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Exploring Public Opinions Toward the Use of Generative Artificial Intelligence Chatbot in Higher Education: An Insight from Topic Modelling and Sentiment Analysis

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Abstract : Generative Artificial Intelligence chatbots (GAI chatbots) have emerged as promising tools in various domains, including higher education. However, their specific role within the educational context and the level of legal support for their implementation remain unclear. Therefore, this study aims to investigate the role of Bard, a newly developed GAI chatbot, in higher education. To achieve this objective, English tweets were collected from Twitter's free streaming Application Programming Interface (API). The Latent Dirichlet Allocation (LDA) algorithm was applied to extract latent topics from the collected tweets. User sentiments, including disgust, surprise, sadness, anger, fear, joy, anticipation, and trust, as well as positive and negative sentiments, were extracted using the NRC Affect Intensity Lexicon and SentiStrength tools. This study explored the benefits, challenges, and future implications of integrating GAI chatbots in higher education. The findings shed light on the potential power of such tools, exemplified by Bard, in enhancing the learning process and providing support to students throughout their educational journey.

Keywords : generative artificial intelligence chatbots, bard, higher education, topic modelling, sentiment analysis
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