**Option 1: The Promise and Perils of “Governing Algorithms”**

**Final Report**

**Introduction: The Asylum-Seeking Process**

Applications for asylum in the U.S. has sharply risen in the last decade. In 2007, the total number of asylum cases reviewed by the U.S. Citizen and Immigration Services (USCIS) was 5,171. In 2016, that number had climbed to 91,786, a rise of 1,675% in just under a decade. [Politifact] This tremendous flow of asylum applications has made it very difficult for immigration officials to provide timely decisions that simultaneously uphold the stated eligibility requirement of U.S. asylum policy.

U.S. asylum agents review individual cases via applications submitted by asylum-seekers. The agents essentially seek to determine whether the applicant fits the international definition of a refugee. In summary, a refugee is defined as an individual who:

1. Holds well-founded fear of persecution for reasons of race, religion, nationality, political opinion, or membership in a particular social group
2. Has been forced to flee his or her country because of persecution, war, or violence

Asylum applicants can apply upon entering the U.S. at a port-of-entry, or within 1 year of living in the country (barring extraordinary circumstances). [USCIS]

Asylum agents look to make their decisions based on both a written application, supporting documentation, and an in-person interview. Here, they look to identify the merits of the applicant’s case, and make a judgement on truthfulness and authenticity on the part of the applicant. There are several conditions which, under the written rules governing the asylum-seeking process, disqualifies an applicant. These include the existence of a serious criminal history, taken part in persecution of others at any point, or pose a security risk.

Evaluating these disqualifying conditions properly is an essential part of the agents’ job. Their decisions in this regard impact public safety and well-being. However, it can also be a confounding decision, and in moments of haste or lack of clarity, the wrong decision can be made. This is where the potential for automated, algorithmic support to enhance this process exists.

**The Promise of Governing Algorithms**

Predictive algorithms are capable of guiding human decisions. This is based on their ability to comprehensively leverage historical data and make statistically significant predictions. One key feature that algorithms (and computers in general) have is their ability to analyze multivariate problems with precision. For example, asylum agents gather their information from a variety of sources – the application, documentations, in-person interview, etc. They then make a holistic decision based on this information. However, within the overall holistic decision, the human decision-maker has biases that the eligibility rules cannot govern. The agent may weigh war refugees as having a more pertinent case than religious refugees, or view mothers with children as more in need than a single male (all just examples).

Human biases in decisions involving personal lives of others is very difficult to avoid. Yet it is a real consideration, especially if one views being a security threat as a binary, “you’re a real threat, or you aren’t” decision. This is not to suggest that humans cannot take into account historical data at all. It would be expected that certain data-driven insights be presented to asylum agents, so that they are aware of trends in the results of former decisions. However, it is hard for humans to derive mathematical correlations (let alone causation) from aggregate data, *especially* when looking through the hazy context of interpersonal interaction and emotion. Humans are also prone to “see” causation where it does not statistically exist, and thus this would actually add to the existing human bias.

Algorithms, on the other hand, see the problem differently. Modern machine learning models work by numericizing all the information possible – turning a person’s story, past behavior, and situations into numbers to serve as predictors. In the context of judging whether an asylum applicant is a security threat, a predictive algorithm can provide two responses. It can either “classify” the applicant as “Yes-Threat” or “No-Threat”. Secondly, it can also produce a number, or “score”, that gives an indication of likelihood that the applicant will be a safety threat in the future if granted asylum.

The purely numerical approach taken by algorithms is powerful in that a machine learning model *will* discover patterns and connections in the data that humans oftentimes cannot find. Given enough predictors over a decent time period, the machine learning model will generate predictions that are very likely to be more un-biased, or at least less susceptible to bias, than humans can generate. (One comment on bias – to truly be independent from human bias, the data supplied to an algorithm must be free of human bias as well. Certain subjective ratings can bring human biases into the machine learning model).

A well-designed, functional algorithm can also reduce asylum fraud. According to a 2018 story to NPR, the FBI has begun crackdowns of asylum frauds in certain communities in major port cities. The story depicts common strategies used by asylum seekers who do not meet the persecution criteria, but still hope to stay in the U.S. upon arriving or staying illegally. In such fraud cases, the asylum seeker will invent horror stories of persecution, rehearsed to be believable, and un-verifiable by the asylum agents. Sometimes, they even have coaches (who, in this story, fronted as an immigration law firm) who are familiar with the agents, their preferences and biases, and instruct their clients to pitch their stories accordingly. [NPR] If an algorithm was used in place of in-person interviews, the invented stories may never be verbalized, though still existent in the written portions. However, it’s feasible for a high-performing algorithm to detect integrity, and thus assist in alleviating fraud.

The increase in speed, if computations replaced in-person meetings, would also be a tremendous help to under-resourced teams of agents. In theory, this would mean less hasty or rushed decisions, which should (again, in theory) improve the quality and integrity of decisions made on average.

The U.S. Government has utilized algorithms before. In an attempt to keep up with the rising use of algorithmic predictive modeling in the financial sector, the Internal Revenue Service (IRS) has developed models that predict behavior of firms and businesses. Very similar to our topic of predicting security risk of asylum seekers, the IRS uses models that predict tax underreporting and non-filing by businesses. Academic researchers have also developed machine learning models to predict electoral fraud and illegal fishing practices. The key thing to re-emphasize is that these models used by the U.S. Government are *predictive* – they provide information on behaviors not yet performed by subjected individuals.

Having a functional, well-developed predictive model to predict future security risk for asylum seekers would be beneficial to asylum agents. If the model is well-designed, with quality historical data, a trustworthy “risk score” could be part of the holistic application, giving more insight and information to the agent.

**The “Perils” of Governing Algorithms**

An algorithm’s prediction on an individual’s future behavior can lead to very complicated consequences. The primary arguments are two-fold:

1. *Should* decisions generated by computers dominate high-impact human decisions, and
2. *If algorithms get implemented*, how will we account for changes in human behavior (both agents and applicants), as everyone adjusts to the new reality?

The first consideration is a moral one. The U.S. is a democracy founded on civil liberties,

not the least of which is the idea of due process. For those accused and tried in U.S. courts, all are assumed innocent until proven guilty. Understandably, in the context of asylum applicants seeking to join the U.S., this level of scrutiny necessarily shifts. The U.S. holds the right to maintain safety and integrity in any immigration process, and thus using (future) security risk to evaluate asylum seekers is fair game.

However, using a computer to make this judgement is a different picture. Many people believe that core governmental institutions and decisions must be grounded in judgements made by other real people. In other words, a “government of the people, by the people”. This philosophy of government offers a feeling of understanding and human connection. Most people (if not all) have been in a situation where objectively, we looked somewhat un-promising, or un-deserving to someone in a position to offer us something we desired (i.e. a job interview, rental application, etc.). In these scenarios, as human beings we desire the opportunity to make a personal, in-person communication of trustworthiness and genuineness. However, with an algorithm doing the decision-making, it would feel like this opportunity for interpersonal context is coldly taken away.

And what if the algorithms *don’t* do an accurate job, and make mistakes? Human behavior (and human motivations) are complex. There are more qualitative variables at play, which, since machine learning is purely quantitative, can get lost in numerical translation. The problem here would exist when algorithms begin by being very accurate, and thus are adopted and implemented. Over time, if accuracy fades, and poor asylum granting decisions are made, it will not only take time to realize mistakes (as security risk does not typically provide an immediate response), but it’d be very tough to fix and re-implement. By that time, it’s possible the process would’ve shifted away from in-person interviews completely, and agents would need to be re-trained on contingency plans. Such a situation would also greatly undermine trust in algorithms across government.

To add to this concern, for many machine learning algorithms, a “fix” is not readily available. Many of the more effective, complex learning algorithms today are “black box” in nature. They cannot be intuitively explained, and thus cannot be easily “corrected” without rigorous re-training and monitoring.

Perhaps a deeper problem of “black (or even gray) box” algorithms is that they would likely not offer satisfactory feedback to the rejected applicant. It’s very natural to want to know *why* a nation believes you are a security risk, or why your (seemingly) pertinent appeal to asylum was rejected. With a regular, human-to-human process, this can at least to qualitatively prescribed and communicated. With an algorithm, it is much more difficult. Even if the human tried to interpret and offer a reason, that reason would very likely miss the mark.

All of this only describes the present-day capabilities of machine learning and predictive modeling. This area is the topic of rigorous, highly-funded and prioritized research. Computational and mathematical capabilities make tremendous gains each year, and in a not-too-long period of time, it’s somewhat difficult to imagine what new advancements might bring. This rapid shifting cycle makes this area incredibly difficult to write laws down and regulate. A too-specific rule may very soon be outdated; a too-broad rule may leave too much leeway in to specific applications.

**Implementation**

As stated above, algorithms are already present in government. With dramatic strides each year in the field, coupled with the need for additional resources in the government sector, the presence of algorithms will almost surely continue to grow. Algorithms should begin as simply a piece in the holistic evaluation of asylum applicants. As such, all human agents should be properly educated on the concept of machine learning. Specifically, they must be careful to not over-interpret the models, and be weary of attempting to explain them to applicants. The U.S. asylum process is a discretionary process, and no applicant is owed any insight on decision-making. A false attempt to explain the procedures would lead to unnecessary troubles.

Armed with an algorithmic score, agents should still be asked to make a holistic decision. However, if they override a high risk score, they must provide adequate reasoning to do so. This is because for the time being, in an initial or transitionary phase, it is important to have human agents continue on as they would be the ones executing a contingency plan should the algorithms undergo hiccups.

**Conclusion**

As technology grows everywhere in society, it is acceptable to begin using predictive algorithms in areas of need. For the context of asylum applications, the promises in the short run outweigh the perils, and thus development and monitored usage would be appropriate if the government chooses to go this route. Tremendous care must be taken, and the development of any model done by government contractors must be aligned with very knowledgeable and competent members of government, so that the correct legislation can be implemented alongside the algorithm.

**Sources**

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