



Towards using responsible artificial intelligence in product recommender systems in marketing

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TOWARDS USING RESPONSIBLE ARTIFICIAL INTELLIGENCE IN PRODUCT RECOMMENDER SYSTEMS IN MARKETING

Abstract :

Most of product recommender systems in marketing are based on artificial intelligence algorithms using machine learning or deep learning techniques. One of the current challenges for companies is to avoid negative effects of these product recommender systems on customers (or prospects), such as unfairness, bias, discrimination, opacity, encapsulated opinion in the implemented recommender systems algorithms. This research focuses on the fairness challenge. We first make a literature review on the importance and challenges of using ethical algorithms. Second, we define the fairness concept and present the reasons why it is important for companies to address this issue in marketing. Third, we present the different methodologies used in recommender systems algorithms. Using a dataset in the entertainment industry, we measure the algorithm fairness for each methodology and compare the results. Finally, we improve the existing methods by proposing a new product recommender system aiming at increasing fairness versus previous methods, without compromising the recommendation systems performance.

Keywords: *recommender systems, algorithms, responsibility, ethics*

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