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Case-1

1. Evaluate the sustainability impacts of deploying the AI system. Consider both positive contributions and negative impacts.

The sustainability impact of deploying such an AI system has both positive and negative implications for the economy and society as a whole. In this case scenario, the AI system that Amazon deployed to mechanize highly intensive human resources (HR) work is not sustainable. The bias of the AI model does not comply with the company's motto of ensuring diversity and equality in the workforce. Though the motive for deploying the AI model was to reduce the heavy workflow of the HR department and make recruitment smoother, the flaw in the model's prediction raises questions about the sustainability of the whole system.

Firstly, regarding the negative sustainability impacts, these types of models are trained on historical data that may lack gender equality. Thus, they show bias when giving predictions. Using these models in a workplace as big as Amazon may not ensure the authenticity of the hiring process. These models may perform worse than humans by excluding women from the workplace. Additionally, rejecting skilled women who could have delivered better work impacts the company's long-term progress. It also impacts society. Women may feel demotivated applying to big companies if they see the percentage of women working there is already low. Moreover, these models can be trained to follow gender inequality patterns, and identifying these flaws of these AI models is not easy.

However, there are positive contributions to consider. These models are intended to make lives easier, not just in corporate settings but in sectors like health, medicine, and judicial work. If used correctly, these models could actually eradicate the bias that humans show. Using them could help women get the jobs they deserve based purely on merit. From a company's perspective, these models can identify the efficient workers they need while removing human error. This has the potential to boost the company's economic growth while promising gender equality.

2. Analyze the ethical challenges of the AI solution. In the response, you may discuss issues such as bias in predictions, transparency regarding the model, and accountability if the system's errors cause harm to communities.

The ethical challenges of these types of AI solutions are complex. These types of models are now seen everywhere where the companies tell us that these are being used to streamline workflows and make lives easier. These models are now deployed in sectors both small and large following the recent AI boom. However, the underlying truth about how these models work may or may not be transparent to us. While the intention of managing the intense workflow is positive, the practical implications may not be as transparent to the general public as it needs to be. The people working behind these can claim that these models benefit the mass audience but their motives could potentially involve political manipulation, cultural differentiation or maybe worse.

As seen in the Amazon case, the biasness of the model shows that the purity and quality of the data matters a lot when it comes to predicting outcomes that are so sensitive. This issue is complicated because these models are trained on datasets that have past male dominance. In an effort to identify successful candidates, the AI unintentionally adopts gender bias, penalizing terms such as "women's chess club captain" simply because they do not match the male-dominated patterns of the past.

Additionally, the fact that the training data of these models are rarely shown to the mass public questions the authenticity and fairness of the prediction of these AI models. Furthermore, these models do not ensure a guaranteed solution. While predicting it may not always choose the answer that it is supposed to, in that case how does the company compensate for the harm it may have caused to the society or the individuals. For example, unfairly rejecting women due to flaws in training shows that these models are prone to errors when using general datasets that reflect the gender bias of male-dominated societies. In conclusion, these are the questions that need to be answered clearly before these models are deployed in the real world scenarios.

3. Examine the societal and legal implications of deploying such an AI system. In addition, responsibilities of the engineers and organizations to ensure safety, fairness, and compliance with regulatory frameworks across different jurisdictions.

In this world of advanced technology where the world is constantly evolving and using these models to enhance their workflow against their competitors, the societal and legal implications of deploying these AI systems need to be transparent and consistent. Although these AI models offer significant benefits, they are created and controlled by organizations and humans. Consequently, developers and corporations have a direct impact on the predictions these models make.

Organizations may prioritize their own benefits over the good of society, potentially causing harm. Therefore, legal implications must be clear. Regulatory frameworks should be enforced to control these models and reduce problems like the one seen in the Amazon case, where the model showed gender discrimination despite no explicit mention of gender. This discrimination hinders societal growth because women are denied an equal playing field to demonstrate their potential, which slows down global advancement. Whenever errors occur, the individuals involved must be held accountable.

Regarding societal implications, society is evolving and adapting to these AI models. However, the engineers and organizations developing them must remain responsible. They should prioritize the broader good of society, maintaining fairness and transparency so that affected individuals understand the terms beforehand. Big tech companies must also respect the norms, beliefs, and regulatory frameworks of every jurisdiction they operate in.

In conclusion, while AI offers efficiency, it cannot come at the cost of fairness. Strict legal boundaries and ethical engineering are required to ensure these tools serve humanity rather than dividing it.

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