

## Artificial Intelligence and Migration

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### **Lessons in Governance**

A primary example of bias and discrimination in algorithms has been witnessed in the United Kingdom's implementation of AI in their visa approval process. The Home Office, the British government department regulating immigration and passports, began using an algorithm to assess visa applications in 2015. Described as a 'streaming tool,' the system assigned either a red, amber, or green rating to visa applicants to correspond with the applicant's level of 'risk,' with riskier applicants receiving a red rating and safe applicants receiving a green rating.<sup>1</sup> If the applicant received a green rating, a decision is made quickly and only reviewed by a second person if the first denied the application. If the applicant is given a red rating, human reviewers are given more time to review the applications. If the application is approved, a second person will review it as well; however, if the visa is rejected by the first reviewer, it is not reviewed again.<sup>2</sup>

The implementation of the algorithm is one way in which governments are attempting to become more efficient. Government administration, and thus inefficiency, is most apparent in clerical and repetitive work. Take, for example, the process of approving visas. Paperwork must be reviewed for every single applicant, which takes lots of time and manpower. In 2021, the United Kingdom received 628,698 applications for visitor visas. While a large number, this number is 77% lower than that of 2019 before the COVID-19 pandemic, which would have seen nearly two million applications.<sup>3</sup> Furthermore, the approval process for visas to the UK takes three to six weeks, exhibiting the amount of time necessary for each application to be reviewed and processed.

Various applications of the UK streaming tool have seen African visa applicants turned down for, seemingly, no reason. In November 2018, 17 delegates from Africa and Asia invited to

attend a conference held by the Women Leaders in Global Health were denied visas. This event led to condemnation from scientists, including the director of the London School of Hygiene & Tropical Medicine and a discoverer of the Ebola virus, Peter Piot, who penned a letter to the Home Secretary.<sup>4</sup>In April 2019, a team of six Sierra Leonean Ebola researchers was denied visas to attend a training program in the UK. The same month, at a London School of Economics Africa Summit, was absent of 24 of the 25 researchers who were invited due to visa denials.<sup>5</sup>

An investigation into this pattern of seemingly discriminatory visa denials was initiated by the All-Party Parliamentary Group (AAPG) for Africa, a group of parliamentarians who seek to foster beneficial relationships between African countries and the UK.<sup>6</sup> The results were apparent: African visa applicants were denied at higher rates than applicants from other parts of the world. While the overall refusal rate for visas from 2016 to September 2018 lay at 12 percent, African requests were denied at a rate of 27 percent, 15 percentage points higher than that of Middle Eastern and Asian applicants and 23 percentage points higher than North American applicants.<sup>7</sup>

UK government officials initially defended the visa approval process against claims of institutional racism. In response to the incidents of April 2019, a Home Office spokesperson said they welcome international academics and recognize their contributions but clarified all visa applications are considered on their merits and are held to the immigration rules set by the government.<sup>8</sup> Then-Prime Minister Theresa May was questioned about the report conducted by the AAPG for Africa and said visa applications must be evaluated thoroughly and argued the approval rate for African visa applicants was higher than it had been in the previous 10 years. Similarly, the Home Office said that they were seeing visa applications from African applicants at their highest rate since 2013 and that visa applicants are not discriminated against based on “age, gender, religion, or race.”<sup>9</sup>

The algorithm had the potential to be particularly prejudiced because, since it relied upon machine learning to refine its ability to assess applicant risk based on prior cases, any hint of discrimination could be perpetually replicated. If the early implementation of the algorithm was influenced by Home Office norms, such as more heavily analyzing visa applicants from Africa, the algorithm would then learn that African applicants were riskier and required more intensive analysis. Therefore, since there had already been a suspected amount of prejudice against African applicants, immigrant rights groups could have a strong case to prevent further discrimination against marginalized groups.

As a result of the apparent discrimination against African visa applicants, two organizations filed a legal complaint with the British High Court: the Joint Council for the Welfare of Immigrants (JCWI) and Foxglove Legal, a “technology justice advocacy group.”<sup>10</sup> The complaint alleged that the Home Office’s visa approval process violated the Equality Act 2010 and was racially discriminatory.<sup>11</sup> However, before the algorithm’s alleged discrimination could be evaluated by the Court, the Home Department announced that from August 17, 2020, they would no longer use the algorithm to screen visa applicants. While stating they would redesign their visa approval process, they denied the allegations brought forth by the JCWI and thus denied the algorithm was programmed to be discriminatory.<sup>12</sup>

Since the Home Office pulled the algorithm before it officially went to court, they avoided having to disclose more details about the specific functions and design of the algorithm.<sup>13</sup> Therefore, there can be no public investigation into whether the algorithm was truly discriminatory as the claims suggested. While this can be seen as a win by immigration rights activists, it raises important questions: Why would the Home Office publicly deny discrimination while also ceasing their use of the algorithm? Does this set a dangerous precedent for claims against potential future

instances of discrimination by governmental agencies using algorithms in administrative work? Will the updated algorithm be any better? None of these questions can be answered with confidence, but they remind us of the complexity and fallibility of human-designed algorithms and technology.

Implementing AI in government functions aids in efficiency and can decrease the amount of human time needed to spend on a certain task. In 2019, the European Union began testing an AI program called iBorderCtrl. Essentially a lie detector test, iBorderCtrl uses AI to examine a migrant's gestures when answering questions related to their journey or their possessions. If determined to be telling the truth, the traveler is free to pass the border; however, if the machine detects suspicion of lying, the traveler will be subject to further review by a human agent and biometric data collection.<sup>14</sup>

All of this came at a time when migration to Europe has been growing at a steady rate and more than 700 million people entered the EU annually. Additionally, political pressure on European lawmakers to increase awareness of the migrant movement within Europe grew alongside the increase in migration. From 2021 to 2027, the European Commission proposed nearly 35 billion euros to be spent on border control and migration management. While iBorderCtrl proposed to increase the speed of traveler intake, the AI inevitably drew concern. The head of the EU's data protection watchdog, Giovanni Buttarelli, reported he was concerned that the system may discriminate against people based on their ethnicity or country of origin, as the system functions primarily on facial features and could become biased based on skin color.<sup>15</sup>

As a result of the concern for the ethics of iBorderCtrl, Patrick Breyer, a member of the European Parliament, initiated a legal dispute against the European Research Executive Agency to unveil classified documents on the results of the iBorderCtrl trial and its ethical justifiability.

Certain documents were deemed necessary to declassify to the public, as there ought to be more transparency and democratic oversight of the development of new surveillance technologies. However, the court also ruled that certain documents could not be released because they protect commercial interests and knowledge.<sup>16</sup>

While the technology was only used in an experimental phase, many of the concerns did not come to fruition. However, that does not mean that similar technology will emerge in the future, and whether or not there will be adequate governance and public knowledge of it. For example, much like Breyer, researchers at the Hermes Center for Transparency and Digital Human Rights used freedom of information laws in an attempt to review internal documents about iBorderCtrl. Many of the pages were heavily redacted with some completely blacked out, which raises alarms as to what extent technologies can be protected for commercial interests.<sup>17</sup>

Is it ethical to leave someone's chances of entering a country up to a computer? Can a computer truly understand the nuances of human expressions? In reality, a system like iBorderCtrl does have many useful applications. In an increasingly globalized world where traveling is easier than ever, perhaps certain technologies are necessary to decrease congestion and improve efficiency. More applications of similar technologies are sure to be witnessed in the future and whether they will be adequately governed is up to the people.

### **Lessons in Detection**

Office settings, however, are not the only realms of governance that can be improved upon with AI. Governments have begun implementing AI in national security, installing devices using AI to surveil their borders. Of high importance to the United States, strong borders are important to national sovereignty. However, both the border with Mexico and Canada is expansive and, especially in the south, subject to harsh conditions. Implementing technologies utilizing AI allow

for both efficiency in the deployment of human agents and, possibly, greater efficiency in detecting illegal activities.

The use of technology in border security has been explored for several decades. In 2006, President George W. Bush initiated the Secure Border Initiative Network (SBIInet) to establish a ‘virtual wall’ along the southern border. The system led by Boeing ultimately failed, however, after five years of development and more than one billion dollars being spent to surveil 53 miles of the nearly 2,000-mile border between the United States and Mexico. The system was unable to distinguish objects apart, such as humans versus animals, and did little to ease or improve the process of border security.<sup>18</sup>

While the Trump administration focused heavily on the construction of a physical wall between the United States and Mexico, there has also been significant development in the construction of a technological border. Since the beginning of a five-year deal with California-based defense contractor Anduril, around 175 autonomous surveillance towers (AST) have been deployed along the border. The towers employ cameras, radar, and thermal imaging to detect movement near the border and determine what the object is, as can be observed in Exhibit 1. With its machine learning technology, the cameras can determine patterns; for example, an ATS on a private ranch no longer analyzes the owner’s pickup truck when he drives past.<sup>19</sup>

The towers are equipped with cameras designed with a three-mile radius and night vision technology, able to both detect and rescue migrants making the trek to the southern US border. When a group of migrants moves out of frame for one tower, Customs and Border Patrol (CBP) is still able to follow the migrants as the towers can communicate and share information.<sup>20</sup> They have been able to both replace and complement the work of Border Patrol agents. Before the implementation of the ASTs, agents would have to physically survey the desert with binoculars.

However, the cameras can now last 24 hours from solar power provided by only one hour of sunlight.<sup>21</sup>

The implementation of AI-powered cameras on national borders, while an impressive use of AI, may not be as successful as proponents claim. Journalists have asked both Border Patrol and Anduril whether the technology is successful at reducing illegal border crossings. When asked, CBP answered that effectiveness was determined by specifications such as reliability or survivability but did not answer whether fewer migrants crossed the border illegally; Anduril responded that determining effectiveness was a question for Border Patrol, not them.<sup>22</sup>

The usage of ASTs has come under ethical questions as well. First devised under the Clinton administration, the concept of ‘prevention through deterrence’ has continued to be implemented by US Border Patrol. The idea, originally, was to deter migrants from crossing the border near cities, so walls were erected to push migrants toward the desert, using the potential of death as a deterrent. The ASTs use a similar idea in which migrants, hoping to stay out of detection by the cameras, will follow different routes where the journey is more difficult and there is a greater likelihood they become apprehended by CBP.<sup>23</sup>

Reports on the development of SBInet show that migrant deaths became more concentrated and occurred in higher numbers as a result of the construction of surveillance towers, as displayed in Exhibit 2.<sup>24</sup> Since migrants were deterred away from certain migratory corridors, they were funneled into more dangerous areas, walking farther and increasing exertion. Therefore, we can say that, to an extent, technological border surveillance can lead to an increase in migrant mortality.

Some might ask, is it necessarily CBP’s fault these cameras have possibly led to greater migrant casualties? On the other hand, at what point does protecting national sovereignty become state-sanctioned violence?

A perhaps less controversial use of AI on a US border is the development of the Northern Border Remote Video Surveillance System (NBRVSS). NBRVSS operates around 22 sites of cameras and radars to surveil the 360-mile stretch of the US-Canada water border from Buffalo, NY to Port Huron, MI. Aimed to catch drug smugglers, the system can detect vessels departing from Canada and analyze their movements. Since the system is always watching, it can learn what traditional boat movements look like and thus, when applicable, can direct CBP officers to a suspicious vessel detected by irregular movement.<sup>25</sup>

The NBRVSS, furthermore, can go beyond detecting unusual movement. If, for example, jet ski speeds across the international waterway or a boat sails along the Canadian border to then speed to the US side quickly, both signs of suspicious behavior, CBP can use the camera to see what the boat looks like, determine the number of passengers, and conduct background checks on the vehicle's registration number.<sup>26</sup> Therefore, the system combines both new, AI technology with traditional border security operations. However, efficiency comes in the CBP's ability to have access to both more substantial and meaningful data and possessing the ability to further analyze those vessels which were deemed suspicious by the AI system.

While not documented yet, the NBRVSS could have the potential to call ethical questions into order. Since the system only detects unusual movement, in which the officers themselves then decide whether or not to pursue the vessel, any number of biases can come up. For example, the system can show the people on board the vessel: what if they become profiled? Will certain groups of people receive more attention than others? At the end of the day, which vessels are ultimately pursued rather than deemed usual? These are hypothetical questions now, but may lead to trends in the future, as were witnessed with the UK algorithm.

### **AI: Friend or Foe?**



Most of these applications demonstrate that, while AI has the potential to improve the efficiency of certain government functions, it often comes at the expense of the people. Visas, often annoying forms which take both times to apply for and to evaluate, can logically be sped along with AI. However, when governments do not adequately prepare for potential bias or discrimination, the new applications can prove to be problematic.

National sovereignty is a critical function of the modern state. Knowing what goes in and out of a country is important to national security, and countries go to great lengths to prioritize their citizens. One major policy area of the United States is to prevent both the illegal migration of people across its borders and the smuggling of illegal drugs and items. However, studies hint that its AI applications on the southern border may not be as efficient as they hoped it to be and, whether intentional or not, have led to the deaths of migrants attempting to cross the border.

As technology and AI progress, so too will the applications used by governments. In the future, they are bound to improve and become more targeted, efficient, and successful. In the meantime, however, is it worth it to implement AI in government when so many ethical questions are at stake? How transparent must governments be in these applications? One thing is for sure: governments will continue to seek out ways to improve the efficiency and services they can provide. Whether they can be fair and just, however, will continue to be assessed for the decades to come.

From governance to detection, AI can serve multiple functions by government bodies. However, while possessing positive attributes, many new implementations of new technologies are subject to scrutiny and questions of privacy and security. The prior examples of AI applications draw upon two major questions: how far can governments go in the automation of government functions? And, how transparent will governments be in their new implementations of AI?

Thus, is AI a friend or a foe? Do the potential benefits of illegal migrant apprehension outweigh the cost of a rise in fatalities? Will governments use AI to mask more explicit discrimination and blame it on AI, benefitting from the general public's overall lack of technological literacy? What is more important, getting the job done quickly, or getting the job done right?

The implementations of AI in governments are bound to increase over the coming decades. Inevitably, they will draw concerns about national security, data privacy, and prejudice. One thing is certain: without adequate transparency or proper implementation, people around the world, in both democracies and authoritarian regimes, will likely come to realize the immense capabilities and threats AI possesses in governance.

Exhibit 1: AST Night Vision and Object Detection

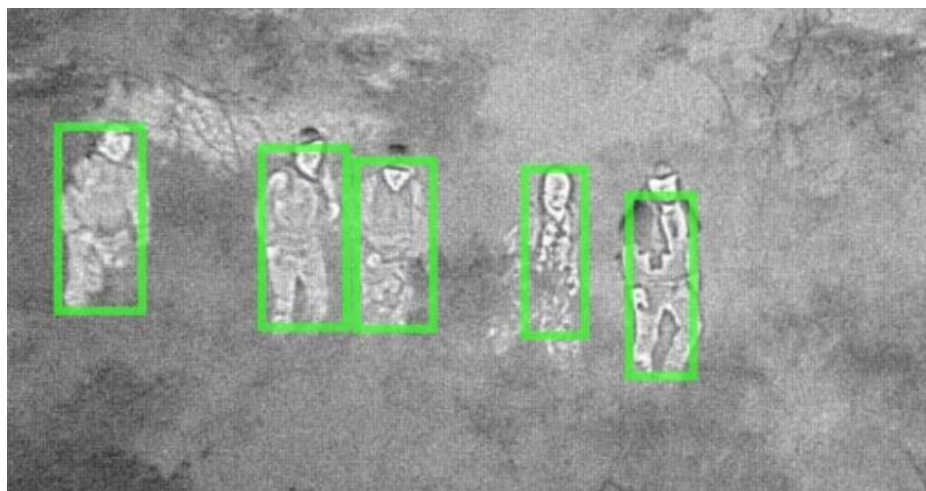
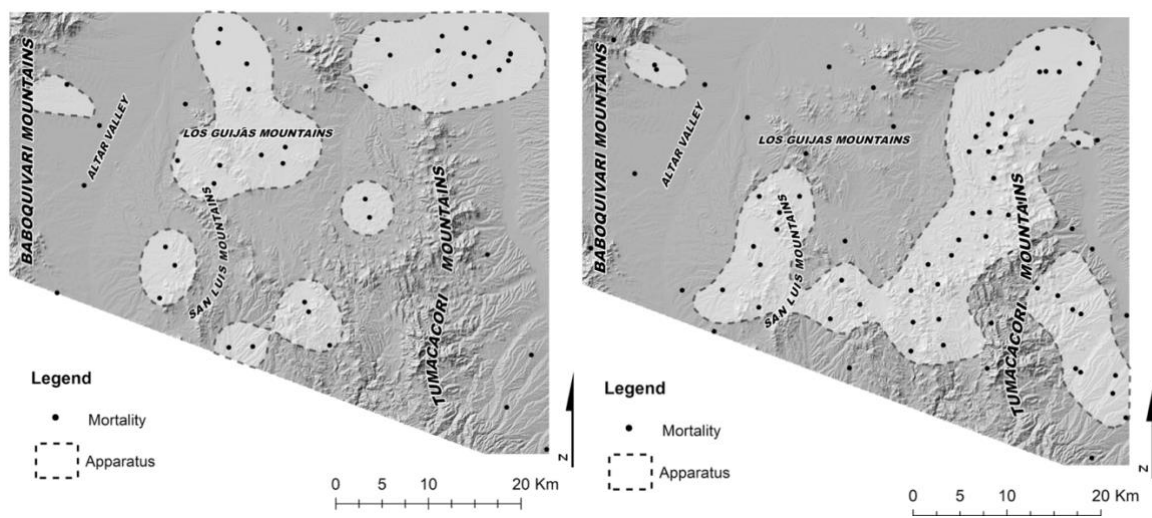


Exhibit 2: Mortality Distribution Before Implementation of SBIInet vs After



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 Endnotes

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