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Abstracts

Fairer Decisions with Machine Learning: Lessons from Political Philosophy

Author: Reuben Binns[1]

Machine learning allows us to predict and classify phenomena, by training models using labelled data from the real world. When consequential decisions are made about individuals on the basis of the outputs of such models, concerns about fairness inevitably arise. What if the model's outputs result in decisions that are unfairly biased against people with certain protected characteristics like race, gender or religion? If there are underlying patterns of discrimination in the real world, such biases will likely be picked up in the learning process. This could result in certain groups being unfairly denied loans, insurance, or employment opportunities. Cognizant of this problem, a burgeoning research paradigm of 'discrimination-aware data mining' and 'fair machine learning' has emerged, which attempts to detect and mitigate unfairness.

[1] Department of Computer Science, University of Oxford