

Testimony of Morgan Klaus Scheuerman, PhD Student in Information Science at University of Colorado Boulder

Position: Support for SB22-113

Senator Chris Hansen and Members of the Business, Labor, & Technology Committee,

Thank you for the opportunity to provide testimony on the bill SB22-113: Artificial Intelligence Facial Recognition.

My name is Morgan Scheuerman and I am a 5th year PhD student at University of Colorado Boulder where I specifically study computer vision's implications for marginalized populations. I have been studying facial recognition since my Master's of Science degree, giving me 7 years of experience in computer vision. I have done research at Google and Microsoft on computer vision technologies. I have published numerous academic journal articles on the potentially dangerous effects for marginalized populations, specifically people of color and queer populations.

Facial recognition has been proven to hold bias against people of color, especially Black women. In my own research, I have also identified a bias against transgender persons. People of color and transgender people are regularly misclassified and misidentified in computer vision technologies. Often a computer vision system might state an accuracy rate that is high, while in reality the system has misclassified. My research has also focused on how the underlying human decisions governing facial recognition technologies shape the outcomes of these technologies; how a demographic group is defined actually shapes the "accuracy" of a system. These systems are never neutral and objective.

Therefore, I am writing in support of SB22-113. Section 1 of the bill proposes a task force; I believe this is necessary and humans should be involved in overseeing all AI initiatives.

Given the propensity for bias in AI, I would recommend a taskforce that takes into account diverse perspective, particularly for marginalized populations, including women, transgender people, people of color, and people with disabilities. Systems should be regularly audited for bias, when they are approved for use.

I want to say that I support Section 4 of the bill, given that facial recognition technology is just as fallible as human beings, but is often less interpretable. Computer vision does not "see" the same way as human beings. Another issue with using facial recognition technology, and all machine learning technologies, is that it has been found to increase confidence in human interpreters, even when the system is incorrect. Similarly, the use of historical data embeds bias into facial recognition; for example, using mugshots would bias systems towards those who have been historically arrested, which is often Black men. In fact, it has been shown in public press that false arrests of Black men have been made based on facial recognition. I support

being able to use facial recognition for instances like missing persons or identifying the deceased, given there is less propensity for harm, like a false arrest.

I would also recommend that Sections 5 and 6 are indefinite, rather than terminal. Facial recognition technology should not be deployed in schools, even in the future, given that issues of transparency, bias, and trust are continuous issues in computer vision and will always involve trade offs.

Thank you for your consideration,  
Morgan Scheuerman

February 23, 2022

To whom it may concern,

I write today in enthusiastic support of Senate Bill 113. As both CTO of a Colorado-based Cybersecurity company and an expert and active researcher in artificial intelligence, human-autonomy teaming, and decision support systems, I believe that the safeguards and processes introduced in this bill are necessary for helping to ensure responsible deployment of artificial intelligence algorithms to be used to aid in high-stakes decision-making. Peer-reviewed research studies have repeatedly shown that even trained experts develop dangerous over-reliance on decision support systems over short timescales, even if trained beforehand on its use. This has been empirically shown in decision support systems operating in domains ranging from autonomous driving to the charge nurse station on the hospital labor and delivery floor, with users ranging from untrained novices to seasoned domain experts.

To opponents of this bill, I write this while recognizing the inconvenience of instituting controls and processes that stand in the way of technology thought to have potential to reduce workload and/or expand capability, especially in the name of public safety. Marketing hype aside, in general terms artificial intelligence and machine learning technology is not mature enough to be deployed in contexts with irreversible potential consequences, including those with medical or legal implications. Facial recognition technology is especially brittle and unreliable amongst machine learning solutions, with well-known problems that are greatly exacerbated when used on non-white faces. Made worse, software, machine learning models, and code libraries that provide a poor level of facial recognition accuracy are widely available on the Internet, leading to a plethora of thinly wrapped industry solutions that are largely indistinguishable from school projects in terms of reliability. Given the state of tooling available, it remains challenging for even researchers and experts to characterize these systems and identify these fundamental problems with them (measuring accuracy properly is non-trivial, and proactively identifying areas of poor performance can be exceedingly difficult), which has led to the founding of organizations like the Algorithmic Justice League that specialize in performing audits of software using artificial intelligence or machine learning. The foundation of a task force to review these prospective uses and deployments will be essential to cutting through marketing hype and empty promises, helping to match stated capability against the state of the art and to provide recommendations that help organizations save money and realize the benefits such systems can offer.

I am happy to make myself available for further discussion at [Bradley.Hayes@colorado.edu](mailto:Bradley.Hayes@colorado.edu) and strongly encourage you to share in my support of this effort.

Sincerely,



Bradley Hayes  
Assistant Professor, Department of Computer Science  
University of Colorado Boulder