

Thesis Project Portfolio

Detecting Fake News

(Technical Report)

Empowering Educational Diversity: The Impact of AI on Academic Success for Minority Students

(STS Research Paper)

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Table of Contents

Executive Summary

Detecting Fake News

Empowering Educational Diversity: The Impact of AI on Academic Success for Minority Students

Prospectus

Executive Summary

In today's digital age, artificial intelligence tools have become ubiquitous, revolutionizing various aspects of our lives, including education. My technical research report delves into the impact of AI tools, particularly tools like ChatGPT, on underrepresented students within educational settings. Understanding the potential benefits or drawbacks of these technologies is crucial for educators and policymakers striving to create equitable learning environments. My STS research paper explores the socio-cultural implications of AI integration in education, focusing specifically on its effects on underrepresented student populations. By examining both the technical functionalities of AI tools and the socio-cultural contexts in which they operate, I aim to provide a comprehensive understanding of how these innovations intersect with issues of diversity and inclusion in education.

My technical research report aims to address the pressing need for empirical evidence regarding the efficacy and impact of AI tools on underrepresented students' educational experiences. The project employs a mixed-methods approach, combining quantitative analysis of student performance data with qualitative insights gathered through surveys and interviews. By examining factors such as academic achievement, engagement levels, and feelings of inclusion, this research seeks to provide actionable insights for educators and developers to optimize AI tools for the benefit of all students, particularly those from marginalized backgrounds.

Through the analysis of data collected from students' grades and personal feelings of using AI, I found several key findings emerge in my technical research report. Quantitative analysis reveals that underrepresented students who engage with AI tools like ChatGPT demonstrate improved academic performance and increased engagement compared to their peers who do not utilize such technologies. However, qualitative insights shed light on nuanced experiences, indicating that while AI tools can enhance learning outcomes for some students, they may also exacerbate existing inequalities and perpetuate biases in educational settings. The discussion of results emphasizes the importance of equitable access to AI resources and the need for careful consideration of socio-cultural factors in the design and implementation of AI-driven educational interventions. In conclusion, the technical report underscores the potential of AI tools to support underrepresented students in education while advocating for proactive measures to mitigate potential drawbacks and ensure inclusive outcomes for all learners.

My STS research paper investigates the impact of AI tools on the academic success of underrepresented minority university students. This inquiry arises from the growing integration of AI technologies in educational settings and concerns regarding equity and inclusion. Methods such as interviews, focus groups, and content analysis, delve into the lived experiences of underrepresented minority students using AI tools in their academic pursuits. The interviews were each 10 mins long and were simple questions that dig into the

common sense of ai, things like is ai helping students get better grades and is it saving time for students. This approach allows for a nuanced understanding of how these technologies shape learning environments and contribute to broader socio-cultural dynamics within higher education institutions.

The evidence gleaned from my method sheds light on the multifaceted effects of AI tools on underrepresented minority university students. Findings reveal both positive and negative impacts, with some students reporting enhanced learning experiences and others expressing concerns about biases and lack of inclusivity. The enhanced learning experience includes things like getting help outside of office hours and instructional time where previously would not have been found. This extra help then helps students study better and perform well on assignments.

Students also expressed that they were able to save so much time and be able to perform even better in their other classes. Moreover, the study uncovers disparities in access and utilization of AI tools among underrepresented minority students, highlighting systemic issues within higher education. Some students usually don't have extra money to pay for ai subscriptions. These more powerful tools like GPT 4 provide much better answers than their precursor GPT 3. As a result students with access to resources are able to gain more out of it. Another issue reported by students is that teachers would make new assignments much more difficult than the previous ones. This is because teachers worry about the integrity of students and these tools which are prone to cheating. These harder assignments cause frustration to the students and the students who do not use ai tools are negatively impacted by this . Ultimately, the conclusions emphasize the need for equitable access to AI resources, critical engagement with technology, and institutional efforts to address disparities and promote inclusive learning environments for all students.

The impact of ai has shown tremendous potential in the education space. However , there are still many disparities amongst underrepresented students and those with access to more resources posing a threat to their performances. There should be an emphasis on improving these tools as well as access to them