Should Facial Recognition be used by Government Security Branches for Surveillance?

The world is rapidly changing with new emerging technologies. These growing technologies are affecting our day to day lives at a higher scale than ever before. Previously, governments around the world were able to regulate emerging technologies rather easily due to the growth rate being much slower compared to today. However, as we progress in society this exponential increase in growth of technologies entangle and complicate the governmental regulations across our globe. An emerging technology that is entangling and growing all over the world is Facial Recognition Technology. Just as the name suggests this technology recognizes faces with rather complex algorithms. These algorithms through analytical techniques can provide a large array of information about a recognized face. Facial recognition technology not only brings challenges for governments, but also concerns and benefits for society ranging from privacy to safety. My career study is Computer Science, and my goal is to analyze facial recognition in the very heart of our society. The purpose of this research paper is to investigate the ethical dilemma, ‘Should Facial Recognition be used by Government Security Branches for Surveillance?’

Those who say facial recognition technology should be used for surveillance see the ultimate benefits throughout our society. And there are no doubts to the many benefits facial recognition technology provides when being applied in today’s society. Identifying suspects is a benefit that can change the security of our society forever. Many countries already utilize facial recognition for identifying suspects of crime, whether the crimes are small or at larger scales. Some countries however utilize it more than others. Despite the regulations, Australia is a country where police, and federal agencies have started utilizing facial recognition technology to prevent further crime in the driving domain. An Australian company named ‘Acusensus’ is preventing low level crime in the driving domain by "installing camera systems above and on the

side of roads to help detect 'distracted drivers'" (McClellan 371). These cameras capture an image of each car that passes and if it detects the "driver is using a phone (and is thus deemed a "distracted driver"), the system will encrypt the image and send it to authorities" (McClellan 371). This application in Australia illustrates how in one aspect of our daily life facial recognition technology can change the safety of our society by reducing the amount of people who text and drive. Facial recognition's influence has the potential to decrease crime rate, accident rate, and even the death rate in our daily lives; This only furthers our progress as a society. Facial recognition in Australia was successful enough for countries to start taking notes as the company Acusensus "recently presented the technology at an international conference to countries including Canada" (McClellan 372). Thus, implementing facial recognition across the globe to bring light to crime.

Countries such as the United States already utilize facial recognition to decrease crime in many aspects, for example, "In August of 2019, police in New York used facial recognition technology to track down an accused rapist in less than twenty-four hours after the alleged attack" (McClellan 372). The identification and capturing of the alleged rapist this quickly in limited time demonstrates the capabilities police across the globe can utilize to prevent crimes. Ultimately, giving them the ability to keep society clean of criminals. The New York Police had an interesting comment regarding these capabilities saying, "case such as this wouldn't be solved due to the "resources and manpower" it takes to identify a suspect" (McClellan 372). As I view it, facial recognition technology is a great leap into developing our society to higher scales. Nonetheless, with this leap comes a plethora of drawbacks regarding our private lives.

The core flaw to facial recognition technology is the invasion of privacy. It is quite clear that privacy is a major concern to our lives on a daily basis, and we take extreme steps to protect

it. So, it is only logical to take matters into our own hands when it is our privacy that's at risk. Those who see the ultimate benefits of facial recognition to society will undoubtedly represent the side of 'sacrificing for the greater good because there is no harm'. However, at Carnegie Mellon University the results show otherwise as the researchers "were able to identify some folks on a popular dating site despite using pseudonyms" (Lord 13). Identifying someone and acquiring a small sum of data such as names and birthday doesn't sound like a major issue at first, but the same facial recognition research group was able to find interests of students based solely on a Facebook photo and, "even finding the Social Security numbers of several" (Lord, 13). Being able to identify Social Security numbers is certainly not a very shielded gateway to create a safer society.

As you dive deeper into facial recognition's possibilities for harm, a country like China presents as an example. In China the closed-circuit infrastructure is so enormous that "it is estimated that more than 170 million closed-circuit television (CCTV) cameras were in use in 2018, with an additional 400 million to be installed by 2020" (Kostka et al. 174) with equipped facial recognition technology. The actions China has performed with these resources explains the apprehension around facial recognition. The Chinese surveillance system is set up in such manner that soon as a face is recognized it draws on "information about personal identity, family and friends, movement and shopping behaviour, and even DNA that is collected at medical check-ups organised by the government" (LOUBERE and BREHM 146). After scanning the data, it is "run through algorithms that assign residents with public safety scores deeming them 'safe', 'unsafe', or somewhere in between" (LOUBERE and BREHM 146). The issue of social credit or algorithmic judgment based on data is an ethical dilemma on its own, though the more important factor at play here is the lack of privacy, which should be a guaranteed human right.

Additionally, if the infrastructure of closed-circuit television with facial recognition was able to make its way to unauthorized users it would create evermore issues surrounding facial recognition technology, which has the potential to create a halt in society. Nonetheless, those who deem facial recognition the common good, see other benefits such as locating people and keeping the society safe in that manner.

Tracking suspects is crucial to solving crimes as fast as possible and keeping our forces safe. Facial recognition technology can make the process of tracking a person immensely faster and efficient. Criminal tracking is not the only utilization of facial recognition. Facial recognition can be applied to non-crime related subjects and a recent instance is Covid-19 tracking. China's extensive infrastructure of cameras with facial recognition technology enables tracking of individuals and their temperature. This allowed the government "to track citizens' movements and prevent infected individuals from traveling" (McClellan 373). The protection of other citizens by safe keeping the infected puts forward this technology towards a good cause; to protect each citizen. Additionally, there was a wide utilization of facial recognition "in conjunction with a "monitoring system" that used big data to "identify and asses [] the risk of each individual," (McClellan 373) the data included travel history, and potential exposure. The facial recognition technology utilization with other technologies like the monitoring system is a prominent solution to reduce the spread of Covid-19. This type of development is extremely beneficial offering a solution to concerns such as, virus infections, mental illness, and even genetic disorders. The medical field is an important part of our society, and facial recognition can improve it to another extent.

Recently, Oxford University developed an algorithm within facial recognition technology to detect rare genetic conditions, "such as Down Syndrome, through the observation of an

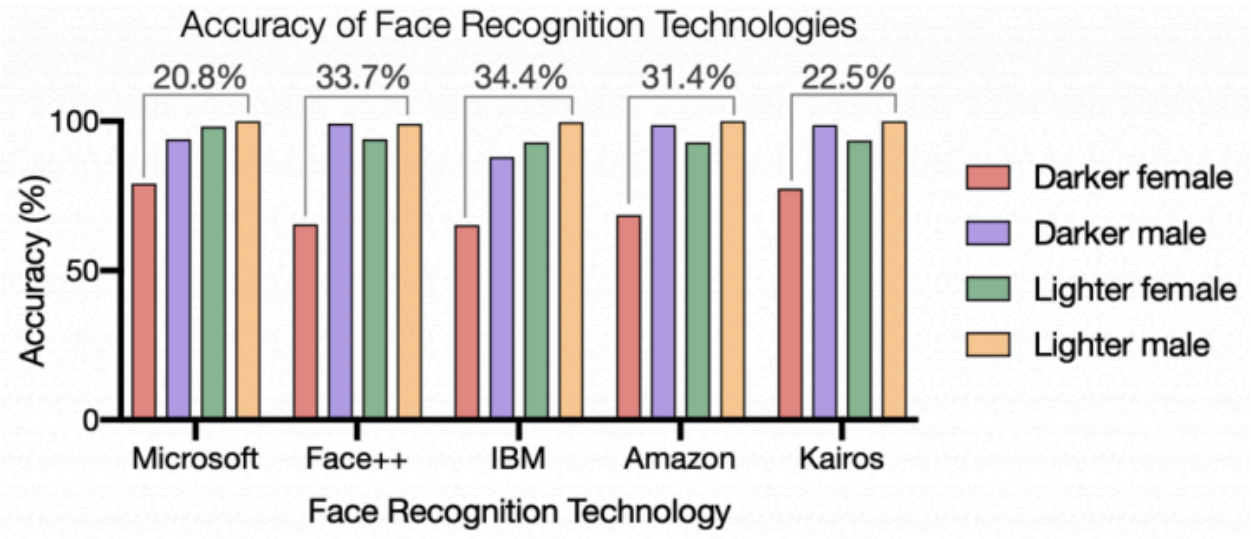
ordinary photo" (McClellan 373). The detection of down syndrome creates a tract to help those in need earlier on. Moreover, being able to find these algorithms for rare genetic conditions is crucial as "many rare disorders, there is no genetic test and thus may only be diagnosed through a specialist's analysis of facial features," (McClellan 373). Utilizing facial recognition diagnosing the rare genetic conditions can be made faster, which means getting the help to those in need quickly and efficiently. This is important as the specialists needed to diagnose the rare genetic disorders are extremely difficult to find and expensive. Hence, this developed facial recognition technology jointly with the Oxford algorithm gives greater opportunity to those with rare genetic disorders to be diagnosed and pushes for a more coherent society.

To create the coherent society of which we dream, it's necessary to have the proper resources. The United States leads resources with the amount of data set per 100 individuals at "a rate of 15.3 cameras, followed by China at 14.4, the United Kingdom at 7.5, and Germany at 6.3" (Kostka et al. 672). With the largest pool of resources, the United States is a major player in the securing of our society. However, the right of utilization of this technology is only given to the Federal Bureau of Investigation (FBI). Although a massive database of civilians is available to the FBI because "facial recognition database currently includes 641 million images which can be searched anytime without an official warrant" (Kostka et al. 674). Even though many deem this safe; containing this type of data at hand view without the need for warrants brings forth new challenges and concerns for facial recognition in the ever-idealistic coherent society.

Creating a coherent society will bring benefits to our shoes, but the soles will be diminished. Tracking suspects is important, it not only makes our lives safe and secure, but it makes us a group of force - fighting the evil in our realm. However, this evil that we fight against with facial recognition can develop into a tyrannical government control into our lives. This type

of tyranny has been deemed ‘bad’ for society throughout history, and in the present day shows the negative effects on individuals’ daily lives. China is a known country for tracking suspects, innocent individuals and more importantly, targeting certain groups of people in terms of beliefs. The Chinese government’s control over lives is unorthodox and “the extent of the surveillance infrastructure primarily targeting the Uyghur ethnic minority” (LOUBERE and BREHM) is even worse. Target tracking is executed with social credit algorithms built into the facial recognition technology. These algorithms are harmful for many people due the bias of specific governments like the one in China. It makes our private lives not only public, but difficult as harassments are carried through.

The bias extends beyond simple tracking as groups are harassed with the inclusion of “police checkpoints, iris scans, mandatory spyware installed on mobile devises, and pervasive CCTV with facial recognition software” (LOUBERE and BREHM 146). Target tracking with bias over certain ethnicities is not only wrong, but creates a future dystopia pushing us away from a coherent society. Those who deem facial recognition to be a safer gateway to a finer society do not consider the world as whole with different races and the inaccuracy of Facial Recognition. A recent body of research conducted by Gender Shades Project “exposes divergent error rates across demographic groups” (Najibi). As a concern Gender Shades Project tested facial recognition developed by companies for the government, whereby “subjects were grouped into four categories: darker-skinned females, darker-skinned males, lighter-skinned females, and lighter-skinned males” (Najibi). A graphical representation of the test outcomes is presented.



(Najibi)

The graph clearly represents the bias within facial recognition technology as discussed above. It's clear the female facial structure creates errors as does darker shades. However, even small discrepancies like these cannot be negated as these discrepancies can put the wrong person in havoc. This becomes an even larger problem during the night when there isn't natural light to capture good quality facial images/videos. Discrepancy between the light-colored males and dark-colored females is 34.4% for IBM. This foreshadows the bias and therefore detrimental effects it can have on a person's life, which endanger them in multiple ways.

Facial recognition, however, can be utilized in an unbiased manner, where its only personal and makes society more operable it can also make society move faster. To access our data, we verify ourselves to unlock that data from encryption. Think of biometrics in our phones for instance, fast, reliable, and safe unlocking methods. There are many "Companies such as Apple" who utilize facial recognition "as a method to unlock phones" (McClellan 372). In similar manner these methods can be applied throughout society to make certain day to day tasks faster, more efficient, and safer.

One example would be schools. Where they have utilized security cameras for decades to surveil students and have used identification cards to enter the school. Applying the facial recognition treatment into that realm can make identifying a student who misbehaves easier and can have the identification of students when entering school be automated. This makes the school not only safer because of the record and more importantly eliminates the time consumption regarding managing students. Additionally, facial recognition can reduce the amount of school shootings that occur in schools because it can identify if the person is allowed in school or not. Many places have adopted facial recognition for various education purposes "including campus security systems, automated roll-calls and student emotion and attention monitoring" (Andrejevic and Selwyn 115). This not only makes our society efficient but lessens the need for staff at each corner of the school. During these modern times countries such as, United Kingdom, Australia and more "have so far prompted little controversy or push-back" (Andrejevic and Selwyn 115) against the utilization of facial recognition in schools. The school applications might be far-fetched from security branches; however, it is a very needed precaution for the United States due the increase in school shootings. Consequently, all these advances will only prosper a country economically. Furthermore, facial recognition can be a great deal when it comes to managing staff and can make sure mal behavior occurrences decrease by a large scale. The benefits enhance our society in ways that will room for less human error. Nonetheless, facial recognition still has errors of its own which harm the realm of society.

It is important for our society to progress in security. Facial recognition can only enable this type of progression to a certain extent. The reason for this is government control. As we see with China, the government control is immense, especially with the implementation of facial recognition in cameras and in social credit. This not only invades privacy, but also human rights.

There was a major survey across countries which utilize facial recognition. When asked about private companies utilizing facial recognition such as Apple the response of participants show "acceptance is particularly high in China at 71%, second highest in the United States at 52%, followed by the United Kingdom at 50% and Germany at 33%", (Kostka et al. 681). That aside, when asked about the government, utilizing facial recognition the results were shocking. "[A]cceptance levels decline but are still high when asked about use of FRT for *government* use with 42% of all respondents accepting it" (Kostka et al). This decline indicates that the private sector is more trusted than the government. Increasing security at every level in society might bring a plethora of benefits, but there are still concerns. Privacy is important because we are in control of our lives. It's quite certain many don't want to lose their control over their own lives.

In conclusion, these emerging technologies need an immense focus to be regulated. I believe the utilization of facial recognition technology for surveillance should not be permitted. My reason is not solely because of there being more concerns rather than benefits. The benefits are clearly more and quite useful for making our society safer. However, the main reason for my disagreement is found in the loss of control of our lives. Privacy matters in every aspect of society, to give that up it is like giving up the power you hold for yourself. The loss of this power and freedom could lead to a dystopia. Freedom gives us a healthy society, and I believe a free society is one that prospers forever. Small extensions that invade that rule will only bring forth remarkable challenges and perhaps a detriment to society.

Word Count: 2715

Works Cited

Andrejevic, Mark, and Neil Selwyn. "Facial Recognition Technology in Schools: Critical Questions and Concerns." *Learning, Media and Technology*, vol. 45, no. 2, 5 Nov. 2019, pp. 115-28, https://doi.org/10.1080/17439884.2020.1686014.

Kostka, Genia, et al. "Between Security and Convenience: Facial Recognition Technology in the Eyes of Citizens in China, Germany, the United Kingdom, and the United States." *Public Understanding of Science*, 26 Mar. 2021, pp. 1-20. *SAGE Journals Online*, https://doi.org/10.1177/09636625211001555. Accessed 30 May 2021.

Lord, Mary. "Facial Recognition." *Prism Forget Anonymity*, vol. 21, no. 5, 12 Jan. 2012, p. 13. *Prism*, www.asee-prism.org/?s=Forget+Anonymity. Accessed 13 Sept. 2021.

LOUBERE, Nicholas, and Stefan BREHM. "The Global Age of Algorithm:." *Dog Days: Made in China Yearbook 2018*, by Ivan Franceschini et al., ANU Press, 2019, pp. 142-47. *JSTOR*, www.jstor.org/stable/j.ctvfrxqcz.29. Accessed 30 May 2021.

McClellan, Elizabeth. "Facial Recognition Technology: Balancing the Benefits and Concerns Concerns." *Journal of Business and Technology Law*, vol. 15, no. 2, 3 June 2020, pp. 363-80, digitalcommons.law.umaryland.edu/cgi/viewcontent.cgi?article=1322&context=jbtl. Accessed 30 May 2021.

Najibi, Alex. "Racial Discrimination in Face Recognition Technology." *Hardvard University the Graduated School of Arts and Sciences*, Hardvard, 24 Oct. 2020, sitn.hms.harvard.edu/flash/2020/racial-discrimination-in-face-recognition-technology/. Accessed 13 Sept. 2021.