A Survey of Opportunities and Risks of AI Systems in Education

Leon Knorr[1]

[1]Mannheim Master of Datascience

1 Introduction

Artificial Intelligence (AI) systems have made significant inroads into the education landscape, promising enhanced learning experiences, improved efficiency, and personalized educational pathways. As the deployment and research of AI technologies in education continues to gather momentum, it is essential to acknowledge that the impact of these systems extends far beyond their immediate advantages and drawbacks [1]. Engaging in a meaningful and informed discourse about AI in education is imperative to ensure the fair and responsible implementation and development of AI systems in an education setting. In addition, a survey of the Pew Research Center revealed, that a growing share of people are concerned about the development and deployment of AI systems. This includes the fear of potential job loss, privacy concerns and the loss of human connection [2]. In this work, Opportunities and Risks are shown based on current state-of-the-art AI systems while addressing, widespread concerns, as well as showing potential problems which should be addressed in the current rapid development of such systems.

2 Approach

In this work, the Opportunities and Risks of AI systems in Education will be discussed in three focus topics:

1. Teaching

2. Administration

3. Assistive Technologies

First, the current state of adoption of AI systems in these categories are laid out. Then, the opportunities of such systems are presented based on real world examples and their future potential. Then, the risks of AI systems and current research in the context of education is discussed, and possible solutions are presented.

3 The current state of AI and Technology in Education

3.1 Current Technologies in Teaching

3.2 Current Technologies in Administration

3.3 Current Assistive Technologies

4 Opportunities

4.1 Teaching

4.2 Administration

4.3 Assistive Technologies

5 Risks

5.1 Teaching

5.2 Administration

5.3 Assistive Technologies

6 Conclusion

7 References

1. Chen, C. *AI Will Transform Teaching and Learning. Let's Get it Right.* Sept. 2023.
2. Nadeem, R. *1. How Americans think about artificial intelligence* en-US. Mar. 2022.