

Review of: "Can ChatGPT code the technical part of a Bachelor's Thesis in Informatics?"

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This paper investigates the potential of Large Language Models (LLMs), specifically ChatGPT, in supporting the coding process for Bachelor's theses in Information Systems at Dalarna University, Sweden. Through a pilot study involving two students, it evaluates ChatGPT's ability to generate code for data analytics tasks, emphasizing the necessity of a critical dialogue between the student and ChatGPT for refining outputs. The study reports that while ChatGPT significantly expedited the coding process and enhanced the students' capability to conduct technical analyses, its success heavily relies on the students' ability to critically evaluate and refine the generated code. Furthermore, the study discusses the implications of using LLMs like ChatGPT in academic settings, considering ethical guidelines and the balance between educational benefits and the risk of circumventing genuine effort.

Suggestions and Improvements:

- 1) The paper could benefit from a more detailed explanation of the methodological framework adopted for the pilot study. Specifically, elaborating on the selection criteria for the participating students, the design of the critical dialogue process, and how interactions were structured and analyzed could enhance the replicability and understanding of the study.
- 2) While the introduction acknowledges the novelty of ChatGPT and its implications, a broader review of existing literature on the use of AI in education and coding, including previous studies on LLMs in similar contexts, would provide a more comprehensive background. This could help situate the study within the larger discourse on AI's role in education and technical skill development.
- 3) The results section largely narrates the process and outcomes of the critical dialog with ChatGPT. Incorporating a statistical analysis of the code accuracy, error rates before and after refinements, and a comparison of time efficiency with traditional coding methods could offer a more rigorous evaluation of ChatGPT's efficacy.
- 4) The discussion briefly touches upon the ethical implications of using ChatGPT in academic settings. A more thorough exploration of these ethical considerations, possibly including student perspectives on the use of AI for coding tasks and its impact on learning outcomes, would enrich the discourse. Additionally, discussing strategies for integrating AI tools like ChatGPT into educational practices without compromising academic integrity would be valuable.
- 5) The study focuses on data analytics tasks within Information Systems. Expanding the scope to include other types of coding tasks, such as web development or software engineering projects, could provide insights into the versatility of

ChatGPT's assistance across different coding disciplines.

6) The paper notes that the success of ChatGPT's assistance depends on the student's ability to engage in critical dialog. An analysis of how students with varying levels of coding proficiency benefit from ChatGPT's assistance could offer a deeper understanding of its educational utility and limitations.

7) Considering the rapid development of LLMs, a longitudinal follow-up study to assess how advancements in ChatGPT or similar models affect their utility in educational contexts over time would be insightful.

The study presents an interesting exploration of ChatGPT's potential to support coding in academic projects, highlighting the importance of critical engagement by students. The findings contribute to the nascent body of research on the application of LLMs in education. However, by addressing the suggested improvements, the paper could offer a more robust analysis and a richer contribution to the ongoing debate on integrating AI tools into learning and teaching processes.

Final Comment: Accept with major revision