Role Play Scenario Two:
An Academic Institution Decides on an AI Admissions App

Table of Contents

I. SCENARIO TWO

A technology company has approached a state university about an app that is in the testing phase of development. If the university allows the company to use the campus as a test site, the university would have access to the app for a significantly reduced cost. The company's app, called CollegeAdmit, is designed for screening undergraduate college applications. The way CollegeAdmit works is that an applicant uploads a video to its platform containing the applicant's responses to a set of interview questions that the university provides in advance. Depending on the university and the questions it provides, students might have the opportunity to answer questions in creative ways such as singing in response to an application question. CollegeAdmit then uses sophisticated AI algorithms, including to detect the tone of an individual's voice and classify facial expressions, to analyze an applicant's submission and score it based on criteria specified by the company, possibly in collaboration with the university's admissions office.

Even though CollegeAdmit is still in the process of development, the company asserts that the university should have the utmost confidence in the app's usefulness and effectiveness because the company has already released a similar product for hiring employees. Plus, according to the company, since the specifications for CollegeAdmit are still being finalized, the university may have an opportunity to more fully customize the app.

The company's proposal has come to the attention of senior level administrators at the university, including the campus president. The university is considering adopting CollegeAdmit because it could potentially reduce the lengthy and costly admissions process. Not only is the current manual review process time consuming, but it also requires significant resources from the admissions office. The admissions office frequently has to hire several temporary employees to assist with the review of applications.

Before deciding on whether to use the app, state and university policies stipulate that the convening of a committee must occur in any situation involving the selection of a vendor whose product could substantially impact campus culture or practice. The committee must be diverse in terms of representing different interests across the campus. In this particular case, a collection of stakeholders, serving on the committee, must meet to review the company's proposal and provide a recommendation to the campus president regarding the admissions app.

Options for the committee's recommendation are:

(A) Yes, the admissions office should proceed with the use of CollegeAdmit. The committee must describe the circumstances under which the app's use would be appropriate.

OR

(B) No, the admissions office should not proceed with the use of CollegeAdmit at all or until the certain conditions are met. If the latter, the committee must describe what those conditions are.

In either case, the committee should describe the main reasons that contributed to the formulation of its recommendation.

Recommended Readings

- Alvero, AJ, Noah Arthurs, anthony lising antonio, Benjamin W. Domingue, Ben Gebre-Medhin, Sonia Giebel, and Mitchell L. Stevens. 2020. AI and Holistic Review: Informing Human Reading in College Admissions. Proceedings of the 2020 AAAI/ACM Conference on AI, Ethics, and Society.
- Gonfalonieri, Alexandre. What is an AI Algorithm? Medium, April 21, 2019.
- Harwell, Drew. A Face-Scanning Algorithm Increasingly Decides Whether You Deserve The Job. The Washington Post, Nov. 6, 2019.
- Simonite, Tom. The Best Algorithms Struggle to Recognize Black Faces Equally. Wired, July 22, 2019.
- Smith, Clint. Elite Colleges Constantly Tell Low-Income Students That They Do Not Belong. The Atlantic, March 18, 2019.
- Van Dam, Andrew. Algorithms Were Supposed to Make Virginia Judges Fairer. What Happened Was Far More Complicated. The Washington Post, Nov. 19, 2019.

II. STAKEHOLDERS

Role 1: Director of the Admissions Office
The Director has the responsibility to oversee university admissions, including the process for collecting and screening applications from prospective students. The Director is significantly involved in making determinations about which students to admit to the campus. Yet the number of applications that the university receives continues to grow each year. This not only increases the amount of time and resources needed to review applications, but it also means that it is more difficult to decide which students to admit and it is challenging to ensure consistency during the application review process.

As the Director of the Admissions Office, your main points of prioritization include:
- Advocating for an efficient and cost-effective process for collecting and screening applications.
- Ensuring that the application screening process is consistent and reliable.
- Admitting students who are a good fit for campus and likely to be successful.
- Having an admissions process that is difficult for students to manipulate or "game".
- Ensuring the application is consistent with and upholds the goals of the university.
- Describing how interviews have been used in the admissions process.

Typically, the person in the Director role should serve as chair of the stakeholder committee and help to moderate its discussion.

Role 2: Computing Professor with specialization in AI
AI algorithms are central to the admissions app. As a computing professor with expertise in AI, you understand that these algorithms are developed and tested using examples, and that the closer the examples are to the target population, the more likely the software will work well for the particular context. You are aware that systems for face detection perform much worse on people who are not White/Caucasian. Nonetheless, you generally believe that if designed carefully, AI could assist or complement human effort with many tasks.

As a computing professor specializing in AI, your main points of prioritization are:
- Explaining the basics of algorithm design and testing.
- Describing the benefits and limitations of AI algorithms.
- Explaining what types of bias might arise due to algorithm limitations or limitations with the data sets used to train algorithms.
- Describing ways in which this product could complement human efforts.

Role 3: Computing Professor with a specialization related to privacy

Privacy is a rapidly growing source of concern. As more data are collected about people, with and sometimes without our agreement, researchers in computing have begun to specialize in privacy. They are trying to discover ways that systems may compromise privacy and design methods to preserve it. For example, if an application reader downloads an applicant's video and stores it on a personal laptop, this could expose the applicant's video data to the threat of unauthorized access.

As a computing professor specializing in privacy, your main points of prioritization include:

- Describing different definitions and types of privacy.
- Describing issues related to the collection, storage, and use of personal data.
- Discussing issues related to informed consent and data management practices.
- Considering whether and how the data might be used for other purposes beyond the application process by the university and/or the company.

Role 4: Student Government Representative
The Student Government Association seeks to enable students to have a meaningful voice at the university. It has the responsibility to protect student rights and interests. This can include making sure that prospective students from diverse backgrounds have a fair and equal opportunity to attend the university.

As a representative from the university's Student Government Association, your main points of prioritization include:
- Providing the undergraduate student population with a voice during the stakeholder committee process.
- Representing different student constituencies.
- Providing insight in terms of how students perceive the college admissions process.
- Seeking to have an admissions process that does not increase the application burden for students.

Role 5: Office of Diversity and Inclusion Director

The university's Office of Diversity and Inclusion Director is responsible for identifying priorities, policies, programs, and initiatives that advance the university's mission. This mission includes having a diverse population of faculty, staff, and students. The admission process has an important role to play given that it determines who is going to be part of the next class of students attending the university.

As the university's Office of Diversity and Inclusion Director, your main points of prioritization include:

- Evaluating whether the admissions process is inclusive and allows for a diverse range of students to attend the university.
- Evaluating whether students with disabilities will have the opportunity to attend the university.
- Determining whether the use of the company's app might contribute to or undermine the goals of promoting diversity, equity, and inclusion.
- Ensuring that the app incorporates the experiences of different demographics into its development and design.

Role 6: Reader for the Admissions Office
The Admissions Office recruits a collection of readers who have a first look at each received application. These readers typically work on a part-time basis for the university during admissions season. Current practice is to have each application reviewed and scored by at least two readers. The readers receive training for this task; calibrating their scoring of applications is part of the training process. Over time, readers develop expertise in reviewing application materials efficiently and accurately. Readers believe in the importance of a human reading each application. Yet they are well aware of the challenges of obtaining an accurate and complete picture of a person from the limited application materials. Thus, some readers might welcome some form of technology that could provide additional information about an applicant. On the other hand, readers worry that their specialized expertise will be contradicted or made obsolete by AI technology.

As a reader for the university's Admissions Office, your main points of prioritization include:
- Representing the interests of readers who rely on this activity as a source of income.
- Discussing ways that could improve a reader's ability to evaluate college applications.
- Describing the importance of having human beings review applications.
- Describing how automation may or may not be able to help the admissions process.
- Describing whether and how videos are currently used by other universities for admissions.

Role 7: High School Guidance Counselor
A guidance counselor from a local high school has been asked to join the committee. High school guidance counselors write recommendation letters for many students. They also are on the front lines of understanding what applying to college is like for students and their parents. Guidance counselors typically provide coaching for students on how to put their best foot forward in their application materials, and counselors strive to make sure each student has a fair opportunity to attend college.

As a high school guidance counselor from the local community, your main points of prioritization include:
- Explaining the challenges high school students might experience during the college admissions process.
- Describing whether the expectations for filling out a college application are reasonable for high school students.
- Describing what measures might help make the college admissions fairer for students.
- Providing insight on the experiences that students have while applying to college.
- Describing how other universities might approach the interview and application process.

Role 8: Financial Aid Director
The Financial Aid Director interacts with a wide range of students at the university. One of the Director's responsibilities is to try to ensure that prospective students, especially those experiencing financial hardship, have the opportunity to attend the university.

As the university's Financial Aid Director, your main points of prioritization include:
- Representing the interests of students who may be experiencing financial hardship.
- Describing the challenges that students who have limited financial resources might experience during the college admissions process.
- Describing what measures might help make the college admissions process fairer for students who have limited financial resources.
- Discussing the value of having a socio-economically diverse student population.

Role 9: Alumnus
Former graduates (alumni) have a vested interest in the future of the university. They have experienced what it means to be a student who attended the university and have seen the value of earning a degree from it.

As an alumnus who formerly attend the university, your main points of prioritization include:
- Describing the qualities and attributes that increase the likelihood of being a successful student and graduate.
- Describing the measures that might encourage students from a geographically diverse set of high schools and hometowns to enroll at the university.
- Discussing the vision that alumni have for the future of the university and articulating whether incorporating AI into the admission process is consistent with that vision.

III. ACTIVITY DESIGN

The role playing scenario is designed to be used in a range of course types, including smaller courses (around 30-40 students) to larger courses (around 100 students). At least two hours of class time is recommended for the activity, but it can be compressed into one class period, especially if students are provided with the scenario and assigned roles prior to class time.

Phase One
Time estimate: 30-45 minutes

- The scenario is introduced to the students; ideally before the students meet for class.
- During Phase One, students are broken into groups based on stakeholder type (for example, all of the Directors of the Admissions Office are placed together in one group)
  - Although randomly assigning students to most of the roles is likely fine, it is highly recommended to ask for volunteers who are willing to take on the Director of the Admissions Office role because that role may have more responsibility than the others. It is recommended that person in that role serve as chair of the committee during Phase Two and help to moderate the committee's discussion.
- There are nine stakeholder roles, listed in the order of their importance for the activity. At a minimum, Roles 1-5 should be included (i.e., groups should have at least five members). It is recommended to divide the class up as close to evenly as possible (for example, if there are 35 students, then 5 groups of 7 stakeholders would be recommended).
- Each student must prepare to represent their role during the committee process when they will interact with the other roles (Phase Two); thus the purpose of Phase One is to have the students learn from each other about the nuances of their particular role.
- The goal of Phase One is not to resolve what the university should do; rather, the students should generate for and against arguments consistent with the role they are representing.

Phase Two
Time estimate: 30-45 minutes

- Students are broken into groups with one representative from each type of stakeholder; if there are not enough students per stakeholder type, each group should have at least one Director of the Admissions Office.
- The goal of Phase Two is for the group to decide whether:
  - Yes, the admissions office should proceed with the use of CollegeAdmit. The committee must describe the circumstances under which the app's use would be appropriate.
  OR
  - No, the admissions office should not proceed with the use of CollegeAdmit at all or until the certain conditions are met. If the latter, the committee must describe what those conditions are.

  In either case, the committee should describe the main reasons that contributed to the formulation of its recommendation.

- Each stakeholder group does not necessarily have to arrive at a consensus; disagreement is okay but a majority opinion should emerge. If there is a minority/dissenting view within a group, the group should explain the reasons for the disagreement.

Phase Three
Time permitting

- Each group can present its recommendation to the rest of the class on whether/how to proceed with the admissions app.
- In their presentations to the class during Phase Three, the groups may include answers to the following questions:
    - Which stakeholder considerations most significantly factored into the group's recommendation?
    - What role did CS knowledge/expertise play in the group's recommendation?
    - Which ethical considerations did the group think were the most important to take into account?
    - Where there any specific ethical concepts, principles, or theories that significantly factored into the group's decision-making process?

IV. OTHER GUIDANCE FOR INSTRUCTORS

The students may need guidance when assigned a role with which they are unfamiliar. Assigning the scenario and role prior to class time would be helpful in this regard as well as the components of Phase One of the activity.

The students might request data on some of the issues that they confront (for example, how reliable is computing technology when used for behavioral prediction). Some of the solutions for this issue include: (1) providing the students with additional time to perform research during or outside of class and/or (2) assigning additional readings that the instructor thinks are important (for example, the latest developments in machine learning).

During Phase Two, it is important to encourage each group member to speak. One strategy for accomplishing this goal is to require that each student in the group has to say something before allowing a group member to speak a second time. Also, a group moderator can be helpful; it is recommended that the student in the Director of the Admissions Office role serve in this capacity.

V. OPTIONS FOR ADDITIONAL ETHICS CONTENT

Ideally, ethical considerations should emerge organically from the student conversations, especially during Phase Two because of the presence of the different stakeholder views. However, the role playing scenario can be supplemented with additional ethics content as an instructor prefers; for example:

Potential Ethical Concerns

As the instructor, if you would like to provide the students with more guidance in terms of the ethical issues embedded in the scenario and topics to discuss within their groups, here are some options:

1. Bias in facial recognition/AI
2. Bias in speech recognition
3. Accessibility; for example, applicants would need to record high quality videos and not all high school students have the computing devices for this task
4. Diversity, equity, and inclusion in the admissions process
5. Privacy; for example, the use of the applicants' videos as data to train AI algorithms
6. The Black Box problem; in this case, the lack of transparency about how AI algorithms work
7. Replacing human judgment (e.g., Admission Readers) with automation
8. Potential job loss at the Admissions Office
9. Implications for the educational system; for instance, if one university adopts the product and changes admissions practice, what may occur at other academic institutions

Ethical Theory

If an instructor would prefers to add components of ethical theory to the role playing activity, this could be done by assigning one or more readings on theory while distributing the scenario to students. Then, students could be asked to frame/structure at least some of their arguments using the assigned theory as a foundation (for example, from the perspective of this ethical theory, one would argue that using the AI admissions app is ethical/unethical based on the following reasons).

Many different types of ethical theories could be assigned including Kantian Ethics, Utilitarianism, and Ethics of Care. If the ethical theory option is incorporated, it opens other grading possibilities including:

- Has the student accurately described the assigned ethical theory?
- How thoroughly has the student applied the ethical theory from the perspective of their assigned stakeholder role?

Ethical Impact Statement

Somewhat akin to an environmental impact statement required by federal agencies for activities that "significantly affect the quality of the human environment", the instructor could consider a requirement that each student, group (Phase One), or committee (Phase Two) produce an "ethical impact statement." In other words, the students would need to formally articulate how the admissions app would impact the interests and well-being of the university, its students, and other stakeholders.

If this activity is done at the individual student level, then each student could describe, from the perspective of the assigned stakeholder role, the ethical impact of the admissions app.

If this activity is done at the group or committee level, then the students could describe, from each of the assigned stakeholder perspectives, the ethical impact of the admissions app.

VI. OTHER GRADING OPTIONS

There are several potential grading options related to the role playing activity; for example:

- After Phase One, each student could write up and submit the arguments for and against the admissions app from the perspective of the assigned role.
- After Phase Two, each student could write up and submit an argument on whether the university should adopt the admissions app and the reasons why or why not from the perspective of the assigned role.
- Alternatively, instead of making it an individual assignment, item #2 could be submitted as a group assignment.
- The "ethical impact statement" (mentioned above) could be crafted into an assignment after Phase One and/or Phase Two; depending on when it is assigned during the activity, it could be an individual or group assignment.

VII. ACKNOWLEDGEMENTS