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MEMORANDUM FOR SCUSA 72

SUBJECT: Inequality in an Era of Disruptive Technology: Machine Learning and Artificial Intelligence

1. **Issue:**

Stemming from systemic and institutional barriers, the algorithms that machine learning programs currently use in hiring, policing, health care, housing, and other areas covered by civil rights legislation are based on flawed data samples that do not represent the diverse experiences and characteristics of people, which perpetuates existing inequalities and results in further social instability that threatens national security.

2. **Strategic Analysis:**

One of the most striking developments from the information age has been machine learning and artificial intelligence (AI). These technologies can parse through massive amounts of data and develop algorithms for data and pattern analysis. AI is currently being utilized to determine judgement in multiple fields, such as credit rate and loan approval, housing, recidivism likelihood, criminal justice, and facial recognition, just to name a few.

In theory, AI and machine learning were conceptualized to remove human biases in these fields. Practice, however, shows that this is not the case. The algorithms used in hiring, policing, health care, and other areas have been shown to be discriminatory due to flawed training data. For example, one of Amazon's AI hiring programs developed a bias towards men and downgraded women's applications because it was trained on a data set predominantly composed of male staffers. Thus, AI technology has the potential to exacerbate existing prejudices and inequalities.

3. **Relevant National Interests:**

The inequalities perpetuated by disruptive technologies have the real potential to amplify injustice within American society. In law enforcement, these biases have the potential to give harsher sentences to minority groups.¹ The targeting of Black communities and other racial minorities by algorithms used in policing and justice systems will further exacerbate tensions between these populations and law enforcement and infringe upon the rights and wellbeing of BIPOC individuals. These technologies and the systems they enforce make up what Professor Ruha Benjamin refers to as the 'New Jim Code.'² Rising tensions could aggravate existing conflicts around policing and law enforcement, trigger social unrest, and further fragment American society and politics. Additionally, in hiring programs, some algorithms used during the hiring process put people of color, lower-income individuals, and women at a disadvantage. Thus, these programs perpetuate economic inequality by limiting the ability of these populations to find suitable employment. Income and wealth inequality is at an all-time high in the US, and such inequality has historically resulted in social instability and political upheaval.

The use of surveillance technologies and artificial intelligence tracking also stymies free speech, which is a concern for the exercise of free speech and equality. Claire Garvie, a

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researcher at the Center on Privacy and Technology, notes that biometric surveillance “has the ability to chill speech, cause people to alter their behavior in public, leading to self-censorship and inhibition, basically preventing people from participating, or exercising their First Amendment rights.” This view has also been supported by additional studies on state surveillance and the Panopticon.³

4. **Strategic Options:**

There are three broad options that can address and reduce inequality within machine learning and AI, as well as its subsequent applications.

1. Support of the Facial Recognition and Biometric Technology Moratorium Act: This Act, currently in Congress, prohibits funding and use of facial recognition technology and other biometric technologies by federal entities.
2. Regulate and Test Based on Outcome Analysis:
Private and public sectors utilizing machine learning should conduct routine internal cleaning of data, as well as ensuring neutrality of AI systems before deployment. The regular use of external auditing will also allow for more resilient and fair data. Fairer data practices will lead to more diverse labor market outcomes, fairer hiring practices and policing, and improve machine learning overall.
3. Generate Ideal Synthetic Data Sets:
Synthetic data sets are artificially generated, rather than collected from the real-world. These data sets can be used to mitigate sample-selection biases, leading to more equitable outcomes based on ideal, curated data without infringing upon individuals' privacy.⁴
These data sets have the potential to either be generated from the public or private sector, with MIT and MOSTLY AI already sourcing open-source prototypes.⁵

5. **Recommendation:**

The United States should pass the Facial Recognition and Biometric Technology Moratorium, create a standardized regulatory framework that audits and analyzes algorithmic outcomes, and sponsor research into synthetic data set generations. This should be a public and transparent process, drawing from experts in academic, private, and government sectors to ensure open discussion, feasible implementation, and cross-sector buy-in.

6. **Implementation:**

The White House should support Congress' Facial Recognition and Biometric Technology Moratorium legislation. A regulatory commission should be created with inter-agency collaboration with the Department of Labor and the Department of Housing and Urban Development for the creation of standard guidelines on implementing machine learning methods in housing and employment approval. The Executive should also direct for the creation of a synthetic dataset from private companies through a corporate contest.

7. **Point of Contact:**

The point of contact for this memorandum is Cadet Seth Benson at seth.benson@westpoint.edu or 701-936-5103.

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¹ Thomas Macaulay, “Dutch Predictive Policing Tool ‘Designed to Ethnically Profile,’ Study Finds,” Neural | The Next Web, September 30, 2020, <https://thenextweb.com/neural/2020/09/30/dutch-predictive-policing-tool-designed-to-ethnically-profile-study-finds/>; Julia Angwin, “COMPAS Risk Assessment” (ProPublica, 2016), <https://www.documentcloud.org/documents/2702103-Sample-Risk-Assessment-COMPAS-CORE.html>; Surya Mattu et al., “How We Analyzed the COMPAS Recidivism Algorithm” (ProPublica, May 23, 2016), https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm?token=QTATxwUiKriant40ke9P_H4_sdqzEFxq.

² Ruha Benjamin, “A New Jim Code?,” March 30, 2020, <https://cyber.harvard.edu/events/new-jim-code>.

³ Jackson Garvie, “‘Face Recognition Risks Chilling Our Ability to Participate in Free Speech,’” Counterspin, July 2, 2020, <https://fair.org/home/face-recognition-risks-chilling-our-ability-to-participate-in-free-speech/>; Washington College of Law., *Left out in the Cold?: The Chilling of Speech, Association, and the Press in Post-9/11 America : Symposium.*, 1 online resource (pages 1197-1546) vols. (Washington, D.C.: Washington College of Law, American University, 2008), <http://books.google.com/books?id=DZFDAQAAIAAJ>; Elizabeth Stoycheff, “Under Surveillance: Examining Facebook’s Spiral of Silence Effects in the Wake of NSA Internet Monitoring,” *Journalism & Mass Communication Quarterly* 93, no. 2 (2016): 296–311, <https://doi.org/10.1177/1077699016630255>.

⁴ SM Bellion, PK Dutta, and N Reiting, “Privacy and Synthetic Datasets,” *Stanford Technology Law Review*, 2019.

⁵ Pail Tiwald, “Diving Deep Into Fair Synthetic Data Generation (Fairness Series Part 5),” *MOSTLY AI* (blog), May 8, 2020, <https://mostly.ai/blog/diving-deep-into-fair-synthetic-data-generation-fairness-series-part-5/>; Laboratory for Information and Decision Systems, “The Real Promise of Synthetic Data,” MIT News | Massachusetts Institute of Technology, October 16, 2020, <https://news.mit.edu/2020/real-promise-synthetic-data-1016>.