

Review of: "Beyond Traditional Teaching: The Potential of Large Language Models and Chatbots in Graduate Engineering Education"

Nawal Sael

Potential competing interests: No potential competing interests to declare.

The paper provide a comprehensive historical context on how technological innovations have influenced educational paradigms, aptly setting the stage for their focus on 21st-century AI-driven transformations. The introduction to LLMs, and specifically tools like Elicit, Claude, Poe, and ChatGPT, is well-articulated, making it clear that these tools are pivotal in the modern educational landscape. However, a more concise presentation might make the introduction more impactful. The paper delve laso into the technical and ethical considerations of LLMs in STEM education, offering a clear roadmap for readers. The authors explain first how Large Language Models (LLMs) work and why they're important for teachers then state-of-the-Art Large Language Model Training and discuss some Challenges and Caveats of Large Language Model Integration for Education. Next, authors concentrate on Chatbots. They first introduce the role of chatbots in human-computer interaction, develop History and Evolution of Chatbots and Conversational AIs. Higher-Education Implication of Chatbots and chatbots Strategies and Tools.

A Case Study and Evaluation of a Graduate STEM Course Incorporated with ChatGPT was also developedto investigate, the use of ChatGPT as an educational tool in a graduate fluid mechanics course. The integration of ChatGPT here offers tailored feedback, potentially easing the subject's complexity for students. The adaptability of this AI could free instructors to broach more advanced topics or launch extensive projects.

The article is well structured and offers important and coherent research content on LLM and chatbots. Also, the content is aimed at a wide audience.