

# Bias against women in recruitment algorithms

*Surveying the literature in the search for a solution*



## Background

The usage of algorithms in a human resources (HR) context is becoming increasingly common. Usage of algorithms in this field can save time and money, while minimizing risk and increasing productivity. There is however a big downside to using these algorithms and that is the possibility of discrimination or unfairness. This research brings together existing literature on mitigating bias against women in the recruitment process.

## Research questions

- What problems arise from the usage of recruiting algorithms?
- What kind of bias is exhibited against women in algorithms?
- What kind of fairness metrics exist in the literature to assess bias in algorithms and what are the methods to mitigate bias?
- What fairness methods could be applied to recruiting algorithms to achieve a higher degree of fairness for women?

## Method

- Critical literature review
- Combining existing literature and forming conclusions

## Problems

Social media platforms allow sensitive features to be selected in ad campaigns



Showing advertisements to women is more expensive



Bias in past hiring decisions plays a role in the algorithms' decisions

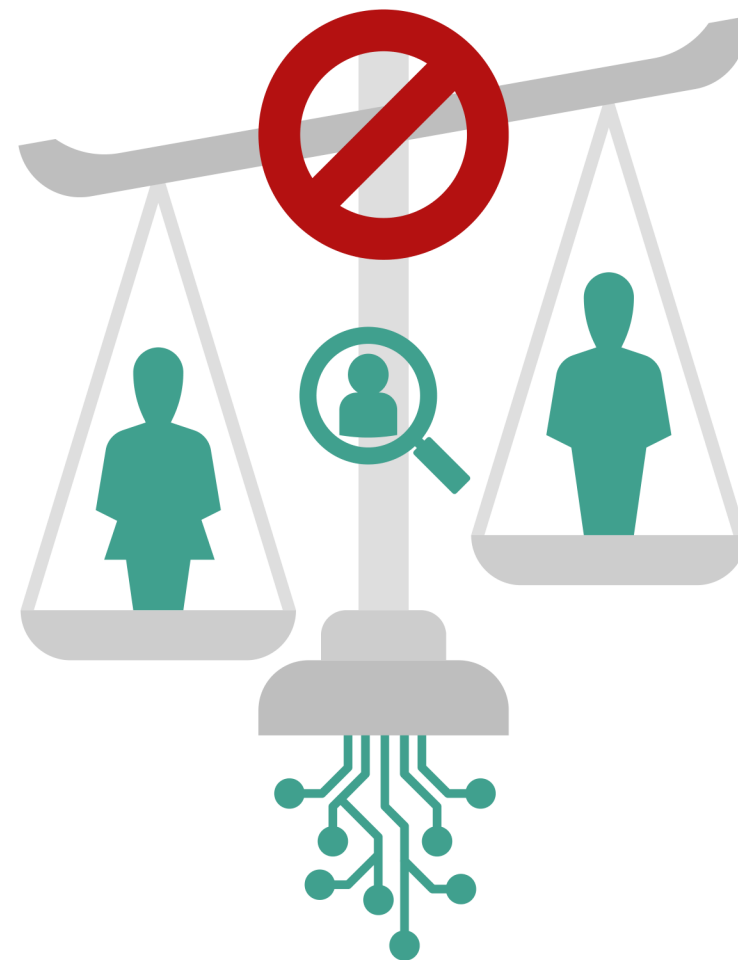


Lack of transparency in algorithmic hiring decisions



## Research question

*How can bias against women in recruiting algorithms be mitigated using a combination of fairness methods?*



Cases:

## Bias in algorithms

- There are different types and causes of bias
- Bias in society is often reflected in data
- Incorrect application of algorithms can also lead to bias

## Fairness in algorithms

- Fairness can be defined in numerous ways, there is no consensus on what constitutes fairness.
- Mitigation strategies can be divided into technical solutions and social solutions. Combinations can be used as both classes have their limitations.
- Critiques of the current fairness literature mostly focus on the dominant view of fairness as a mathematical formulation. It is argued that the social context is not taken into account.
- No silver bullet to bias in algorithms.

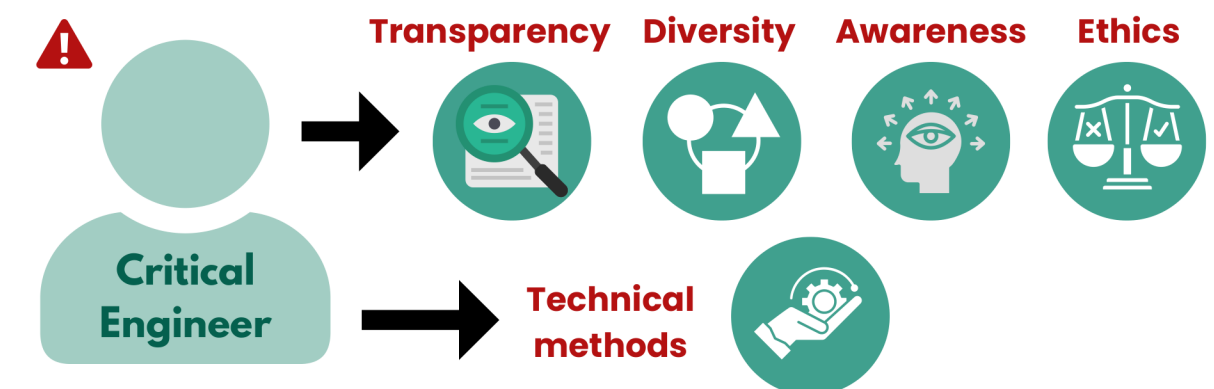
## Application of findings

### Ideal solution:

The ideal solution to bias against women in algorithmic recruitment is refraining from using an algorithm. There is often a failure to recognise this solution. However, as cost is a driving factor and these algorithms have already been widely adopted, there is still a need to assess other solutions.

### Practical solution:

To ensure fairness it is vital that a critical engineer continually assesses the algorithm and proposes changes if necessary.



## Key takeaways

- Spreading awareness is vital
- Responsible application of algorithms is key to fairness