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Artificial Intelligence in Online Education: Opportunities, Challenges, and Future Directions

Miss. Mamta P. Bagewadi.

Lecturer

Hirwal Education Trust's College of Science (Computer Science and Information Technology) Mahad, Raigad bagewadimamta2@gmail.com

Abstract: In education, Artificial Intelligence (AI) is now a disruptive force, especially in learning online. The AI is being included in online teaching platforms to rapid student learning, accelerate administrative tasks and offer personal learning support. Analytics, machine learning and natural language processing progress have made this data possible. This letter examines the important effects of Artificial Intelligence (AI) on online education, which also highlights the possible uses, challenges and future opportunities of technology.

The study shows how AI tools, such as intelligent tuition systems, adaptive teaching platforms and AI-operated virtual assistants, are bringing revolution in the way students are learning and interacting with educational materials. These AI-operated solutions allow for an individual learning experience, where educational material is sewn to meet the individual needs, preferences and speeds of each learner. By offering scalable solutions, the learners adjust different levels of engagement and proficiency, AI can potentially increase student engagement, improve retention rates, and lead to better learning results in online education environment.

This study highlights why teachers and educational institutions continue to oppose the deployment of AI technology as they are afraid of job displacement and damage to human-focused instructions. To give teachers to the devices that they need to successfully involve them in their teaching practices, this paper fully addresses the need for training programs. The importance of developing AI systems that increase and complement teaching rather than changing it, it is also emphasized.

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