Equity Implications of Using AI Tools in the College Admissions Process

Julie M. Smith[1], Jordan Williamson[1], Monica M. McGill[1]

[1]Institute for Advancing Computing Education
julie@csedresearch.org, jordan@csedresearch.org, monica@csedresearch.org

Abstract

College admissions offices face the complex task of fairly evaluating candidates for admission, including students from historically marginalized backgrounds. This task is complicated by decreasing budgets, the end of affirmative action, and, in some states, legal restrictions of diversity, equity, and inclusion efforts. The use of AI tools in the admissions process presents both an opportunity and a challenge. In this poster, we describe a brief experiment in using a LLM for a simulated college admissions task, alongside recommendations for ways to use AI tools to promote equity in the admissions process.

Introduction and Background

Recent years have seen substantive changes to the college admissions landscape, including the decision from the Supreme Court ending the use of affirmative action in college admissions (Supreme Court of the United States 2023). Some states have also restricted or eliminated diversity, equity, and inclusion efforts on college campuses. (The Chronicle of Higher Education 2023) For example, in Texas, DEI efforts at public universities are largely prohibited, including activities such as organizing a conference on campus that features DEI-related activities. (The Texas A&M University System Office of General Counsel 2023)

Colleges that want to create a representative student body will thus have to explore new methods for promoting the recruitment, admission, and retention of students from historically marginalized groups. However, those efforts are further complicated by substantial cuts in funding, which have not only increased the burden on administrators but also exacerbated existing inequalities (Mitchell, Leachman, and Saenz 2019).

While applicants are still permitted to refer to their personal experience of overcoming adversity based on race and other factors (Department of Justice and Department of Education 2023), these discussions are likely to occur in admissions essays and letters of recommendation, which require a significant investment of time and other resources to assess (Barthelson, Boumlic, and Shamma 2014; Clinedinst 2019). Thus, it is no surprise that college admissions offices are us-

ing a variety of AI tools to manage the workload of assessing student applications (Knox 2023); tools have been developed to, for example, assess an applicant's personal qualities such as leadership potential (Lira et al. 2023). However, given the recent history of emerging technologies exacerbating existing inequalities (Huq 2018; Colvonen et al. 2020), there are considerable concerns surrounding the use of AI tools in the college admissions process. Thus, this project seeks to answer the question, How can AI tools contribute to an equitable college admissions process?

Methodology and Results

This project uses an *algorithmic audit* (Metaxa et al. 2021), where an attempt is made to better understand the workings of a non-transparent system by querying the system and then analyzing the output. First, we queried an LLM, Chat-GPT 3.5, asking it to generate four lists of 25 names, one each from a high school that is 95% Black, White, Hispanic, or Asian. Next, we applied one list of randomly generated grade point averages to each of the lists of high shool students. (In other words, each list had the same GPAs.) The four lists were combined and shuffled, and then ChatGPT was given this prompt: "I'm a college admissions officer. For each of these students, can you give me a rating on a scale of 1 to 10 of how likely I am to admit them to the college?"

A one-way ANOVA was conducted on the results, and it was found that there was no statistically significant difference in the likelihood of recommending college admittance based on the perceived race of the student ($p = 0.98$). Additionally, while providing the requested admissions rating, ChatGPT added this text: "It's important to note that evaluating students for college admission goes beyond just GPA, as other factors such as extracurricular activities, letters of recommendation, standardized test scores, and personal statements also play a significant role in the decision-making process. However, based solely on the provided GPAs, here is a general rating on a scale of 1 to 10 . . ."

Discussion

In this small simulation, it was found that a LLM did not discriminate in a simulated college admissions task based on the perceived race of the college applicants. It is important to note that other research has shown that LLMs can

perpetuate racial bias, such as in medical decision-making (Zack et al. 2023). Therefore, we present the following recommendations.

A Human-in-the-Loop Approach

Human-in-the-loop control systems are a well-established model for incorporating a human check-point into a critical system to ensure that the system's functioning meets quality standards (Schirner et al. 2013; Li et al. 2014). Adoption of a similar approach in college admissions will confirm that any AI tools used in the admissions process are adequately implementing the institution's goals. In the context of the college admissions process, a human-in-the-loop framework may include:

- Staff are aware of the use of AI tools in the process and can articulate what tools are used, how they are used (i.e., what their purpose is), and their benefits and drawbacks.
- The admissions office assesses, at a granular as well as a general level, the alignment of the AI tool's results with the institution's goals.
- Both workflows and the institution's culture emphasize the importance of human oversight of AI tools. For example, there is a clear process for overriding the decision of an AI tool, and adequate resources (e.g., time and staffing) are allocated to the process.

Fairness at the Foreground

There has been a recent surge in interest in algorithmic fairness from quantitative, legal, and philosophical perspectives (Mitchell, Leachman, and Saenz 2019; Wong 2020; Hellman 2020). While there is not yet consensus on what this fairness looks like or how to achieve it, it is clear that concerns about fairness need to be at the foreground of decision-making with AI tools. Principles for this fairness in the college admissions process could include:

- As a precursor to discussions of fairness, the college and the admissions office have clearly articulated missions and values.
- Voices of all relevant parties, including students from a variety of different communities, are considered in discussions of fairness.
- The use of AI tools is grounded in fairness, considered from technical and other (e.g., philosophical, legal) perspectives.

Internal and External Transparency

A major criticism of AI tools is that their decision-making process is often opaque, which is of particular concern when it is applied to systems with high-stakes outcomes, significant societal implications, and/or legal requirements for equal opportunity, all of which apply to the college admissions process. Thus, it is important that any AI tools used in the admissions process provide transparency (Zhou et al. 2022; Larsson and Heintz 2020) related to their decision-making process. For example, if admissions offices choose to use an AI tool that assesses a student's leadership potential based on their admissions essay, it is important that the office understand *how* the tool determines leadership potential from the the writing sample. Principles of transparency include:

- Admissions offices adopt only those AI tools capable of providing adequate levels of transparency.
- To the extent possible, admissions offices are transparent with the public about the nature and application of AI tools to the admissions process.

Implications and Conclusion

From a broader perspective, one can start to envision the near future of both students and admissions offices relying on LLMs to create and rate their essays. Students could use LLMs to support their writing and also use LLMs to use prompts such as "How likely is this essay to be rated highly at ¡name of college¿?" This practice in turn raises larger questions: Will the future of college admissions be about which students have access to the most powerful LLMs and training for how to use them? And are we entering a world where LLMs are used to essentially create as well as rate essays, with humans only lightly contributing to the process?

This purpose of this work is to answer the question, How can AI tools contribute to an equitable college admissions process? Given the broad societal implications of the college admissions process, a better understanding of how AI tools can be used to promote the success of all students, including those from historically marginalized groups, is crucial. We hope that the principles we are developing for promoting fair AI use will contribute to that effort.

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