



QUESTION ANSWER ETHICAL FRAMEWORKS OF AI



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Summary of the Chapter

- ✓ AI has great benefits but also risks, so ethics are important.
- ✓ An **ethical framework** ensures AI follows moral rules like fairness and privacy.
- ✓ **Fairness.** AI must not discriminate against any group.
- ✓ **Data Laws.** AI must follow data privacy rules.
- ✓ **Transparency.** AI should openly explain data it collects and why.
- ✓ **Health & Care.** AI must protect health and patient data.
- ✓ **Value Alignment.** AI should follow ethical human values.
- ✓ **No Misuse.** AI tools must not create harmful content like fake news or deepfakes.
- ✓ **Governance.** Ethics boards and audits ensure AI is safe and trustworthy.
- ✓ People are more likely to trust AI if systems are fair, secure, and accountable.
- ✓ Companies need rules to make sure AI systems are safe, secure, and accountable.

Question with Answer

Q1. What is a framework, and why is it important?

Ans. A framework is a structured plan that helps solve complex problems by providing clear rules and steps. It ensures that actions align with goals and values, guiding decision-making in various fields, including AI.

2. How does a framework help in AI development?

Ans. That AI is designed ethically, preventing harm and ensuring that AI benefits people while aligning with societal values.

3. What is an ethical framework in AI?

Ans. An ethical framework in AI integrates moral principles to address concerns like fairness, privacy, accountability, and transparency. It ensures that AI systems respect human rights and societal values.

4. Why is fairness important in AI ethics?

Ans. Fairness ensures AI does not discriminate against any group. For example, if an AI job-screening system favors male candidates due to biased data, an ethical framework would help correct this bias and ensure equal opportunity.

5. What is Transparency in AI ethics?

Ans. Transparency means AI should clearly explain how it collects and uses data. For example, an AI app requesting access to photos should explain why.

6. How does AI ethical framework protect privacy?

Ans. Privacy ensures that AI does not misuse or leak sensitive data. For instance, a healthcare AI must protect patients' medical records.

7. What is value alignment in AI ethics?

Ans. Value alignment ensures that AI follows human values and ethical guidelines. For example, an AI chatbot should not share harmful content. It should provide accurate and helpful information.

8. What is no misuse, as used in the ethical framework context?

Ans. AI can be misused to create harmful content, like deepfake videos that damage reputations. Ethical frameworks help prevent such misuse by setting strict rules regarding AI development and usage.

9. Why should AI follow data laws?

Ans. AI must comply with legal regulations on data usage and sharing. For example, in some countries, personal data cannot be shared without permission. Violating these laws can lead to legal issues.

10. How do assessment tools play a role in AI ethics?

Ans. For instance, a bank may use a checklist to ensure its AI loan-approval system does not discriminate against minorities.

11. What are governance mechanisms in AI ethics?

Ans. Governance mechanisms, such as regulatory boards, oversee AI ethics compliance. For example, a healthcare organization may establish an ethics board to review AI models used for patient diagnoses.

12. How do ethical frameworks build public trust in AI?

Ans. Ethical frameworks ensure AI operates fairly and aligns with societal values, building trust. For example, a recommendation AI must be unbiased in treatment recommendations, reassuring doctors and patients of its reliability.

Assertion & Reasoning Questions

Directions

In the following questions, a statement of assertion (A) is followed by a statement of reason (R).

Mark the correct choice as:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true but R is not the correct explanation of A.
- (c) A is true but R is false (or partly true).
- (d) A is false (or partly true) but R is true.
- (e) Both A and R are false or not fully true.

1. **Assertion (A):** AI systems can produce biased outcomes.

Reason (R): AI systems learn from training data, which may contain historical biases.

Ans – (a)

2. **Assertion (A):** Transparency in AI systems is not necessary for user trust.

Reason (R): Users are more likely to trust systems when they understand how decisions are made.

Ans – (d)

3. **Assertion (A):** Ethical frameworks make important role of AI systems in industries.

Reason (R): Healthcare AI systems handle sensitive patient data and other critical decisions.

Ans – (a)

4. **Assertion (A):** Governance mechanisms are optional part of ethical AI frameworks.

Reason (R): Governance mechanisms are used to ensure ethical development and use of AI.

Ans – (d)

5. **Assertion (A):** Transparency increases trust in AI systems.

Reason (R): Transparency helps users understand AI decisions, which increases trust.

Ans – (d)

1. AI can produce outcomes from biased data, leading to unfair outcomes. Ethical frameworks are needed to:
 - avoid unfair discrimination
 - ensure fair representation by giving all individuals **access to the benefits of AI**
 - promote transparency so that AI decisions are **understandable** by users and stakeholders
 - protect privacy, ensure ethical use of personal and sensitive data
 - build **trust in AI systems**
 - help developers and global organizations to protect human rights and societal values
 - build public confidence that AI aligns with **our values**
 - create a system that uses human benefit as a major AI technology goal
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True/False Questions

1. An ethical framework includes principles, guidelines, assessment tools, and governance mechanisms. **True**
 2. Fairness in AI ensures that decisions do not favour or disadvantage any group unfairly. **True**
 3. Biased Training data can lead to discriminatory outcomes in AI Systems. **True**
 4. Transparency is not important for building public trust in AI systems . **False**
 5. Governance mechanisms help oversee ethical AI development and implementation. **True**
 6. Regular monitoring of AI Systems can improve their fairness and ethical compliance. **True**
 7. Governance mechanisms are only useful after an AI system causes harm. **False**
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Competency Based Questions

1. A bank uses AI to evaluate loan applications. Some customers claim their applications were unfairly rejected.
(i) Which principle best likely ethical concern in this scenario?

(a) **Fairness**
(b) Transparency and explainability
(c) Data privacy
(d) Governance mechanisms

(ii) How might the bank address this fairness issue?

(a) Use assessment tools like checklists or impact analysis

(b) Use value alignment

(c) Use governance bodies

(d) Use tracking over complexity

2. An AI job screening tool often favours male candidates over female candidates due to biased training data.

(i) Which principle has been violated in this scenario?

(a) Accountability

(b) No Misuse

(c) Fairness

(d) Transparency

(ii) What should the company do to fix the issue?

(a) Collect new balanced training data

(b) Conduct a fairness audit

(c) Retrain AI system

(d) Increase automation