Discussion 1

Bias in AI

From the start, AI was bound to be biased. As one can guess, this is due to the gender make up of the field working on the field in its early development stages and even now, where the field does not have as much diversity compared to other fields of study. This is caused by how models are trained to perform. That is, with datasets leaning to one group are used heavily, while providing little information about a minority group, it is expected that the result for the group of humans, regions, or identification features aligned with small sets of data to produce high errors. In addition to datasets, most commercial AI systems, have been human trained with labels who both knowingly or unconsciously encode end results for the machine to successfully identify. Thus, when the trained model is exposed to data loosely or not labeled at all, it will incorrectly group it towards a particular category. Likewise, the methodology of feature or model training techniques also lead to errors. A good example is seen in speech recognition technology where most of the error is seen in recognizing women's voice, as technology was designed over a period of many decades to identify low-pitched voices of which women's being typically high pitched gets less recognized.

Therefore, since this is a multivariable problem, solutions to address bias whether gender or demographic should be in all fronts. First, whenever a model needs to be trained, we should always make as many datasets available to represent all groups equally, ie. ensure diversity in training samples. Providing enough data for female audio or visual samples, and various cultures of the world is one example. Additionally, when creating labels to train system, ensuring gender and culture to whom the analysis of the program will be extrapolated to should always be considered. Lastly, creating weighted models where errors showing bias are penalized to notify their designers of weak spots in their classifications, are all beginner steps that can be followed to address issue.

As a result, by ensuring diversity is accurately represented in AI we can ensure increased success rate of various models as well as prove that the future of AI will be fair for everyone.

Reference: <https://hbr.org/2019/11/4-ways-to-address-gender-bias-in-ai>