

Portfolio assignment 2 Sami Nmer

Sami Nmer

s.nmer@student.han.nl

I looked into the case of Breeze, a Dutch dating app that uses an algorithm to match people. Some users noticed they weren't getting diverse matches, especially people with non-Dutch backgrounds. Breeze found out their algorithm might be giving fewer matches to these users, not on purpose, but because of how the system learns from user behavior.

First impression

What I Think About the Ethical Side?

I think the main issue here is unfair treatment. It's not direct discrimination, but it still affects people negatively. The algorithm seems to give less attention to non-Dutch users, probably because there are fewer of them in the app's data. I don't think Breeze should be responsible for fixing society's biases. But I do believe they should make sure their algorithm is fair and doesn't make things worse.

It looks like Breeze didn't test their algorithm for fairness. That's a problem. If you're using AI to match people, you need to check if it treats everyone equally. I think it was smart and ethical of Breeze to ask the Human Rights Institute for advice. It shows they care about doing the right thing, not just avoiding legal trouble.

What I Think Caused the Problem?

People often like others who look like them or share the same background. That kind of behavior can lead to bias when an algorithm learns from it. Breeze only gives a few matches per day and doesn't have a chat function. That setup might make it harder for underrepresented users to get noticed. Algorithms can easily pick up bias from the data they're trained on. If the training data isn't diverse, the results won't be either. I think this issue shows a bigger problem in how dating apps are built. They often don't think about fairness until someone complains. If no one had spoken up, Breeze probably wouldn't have noticed. That's why transparency and feedback are so important.

Directed acyclic graph

A DAG stands for Directed Acyclic Graph, a mathematical structure that represents a network of nodes and edges that do not form closed loops or cycles. (directed acyclic graph, n.d.)

DAG 1: Current Algorithmic Flow: Outcome → Discriminatory

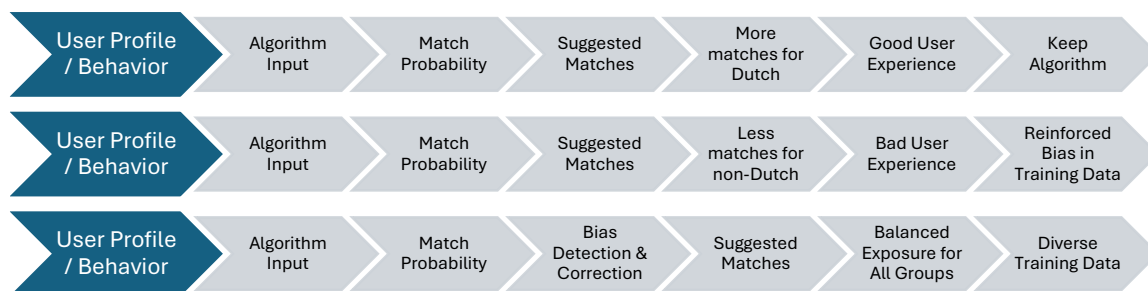
The algorithm uses user profile data and like behavior to calculate match probabilities. Due to societal biases, majority users receive more matches. This leads to good user experience among majority users, which further skews the training data. The cycle reinforces itself, amplifying discrimination.

DAG 2: Current Algorithmic Flow: outcome → discriminatory

The algorithm uses user profile data and like behavior to calculate match probabilities. Due to societal biases, minority users receive fewer matches. This leads to bad user experience among minority users, which further skews the training data. The cycle reinforces itself, amplifying discrimination.

DAG3: Ethical Algorithmic Flow: Outcome → Fair

The algorithm still uses profile and behavior data, but includes a bias detection and correction layer. This ensures minority users are not unfairly penalized. Balanced exposure leads to better retention and more diverse data, breaking the discriminatory cycle.



First Impression vs DGA

The three DAGs highlight feedback loops, user group differences, and technical fixes that weren't fully explored in the initial first impression. While my reflection focused on ethics and responsibility, the DAGs added system level insights like data retention, bias reinforcement, and fairness mechanisms making the analysis more complete and showing how ethical design can improve long term outcomes.

Advice

My advice that I would give to a data scientist is:

- Start by checking for bias in the data and algorithm.
- Don't assume that your model is fair.
- Test your model for fairness over and over again.
- Understand user impact, especially for underrepresented groups.
- Collaborate with legal and ethical experts.