course time creation

Generally, creating modules is a difficult task that takes time consuming. But AI in e-Learning supports course content development in less time without compromising the quality. It offers more speed and efficiency. The localization feature and automatic translation show the strength of AI in e-Learning because creating meaningful content is a hectic task with time and effort. But AI makes it promising to provide content in multiple languages [5].

Chatbots and online tutor

Chatbots and virtual assistants can help students by answering questions and helping them to navigate course material in a friendlier way. They can guide students to discover more resources or improve results, etc. For example, a chatbot can decide what question can be asked to a learner based on the learner's previous responses, like asking them about their weak topics to make them strong or taking questions to the next stage when the learner continuously enters the correct responses.

The e-Learning Future

According to statistics, over the recent four years, there has been a 47.5% increase in the application of AI technology in several tasks, such as industrial training and development. The investment in AI will reach nearly 200 billion dollars by 2025. In the future, we can see that most of the tasks humans do today will be done by AI. Hence people will be better trained and take on complex tasks. Industries can make AI do some work so that it could reduce the burden on the employees so that they can focus on some critical work [6]. The learners will be more interested and engaged in online learning, which gives better performance measures [7,8].

Conclusion

This article is focused on how AI has transformed the e-Learning industries. The fundamentals and future scope of AI in e-Learning industries to several factors are discussed.

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