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Understanding the impact of AI Hallucinations on the university community

Hend Kamel

Librarian, New Giza University, Egypt

Hend.kamel@ngu.edu.eg

Abstract

Since we live in the era of the information revolution, finding trusted and accurate information takes time and effort made students and researchers aim to find an easier way. Generative AI (Artificial Intelligence) tools offer an easy solution for accessing the required information easily and accessible; however, these tools rely on vast datasets to predict statistically probable outputs, not guaranteed accuracy. This can lead to misinformation, factual errors, biases, and fabricated content, which is termed "hallucinations." The research problem focuses on the challenges of detecting these AI hallucinations, the main issue for all users of AI technologies. The main objective of the study is to raise awareness about AI hallucinations and promote the ethical and effective use of AI tools among New Giza University students, faculty, and staff. This involves the approach to understanding the biases and errors associated with AI outputs. Methodologically, the study will employ a mixed-methods approach, combining quantitative analyses of AI tool accuracy with collecting qualitative data via survey of users across a range of fields to gather insights on the impact of AI hallucinations. The expected results of this

research are to reveal the pitfalls that researchers might run into when relying on AI technology for their work. Additionally, the findings will contribute significantly to information literacy programs, by advocating for the including of AI tool assessments within the broader information literacy curriculum and equipping users with the skills to critically evaluate AI-generated content.

1. Introduction

The integration of Artificial Intelligence (AI) into academic practices has brought both opportunities and challenges. Generative AI tools have become a common part of the research and learning process, helping students and researchers create content, solve problems, and access information more quickly and efficiently than ever before. However, these advances bring important concerns, such as the risk of plagiarism, the potential spread of misinformation, and the ethical dilemmas of depending on AI-generated content without ensuring its accuracy.

One of the key issues is "AI hallucinations" instances where AI systems produce content that is incorrect or makes no sense. This phenomenon can undermine the trustworthiness of AI-generated information, making it a significant concern for the academic community.

It's crucial to address user awareness about AI hallucinations and the ethical use of these tools. Many users might not fully understand the limitations and potential issues of AI technologies, which can lead to problems like unethical practices and reliance on unreliable information. Understanding these challenges is essential for ensuring that AI tools are used responsibly and effectively in academic environments.

The Objectives:

The main objective of the study is to raise awareness about AI hallucinations and promote the ethical and effective use of AI tools among New Giza University's students, faculty, and staff.

Additionally, this research has many other objectives that are to educate researchers and AI users on how to use these tools ethically and effectively.

Study Significance:

 The significance of this study lies in its potential to enhance the understanding and responsible use of AI technologies in academic settings. By addressing the issues of AI hallucinations and ethical usage, this research aims to contribute to the development of best practices that can be adopted by educational institutions, ensuring that the benefits of AI are maximized while minimizing potential drawbacks.

Methodology:

 To achieve this, the researcher distributed a survey to the NGU (New Giza University) community, including faculty, staff, and students, and analyzed both qualitative and quantitative data to gain insights into their experiences and challenges with generative AI tools.