Mains Practice Question

Artificial intelligence (AI) is a branch of Computer Science that enables the computer system to analyze data and situation and make a decision as a human do. It learns from experience, uses learning to reason, recognizes images, solves complex problems, understands languages and creates perspective, etc. It is seen as a foundation of the Industrial Revolution 4.0. Many companies have already started to use AI to do some of the work.

But such applications raise troubling ethical issues because AI systems can reinforce what they have learned from real-world data, even amplifying familiar risks, such as racial or gender bias. Examples abound. In 2014, Amazon developed a recruiting tool for identifying software engineers it might want to hire; the system swiftly began discriminating against women, and the company abandoned it in 2017. In 2016, ProPublica analyzed a commercially developed system that predicts the likelihood that criminals will re-offend, created to help judges make better sentencing decisions, and found that it was biased against blacks.

a. Identify the ethical issues involved in the use of AI.
b. By what means, we can inculcate ethical and moral values in an AI-based system?
c. Is it too soon for the world to adopt the AI?

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Approach

- Briefly highlight how AI is affecting human lives in introduction.
- List out ethical issues/challenges/dilemmas associated with AI based systems.
- Highlight some principles and approach for their application in making AI systems more ethical and moral, thus reducing negative effects as highlighted in (a).
- List out benefits of AI systems and their role in tackling present challenges to humans.
- In conclusion, be optimistic with adoption of AI systems and need for tackling negative consequences.

Introduction

Optimizing logistics, detecting fraud, composing art, conducting research, providing translations and many more, AI based systems are transforming human lives to a great extent resulting in efficiency, productivity, better management and overall growth of the economy.

Body

a) But such disruptive systems also present ethical challenges to human based systems:

- Too many disruptive changes based on AI could throw many out of employable jobs, for example, self-driven cars not requiring drivers. This could exaggerate the **unemployment scenario,** especially in developing countries like India. Here, the **ethical dilemma is of transformation of systems** in ways causing minimal harm to livelihoods.
- **Ethical issue of exclusion:** Specific skill requirements, digital literacy and other factors needed for exploiting AI based systems could create wealth inequality, for example not many have skill

needed for working with such a system. Certain pioneer organisations, sections of society would reap dividends more than rest.

- **Devoid of ethical principle:** AI based systems can at best mimic human decisions but can't make them. Many qualities like empathy could not be algorithmically designed. This makes such systems insensitive to delicate situations like in self driven cars AI will choose to let its passengers get hurt or run over other people if these two are only options.
- **Issue of social inequality:** AI based systems can too induce biases in their functioning, as illustrated in the case: gender and racial. This could create inequality at a social level.
- **Maintaining responsibility and accountability:** Responsibility, Accountability, Rights and other legal facets remain elusive in such systems, for example, who is responsible for segregating blacks in the above mentioned case.
- Other ethical issues: Weaponization or utilising AI based systems at cost of others for one's advantage, technological singularity, rogue systems like malware threatening integrity of the systems.

b) Following principles and steps could bring about more ethical and moral usage of AI based systems:

- **Active Inclusion:** the development and design of machine learning applications must actively seek a diversity of input, especially of the norms and values of specific populations affected by the output of AI systems.
- **Fairness:** People involved in conceptualizing, developing, and implementing AI systems should consider which definition of fairness best applies to their context and application, and prioritize it.
- **Right to Understanding:** Involvement of AI systems in decision-making that affects individual rights must be disclosed, and the systems must be able to provide an explanation of their decision-making that is understandable to end users and reviewable by a competent human authority. Where this is impossible and rights are at stake, leaders in the design, deployment, and regulation of AI technology must question whether or not it should be used
- **Access to Redress:** Leaders, designers, and developers of AI systems are responsible for identifying the potential negative human rights impacts of their systems. They must make visible avenues for redress for those affected by disparate impacts, and establish processes for the timely redress of any discriminatory outputs.
- **Reliability:** Systems should be tested for robustness, integrity, security to avoid being hacked or compromised.

Some approaches to fulfill these principles can be:

- Formalize principles through charters, organisation's code of conducts et.
- Regular training in ethical interface of the AI systems, academic curriculum imbibing such like medical ethics.
- Cultivate growth in AI field: workforce, educating masses of their usages and impact on their lives, skill development in newer ecosystems etc.
- Mechanism for ensuring implementation of such principles like Ethics Oversight Committee at organisational, administrative, legislative and judicial level.
- Inculcating the principles of ethics within the society at large.

c) Adoption of AI based systems will help tether many challenges to human society by ushering in 4th Industrial Revolution just like the Agricultural and Industrial Revolution did in the past.

- **Reduce human errors:** Calculation with preciseness is the need of hour for making present systems more efficient and reliable like weather forecasting, climate modelling which will bring in better decision making towards resource exploitation, especially in wake rising global warming.
- **Reducing Human Risks:** AI based robots can minimize fatalities like in case of nuclear meltdown, diffusing bombs, exploration in deep oceans or in outer space.
- **Opens up newer and more opportunities:** Taking the task of doing boring and repetitive works like automation in manufacturing will propel the economy to create more space in service based, knowledge economy.
- **Better servicing, governance:** Models akin to those used by tech companies like Google for its customers, if used in providing social services could help tackle many challenges like subsidy transfer, identifying wasteful expenditure in public works etc.

- **Overcoming other challenges:** traffic management, cyber security, better logistics etc.

Conclusion

Minimizing the negative consequences would be more prudent rather than remain elusive towards adoption such technologies.

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