

Artificial Intelligence and the Future of Education

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Abstract

This article deals with artificial intelligence and its impact on education. To start with, the basics of artificial intelligence (AI) are discussed with a special focus on what AI is, how it is related to machine learning and deep learning and how an AI system works with special reference to the importance of data and algorithms. The applications of AI in education, such as personalized learning, personalized curriculum, AI teachers, smart content, smart classrooms, intelligent tutoring systems, etc., are also discussed. The various challenges associated with successfully implementing AI in the education sector are also discussed briefly. Finally, how AI could also be helpful in the conduct of research is described.

Keywords: Artificial intelligence, personalized learning, customized curriculum, AI teacher, intelligent grading systems, gamification

Introduction

Education is the process of enabling learning- be it knowledge (cognitive domain), physical skills (psychomotor domain), attitudes, etc. (affective domain). Learning helps achieve the ultimate goals of education, i.e. to produce a competent professional, a responsible citizen, and a good human being. Over the years, the methods of imparting education have changed significantly with the growth of technological developments around the world. Information and Communication Technology (ICT), for example, has revolutionized the way education is imparted with an increasing focus on online education, e-learning, MOOCs, blended learning, online examinations, etc. Since technology is a journey and not a destination, in this chain of technological advancements, artificial intelligence is another disruptive technology that is totally going to transform the way education is imparted

at present. NEP-2020 (NEP document) also acknowledges the significant potential of AI and advocates for its incorporation into the education system to enhance efficiency, effectiveness, and accessibility. The Internet of Things (IoT) and artificial intelligence (AI) have already been incorporated into the curriculum for classes VI through X by the Central Board of Secondary Education. Given the increasing importance of AI in education, even India's first AI University has now started functioning in Karjat, near Mumbai, from 2023.

What is this AI, how it works and how it is going to transform the education sector in the country with reference to curriculum designing, teaching-learning, assessment, research and the roles of the teachers are the questions that will be addressed in this article.

What is artificial intelligence?

Human intelligence is the ability to