

AI Literacy and Ethics Discussion Questions

Instructions for Faculty Using the AI Literacy and Ethics Discussion Questions

Purpose: These discussion questions are designed to supplement CTEI's AI literacy module, focusing specifically on the ethical implications of generative AI in the field of healthcare. They serve as a resource to foster in-depth discussions and critical thinking among students about the evolving role of AI in health sciences.

Questions adapted from Leon Furze's *Teaching AI Ethics Series*. <https://leonfurze.com/ai-ethics/>

How to Use These Questions in Your Course:

- **Integration with AI Literacy Module:** These questions complement the AI literacy module by CTEI. Use them to deepen students' understanding of the ethical uses and implications of generative AI in a healthcare context.
- **Level-Based Organization:** The questions are organized into three levels, each with a unique icon for improved accessibility:
 -  Beginner: Indicated by a seedling icon
 -  Intermediate: Indicated by a magnifying glass icon
 -  Advanced: Indicated by a brain icon
- **Flexibility in Use:** Adapt these questions to align with your specific course content and objectives. They can be used in various formats such as in-class discussions, online forums, or written assignments.
- **Encouraging Critical Engagement:** Prompt students to critically engage with the material, bringing in their own research, insights, and perspectives.
- **Diverse Perspectives:** Encourage students to consider multiple viewpoints and the broader implications of AI in healthcare, including ethical, social, and practical aspects.

Suggestions for Implementation:

- **Group Discussions:** Utilize these questions in small group discussions to encourage peer-to-peer learning and diverse viewpoints.
- **Reflective Writing:** Assign questions as prompts for reflective essays or journal entries, allowing students to explore the topics in depth.

- **Research Projects:** Use these questions as starting points for more extensive research projects or presentations, encouraging students to delve deeper into specific aspects of AI in healthcare.

Customization:

- **Course-Specific Adaptation:** Modify the questions to better suit the specific themes and learning outcomes of your course.
- **Interdisciplinary Approach:** Consider integrating perspectives from other disciplines such as ethics, technology, and public health to enrich the discussion.

Discussion Questions

Beginner Discussion Questions

Academic Integrity and "Truth"

- **Authorship and Intellectual Property:**  How might the use of AI tools like ChatGPT in academic settings challenge traditional notions of authorship and intellectual property? Discuss the implications for academic integrity and the potential strategies to manage these challenges.
- **Value of Research:**  If AI can generate academic papers or research articles, what then is the value of health science students writing these themselves? Discuss how the process of writing essays and papers contributes to building knowledge, critical thinking, and understanding in health sciences, beyond merely demonstrating knowledge.
- **Ethical and Moral Implications:**  What are the ethical and moral implications of academic integrity in health sciences, especially in the context of using AI for academic work?

Bias

- **Algorithmic Bias:**  Given that AI models can reflect and perpetuate societal biases, how might these biases impact healthcare delivery and medical research? Consider examples where biased AI could lead to unequal treatment or misdiagnosis in health sciences.
- **Bias and Systemic Oppression:**  How have historical biases and systemic oppression of certain groups affected medical research and healthcare practices? Discuss the implications of these historical gaps and biases in the available medical literature and data, and how this influences AI algorithms used in healthcare.

Environmental Impact

- **Explore the environmental costs of developing and maintaining large AI models.** 🌱 How should the health science community balance the benefits of AI advancements with their ecological footprint? Discuss the role of sustainability in AI development.
- **Climate Crisis and Global Health Disparities:** 🌡️ How does the climate crisis, exacerbated by energy-intensive AI technologies, disproportionately affect global health outcomes in different populations? What is the role of the healthcare industry, including the use of AI, in contributing to global emissions and climate change?
- **Energy Consumption and AI Usage:** ⚡ Why is the computing power required for AI, including healthcare AI applications, associated with high energy use and waste heat production? Discuss the environmental impact of these AI technologies and their indirect implications on public health and the environment.

🔍 Intermediate Discussion Questions

Copyright and Intellectual Property ©

- **Legal and Regulatory Aspects:** 📜 What are the potential legal implications of using AI in health sciences, particularly regarding data privacy, copyright, and liability?

Privacy and Security 🔒

- **Data Privacy and Ethics:** 🛡️ Examine the ethical dilemmas surrounding the use of personal and sensitive data in training AI models. How should the health sciences address the privacy concerns of patients and research subjects in the context of AI data collection and usage?
- **Health Education:** 🧠 What are the privacy concerns surrounding personal health data and its use in AI-powered healthcare technologies?
- **Legal Implications and AI:** ⚖️ What are the potential legal implications of using AI in health sciences, particularly regarding data privacy, copyright, and liability? How should laws and regulations evolve to keep pace with AI advancements?

Data Collection and "Datafication" 📊

- **"Datafication" is the process of turning every aspect of our lives into data.** 🖥️ "Datafication: Data is the new oil, both in the sense of being fuel, and in that it is costly and damaging to extract. Users become products, and user data becomes capital. Big Data doesn't include marginalized groups, and therefore doesn't truly represent society" (Furze, 2023).
- **What is the historical context of data collection in healthcare, and how has the datafication of health information impacted different communities?** 🏥 Discuss the evolution of health data collection and its implications on various population groups, particularly in terms of access to healthcare and health outcomes.
- **How can health science professionals design and develop ethical practices for data collection and ensure data privacy in AI systems used in healthcare?** 🛡️

Consider the unique challenges of handling sensitive health data and the responsibilities of healthcare providers in using AI technologies.

- **Analyze recent media reports on datafication in the context of healthcare.** 📰
Discuss its implications on patient privacy, data protection, and the trust relationship between healthcare providers and patients. How should health science professionals critically assess and respond to these concerns, especially in an era where AI is increasingly used for patient data analysis?

🧠 Advanced Discussion Questions

Affect Recognition 😐

- **"Affect recognition means interpreting a person's emotions through their facial expressions, body language, speech patterns and actions. It's a controversial practice that has been widely criticized for poor research methodologies and inconsistent results."** (Furze, 2023)
- **Understanding Affect Recognition:** 🧠 What is affect recognition, and how is it applied in healthcare settings? Discuss the potential benefits and drawbacks of using affect recognition technologies in patient care and mental health assessments.
- **Ethical Implications:** ⚖️ Given the controversies surrounding the accuracy and reliability of affect recognition technology, what are the ethical implications of using such technology in healthcare, particularly in patient diagnosis and treatment planning?
- **Privacy and Surveillance Concerns:** 🕵️ How do privacy and surveillance concerns associated with affect recognition technology impact patient rights and confidentiality in healthcare settings? Discuss the balance between technological advancement and patient privacy rights.
- **Bias and Discrimination:** 🙋 How can bias in affect recognition algorithms affect patient care, especially for diverse populations? Discuss the consequences of potential racial, gender, or cultural biases in these technologies and how they might impact health outcomes.
- **Datafication of Emotions:** ❤️ What are the implications of "datafying" emotions in healthcare? Explore the ethical considerations of reducing complex human emotions to data points, especially in mental health and therapeutic contexts.
- **Regulatory and Legal Aspects:** 📜 What regulatory and legal considerations should be addressed when implementing affect recognition technologies in health sciences? Discuss the potential need for guidelines or policies to govern the use of such technology in healthcare.

References:

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