Blog Article Analysis – ISM 6155: Bias in Artificial Intelligence

A huge marketing tactic in the field of retail analytics is the use of artificial intelligence (AI) for product recommendations. These recommendations are paired with your understanding of the customer's tendencies, interests, and lifestyle. If your data science team does a fantastic job with their recommendation system / algorithm, then you have a much higher chance of increasing customers basket sizes. The return on investment of increasing your customers’ basket sizes speaks for itself, providing proof of concept that all those hours your data science team put in week in, and week out were for a worthy cause.

However, with these recommendations comes an inherent risk of affecting customer retention. If your AI model starts to produce recommendations to customers, which they are not at all interested in, or your system over communicates to them, this may anger the customer. We have all been in a situation as a consumer where we are receiving so many communications we must hit unsubscribe or stop using the service altogether. This is also a risk from AI recommendations being inaccurate.

Imagine the data science team deploys a recommendation model and does not consider customers’ genders or race. This could lead to men being offered tampons because it is a product they have never purchased before, but other consumers their age and income have. An African American woman could be recommended certain products related to some southern meals involving chicken and she may end up being a vegetarian. Both kinds of poor recommendations could lead to a horrible user experience and the company could lose the user as a customer for life.

For companies to achieve the ability to give amazing recommendations to their customers, it all starts with diversity in your teams’ minds. Business analytics and data science require so much diversity in thinking to be able to be successful. There are so many customer personas and target customer groups, that it is impossible for one analytics/ data science professional to be able to be able to understand them all. The presence of bias in both the data and in artificial intelligence, will always require diversity in the workforce.

The article mentioned only 12 % of machine learning researchers are women, and less than 5% of the AI workforce is African American. In the field of retail analytics and product recommendations the workforce will have to evolve and change to be more diverse to be able to cater to all customer groups. To fully be able to understand all your customer groups, and make sense of their data, you must have employees that resemble the same backgrounds. Data is useless if you don’t truly understand it, and diversity will help close that gap in understanding.

Source: Designing AI for All: A Primer on Bias in Artificial Intelligence Systems ETH-23