

Title: A novel approach to analyzing the impact of AI, ChatGPT, and chatbot on education using machine learning algorithms

Author Names: Nahid Hasan, Johora Akter Polin, Md. Rayhan Ahmmed, Md. Mamun Sakib, Md. Farhan Jahin, Md. Mahfuzur Rahman

Abstract: Artificial intelligence (AI) is one of the most common and essential technologies in this modern era, especially in the education and research sectors. It mimics machine-processed human intellect. In modern times, ChatGPT is one of the most effective and beneficial tools developed by OpenAI. Provides prompt answers and feedback to help academics and researchers. Using ChatGPT has various advantages, including improving methods of instruction, preparing interactive lessons, assessment, and advanced problem-solving. Threats against ChatGPT, however, include diminishing creativity, and analytical thinking. Additionally, students would adopt unfair procedures when submitting any tests or assignments online, which would increase their dependency on AI systems rather than thinking analytically. In this study, we have demonstrated arguments on both sides of AI technology. We believe that our study would provide a depth of knowledge and more informed discussion. Data is collected via an offline platform and then machine learning algorithms such as K-nearest neighbour (K-NN), support vector machine (SVM), naive bayes (NB), decision tree (DT), and random forest (RF) are used to analyze the data which helps to improve teaching and learning techniques where SVM shows best performance. The results of the study would offer several significant learning and research directions as well as ensure safe and responsible adoption.

Keywords: Artificial intelligence ChatGPT Educational techniques Machine learning algorithms Research

[DOI: 10.11591/eei.v13i4.7158](https://doi.org/10.11591/eei.v13i4.7158)

<https://beei.org/index.php/EEI/article/view/7158>