

Recommender System

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DATA643 Discussion 3

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Topic

As more systems and sectors are driven by predictive analytics, there is increasing awareness of the possibility and pitfalls of algorithmic discrimination. In what ways do you think Recommender Systems reinforce human bias? Reflecting on the techniques we have covered, do you think recommender systems reinforce or help to prevent unethical targeting or customer segmentation? Please provide one or more examples to support your arguments.

Discussion

How does a product get discovered by an algorithm (not the users). Yes, how does an algorithm pick that one item out of thousands of items? Recommendation systems have a tendency to recommend only those items that were also bought by other users. So, its biased in not showing those great unique items that the user would have loved to buy. Same with the dating applications. The recommender system narrows the choices down to matching people who are similar in their tastes; those partners who would have been wonderful partners with contrast personalities would not even be in the recommender's radar. News websites like Yahoo or google news recommend articles that are similar or related to what the user had watch before and so they get more and more news in those same or related topics. Its like 'rich getting richer and richer'. The recommender system sure looks biased since its generating bias in people who are reading the news it recommended! The users do not get a breath of perspective in news and they stay in their own world that the recommender created for them.

Google was under scrutiny recently by the Observer to have influenced the election results of 2016 because of its autocomplete recommendation in their search engine. For example, if someone typed 'climate change is...', it would bring up words like 'a hoax', 'is not real'. Data scientists may not intentionally create a biased recommender system, but the algorithms have a mind of their own. They pick that one item out of 1000s of items and how can bias be controlled there? These are unintended consequences and one of the ways to avoid this situation is to introduce an element of serendipity into the algorithms. Introduce an element of surprise by offering an item they weren't expecting to see. The recommender system has to be open to other sources of discovery in its algorithm.

References:

(<https://www.theguardian.com/technology/2016/dec/16/google-autocomplete-rightwing-bias-algorithm-political-propaganda>
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<http://knowledge.wharton.upenn.edu/article/recommended-for-you-how-well-does-personalized-marketing-work/>