INCORPORATING CHATGPT IN MEDICAL INFORMATICS MASTER'S EDUCATION: understanding student perceptions and guiding experiential integration

INCORPORAÇÃO DO CHATGPT NO ENSINO DO MESTRADO EM INFORMÁTICA MÉDICA: compreendendo as perceções dos estudantes e orientando uma integração experiencial

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Abstract: Integrating artificial intelligence (AI) technologies, such as ChatGPT, into the educational landscape has the potential to greatly enhance the learning experience in the field of Medical Informatics. This study aims to explore the perceptions of Master's students in Medical Informatics regarding the use of ChatGPT as a learning tool and provide guidance to professors for effectively incorporating ChatGPT in the "Health Information Systems and Electronic Health Records" course. By aligning with the recommendations of the International Medical Informatics Association (IMIA), this research aims to contribute to the advancement of AI education in the context of biomedical and health informatics.

Keywords: Artificial Intelligence; ChatGPT; Education; Medical Informatics.

Resumo: A integração de tecnologias de inteligência artificial (IA), como o ChatGPT, no cenário educacional tem o potencial de melhorar significativamente a experiência de aprendizagem na área de Informática Médica. Este estudo tem como objetivo explorar as perceções dos mestrandos em Informática Médica quanto ao uso do ChatGPT como ferramenta de aprendizagem e orientar os docentes para a incorporação efetiva do ChatGPT na disciplina "Sistemas de Informação em Saúde e Registros Eletrônicos de Saúde". Ao alinhar-se com as recomendações da Associação Internacional de Informática Médica (International Medical Informatics Association- IMIA), esta investigação pretende contribuir para o avanço da educação em IA no contexto da informática em saúde.

Palavras-chave: Inteligência Artificial; ChatGPT; Educação; Informática em Saúde.

Introduction

Integrating artificial intelligence (AI) technologies, such as ChatGPT, into the educational landscape has the potential to significantly enhance the learning experience (SALLAM, 2023; LIN, 2023). Specifically, in the field of Medical Informatics, the incorporation of ChatGPT into the curriculum of the "Health Information Systems and Electronic Health Records" course can provide valuable support to students in their educational journey.

Thus, the objective of this study is to gather insights from Master's students in Medical Informatics to gain a deeper understanding of their perceptions and experiences regarding the utilization of ChatGPT. Additionally, this research aims to provide guidance to professors on effectively integrating ChatGPT into the course curriculum, ultimately optimizing the educational benefits for students.

The International Medical Informatics Association (IMIA) has offered comprehensive recommendations to shape curricula and set global standards for the educational content in biomedical and health informatics (BMHI) (BICHEL-FINDLAY *et al.*, 2023). IMIA has

outlined various domains of knowledge essential for teaching BMHI, including Computer Science, Data, and Information. This domain specifically focuses on equipping students with a deep understanding of the principles underpinning emerging technologies, such as artificial intelligence. These IMIA recommendations serve as a valuable framework for designing educational programs that effectively integrate AI and other innovative technologies into biomedical and health informatics curricula.

By aligning with the IMIA recommendations, this study aims to contribute to the broader goals of advancing AI education in the BMHI context. It recognizes the potential of ChatGPT as an AI tool and its relevance to the "Health Information Systems and Electronic Health Records" course. The insights gained from this study will enable professors to make informed decisions about integrating ChatGPT into their teaching strategies, fostering effective and meaningful learning experiences for Master's students in Medical Informatics.

Aim

The objective of this study is to explore the perceptions of Master's students in Medical Informatics regarding the use of ChatGPT as a learning tool in their educational context and provide guidance to professors for the effective incorporation of ChatGPT in the "Health Information Systems and Electronic Health Records" course.

Objectives

To assess the familiarity and prior experience of Master's students in Medical Informatics with ChatGPT technology.

To understand the perceived benefits and challenges associated with using ChatGPT as a learning tool in the context of the "Health Information Systems and Electronic Health Records" course.

To provide guidance for professors on the effective incorporation of ChatGPT in the teaching and learning activities of the "Health Information Systems and Electronic Health Records" course.

Description

This study will employ a mixed-methods approach involving Master's students in Medical Informatics who are enrolled in the "Health Information Systems and Electronic Health Records" course. A structured questionnaire was designed and submitted to the Ethics Committee of the Faculty of Medicine, University of Porto, ensuring the ethical considerations in conducting this study.

The questionnaire, consisting of both closed-ended and open-ended questions, was distributed electronically to the identified participants. The closed-ended questions aimed to assess the familiarity of medical informatics students with ChatGPT, their perceived

usefulness of the technology in medical informatics education, and their preferences for its application. The open-ended questions encouraged participants to provide detailed feedback and share specific examples of their experiences with ChatGPT. Participants were assured of the confidentiality and anonymity of their responses, and their participation was voluntary. Adequate time was provided for students to complete the questionnaire, and reminders were sent to maximize response rates.

The data collected from the questionnaire will be analysed using descriptive statistical techniques to summarize the quantitative responses. Thematic analysis will be employed to identify recurring themes and patterns in the qualitative responses, providing deeper insights into students' perceptions and suggestions.

The findings of this study will be interpreted and discussed in relation to the existing literature on the incorporation of AI in education and the specific context of Medical Informatics courses. The conclusions and guidance derived from the study will inform professors on how to effectively incorporate ChatGPT in their teaching and learning activities, enhancing the educational experience for Master's students in Medical Informatics.

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