



lacks community involvement

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This applies when technology is being produced without input from the community it is supposed to serve.



reinforces existing bias

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Reinforces unfair treatment of individuals and groups. This may be due to for example input data, algorithm or software design choices, or society at large.



difficult to understand

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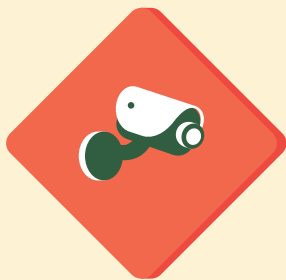
There is a danger that the technology is difficult to understand. This could be because it is hard to interpret (e.g. neural nets), it is not documented or problems with its implementation cannot be spotted.



high environmental impact

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This hazard is appropriate where methodologies are energy-hungry, data-hungry (requiring more and more computation), or require special hardware that require rare materials.



risk to privacy

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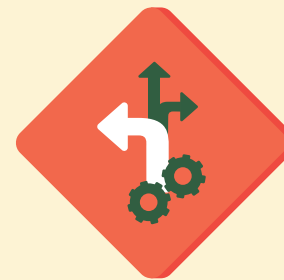
This technology may risk the privacy of individuals whose data is processed by it.



lacks informed consent

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Datasets or algorithms that use data which has not been provided with the explicit consent of the data owner/creator. This data often lacks other contextual information which can also make it difficult to understand how the dataset may be biased.



automates decision making

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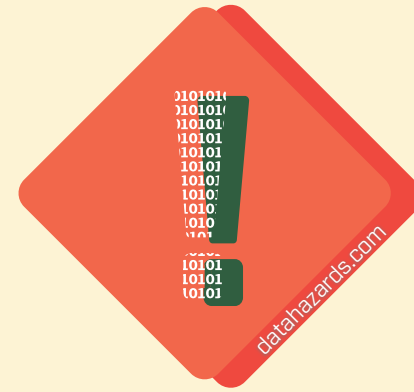
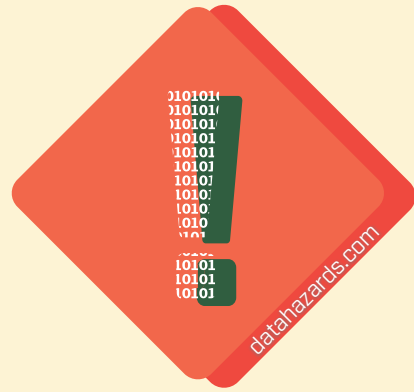
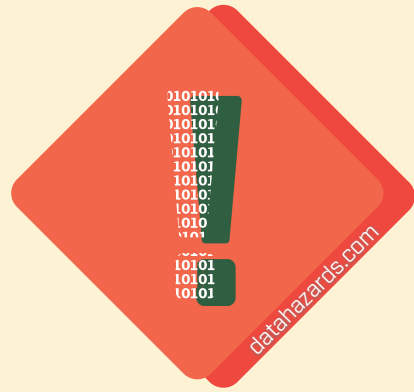
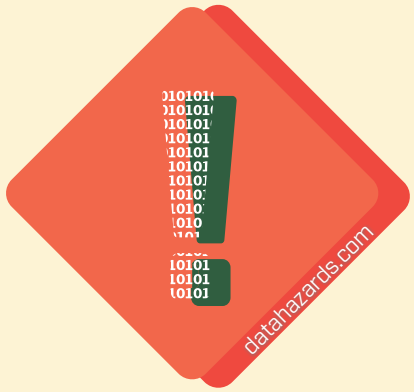
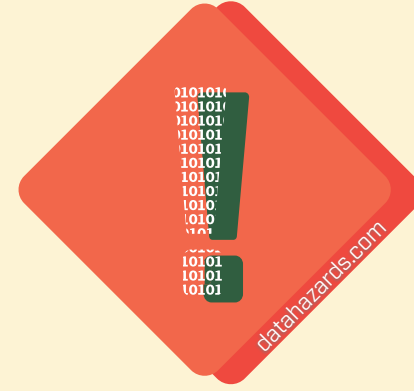
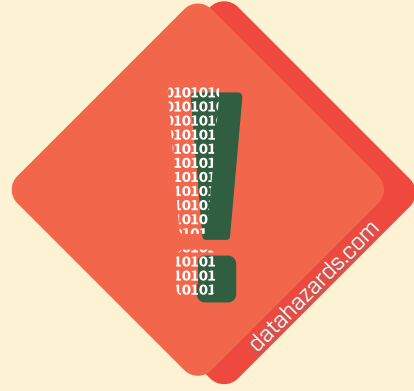
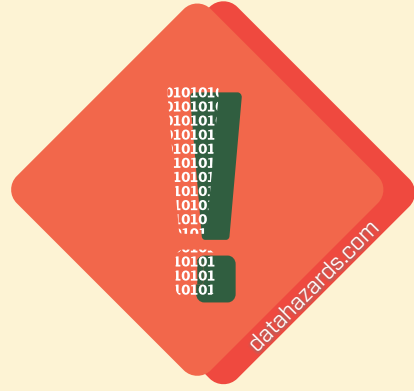
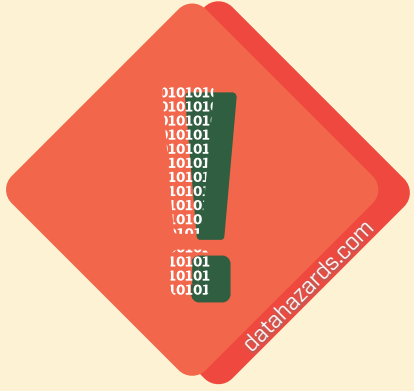
Automated decision making can be hazardous in different ways depending on the application. We should ask ourselves whose decisions are being automated, what automation can bring to the process, and who benefits or is harmed by this automation.



capable of direct harm

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The application area of this technology means that it is capable of causing direct physical or psychological harm to someone even if used correctly.





### danger of misuse

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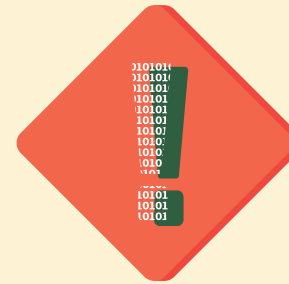
There is a danger of misusing the algorithm, technology, or data collected as part of this work.



### classifies and ranks people

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Ranking and classifications of people should be handled with care.  
We should ask what happens when the ranking/classification is inaccurate, when people disagree with how they are ranked/classified, as well as who it serves and how it could be gamed.



### general data hazard

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Data Science is being used in this output, and any negative outcome of using this work are not the fault of “the algorithm” or “the software”.

This hazard applies to all Data Science research outputs.

