* What are your takeaways from this article? How will these takeaways be helpful to you in data science projects?

* Do you agree that computer algorithms can be discriminatory and reinforce human prejudices? If so, what controls do we need to prevent that? If not, why not?
* In your opinion, what is the role of regulatory bodies and public policies in mitigating this risk?

<https://dataprivacylab.org/projects/onlineads/1071-1.pdf>

<https://www.ftc.gov/system/files/documents/reports/big-data-tool-inclusion-or-exclusion-understanding-issues/160106big-data-rpt.pdf>

<http://www.andrew.cmu.edu/user/danupam/dtd-pets15.pdf>

<https://medium.com/@mrtz/how-big-data-is-unfair-9aa544d739de>

Data can reflect existing prejudice. The training sets of data themselves are biased, so classifying algorithms are produced that incorporate existing bias. For example, even if race is not specifically encoded, proxy features of the data may be present that indicate race.

Minorities are by definition a minority of the general population. Random samples of the general population will always contain a smaller number of minorities. The majority population will always dominate the machine learning model, and the model may not be representative of the minority subsets. Model predictions are more accurate for the majority, and less accurate for minorities.

We need to think about specific subsets in the data. May be model them separately. For example, it may be difficult to classify some features of minority groups based on a larger white population. On the flip side, trying to accommodate groups may make the model overly complicated.

Machine learning algorithm decisions should be regulated like any human making similar decisions. Laws already exist that can be used to regulate algorithms. From “Big Data A Tool for Inclusion or Exclusion?”, Fair Credit Reporting Act (FCRA), Equal Opportunity Laws, and the Federal Trade Commission Act may be used for enforcement.

Under the FRCA, Credit Report Agencies are expected to be as accurate as possible. This is a direct law on “Sample Size Disparity”. Credit reporting agencies must work toward ensuring maximum accuracy in their predictions. They also have to report to consumers anything that adversely effects their rating. There are a number of laws under the umbrella of “Equal Opportunity Laws”. Companies may be punished for acting in ways that negatively impact persons that are apart of these protected groups. The Federal Trade Commission Act (“Section 5”) has a broader impact and can be used for enforcement on discriminatory practices in companies in a broad range of sectors related to commerce.

I agree that computer algorithms can be discriminatory and reinforce human prejudices. What to do about it needs to be balanced with the measure of risk involved. Many practices involving credit and policing have had a greater impact on minorities, so modelers need to be careful and may be have to accept more complicated models. The world is a messy place, and we cannot always fit everyone in the same few boxes.

References:

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