COVER PAGE AND DECLARATION

	Master of Science in Innovative Education & Teaching (M.S.IET.)
Module Code & Module Title:	EDUC520: Curriculum & Instruction Planning & Development
Students' Full Name:	Reena Jacqueline Mysore
Word Count:	4620
Date of Submission:	26/12/2023

I confirm that this assignment is my own work, is not copied from any other person's work (published/unpublished), and has not been previously submitted for assessment elsewhere.

E-SIGNATURE: Reena Jacqueline Mysore

DATE: 26/12/2023

Table of Contents

Mini-Curriculum Creation

European International University

EDUC520: Curriculum & Instruction Planning & Development

Mini-Curriculum Document on Ethical Decision-Making in Artificial Intelligence (AI) and Machine Learning (ML)

Preliminaries

Philosophy of Education

The philosophy of education is a specialized branch of philosophy that seeks to explore and understand the fundamental nature and aims of education. It involves a critical examination of the underlying principles, values, and assumptions that shape educational practices.

The philosophy of education for "Ethical Decision-Making in Artificial Intelligence (AI) and Machine Learning (ML)" involves integrating ethical considerations and critical thinking skills into the educational process. This philosophy emphasizes the importance of cultivating a deep understanding of the ethical implications associated with AI and ML technologies, and it seeks to equip learners with the knowledge and skills necessary for responsible development and deployment of these technologies.

This philosophy of education is designed to cater to a broad and inclusive audience, recognizing the interdisciplinary nature of ethical considerations in AI and ML. It seeks to engage learners at various stages of their educational and professional journeys, promoting a collective understanding and commitment to ethical decision-making in the rapidly evolving field of artificial intelligence.

Description of Target Audience

The targeted audience for the philosophy of education on "Ethical Decision-Making in Artificial Intelligence (AI) and Machine Learning (ML)" encompasses a diverse group of learners with an interest or involvement in technology, ethics, and the societal impact of artificial intelligence. This audience includes:

Higher Education Students: Undergraduate and graduate students studying fields related to computer science, artificial intelligence, machine learning, ethics, philosophy, and interdisciplinary studies.

Individuals pursuing degrees in engineering, data science, computer ethics, information technology, and related disciplines.

Educators and Instructors: Teachers, professors, and instructors involved in teaching courses related to AI, ML, ethics, technology, or interdisciplinary studies.

Professional development providers aiming to equip educators with the knowledge and tools to integrate ethical considerations into their curriculum.

Professionals in the Tech Industry: Professionals working in the technology sector, including software developers, data scientists, engineers, and project managers.

Individuals involved in AI and ML research, development, and deployment seeking to enhance their understanding of ethical dimensions in their work.

Policy Makers and Regulators: Individuals involved in policy-making, regulation, and governance related to technology, AI, and data privacy.

Government officials and policymakers interested in understanding the ethical implications of AI and ML for creating informed regulations.

Researchers and Academics: Scholars and researchers in the fields of artificial intelligence, machine learning, ethics, philosophy, and social sciences.

Academics contributing to the discourse on the ethical aspects of emerging technologies.

Lifelong Learners: Individuals with a general interest in AI, ML, and ethics, regardless of their formal educational background. Lifelong learners seeking to stay informed about technological advancements and their ethical implications.

Goals

The goals for integrating "Ethical Decision-Making in Artificial Intelligence (AI) and Machine Learning (ML)" into a curriculum are designed to shape a comprehensive educational experience. These goals aim to equip students with the knowledge, skills, and ethical foundations necessary for navigating the ethical complexities of AI and ML technologies.

Here are specific goals for such a curriculum:

1. **Develop Ethical Awareness:** Foster a heightened awareness of the ethical implications and challenges associated with the development and deployment of AI and ML technologies.
2. **Introduce Ethical Frameworks and Principles:** Provide a foundational understanding of established ethical frameworks and principles relevant to AI and ML.

3. **Encourage Critical Thinking and Ethical Decision-Making:** Cultivate critical thinking skills and the ability to make informed ethical decisions in the context of AI and ML development.
4. **Explore Interdisciplinary Perspectives:** Promote an interdisciplinary understanding of AI and ML within broader societal, cultural, and ethical contexts.
5. **Facilitate Practical Application of Ethical Principles:** Enable students to apply ethical principles to real-world AI and ML scenarios and projects.
6. **Cultivate Effective Communication of Ethical Considerations:** Develop the ability to articulate and communicate ethical considerations effectively.

Learning Outcomes

Upon reaching the end of the program, the student will have the capacity to demonstrate all or most of the following outcomes:

a. Students can recognize and critically analyze ethical considerations related to data privacy, bias, accountability, transparency, and societal impact in AI and ML contexts.
b. Be familiar with ethical principles such as fairness, accountability, transparency, and inclusivity and understand how these principles apply to real-world scenarios in AI and ML.
c. Analyze and evaluate ethical dilemmas, propose ethical solutions, and navigate decision-making processes in the ethical development and deployment of AI and ML technologies.
d. Through case studies, projects, and simulations, students can practically apply ethical principles and demonstrate their understanding in ethical decision-making contexts.

e. Express their ethical viewpoints on AI and ML issues in a clear and coherent manner, fostering effective communication within the field.
f. Work collaboratively on projects, engaging in ethical discussions and decision-making processes as part of a team.
g. Reflect on their own ethical stances, recognize the potential biases, and continuously assess and refine their ethical perspectives.

Subject Matter / Content

The subject matter or content for this curriculum will cover a range of topics that provide students with a comprehensive understanding of the ethical considerations in the development and deployment of AI and ML technologies. Each module in the s curriculum serves a specific purpose and contributes to the overall objectives of the curriculum.

Module 1: Introduction to AI and ML Ethics

- Overview of AI and ML technologies
- Historical development and evolution
- Applications and impact across various domains
- The need for ethical considerations in AI and ML

Module 2: Foundations of Ethical Theories and Principles

- Exploration of foundational ethical theories (e.g., deontology, consequentialism, virtue ethics)
- Application of ethical principles to AI and **ML**

Module 3: Ethical Challenges in AI and ML

- Examination of key ethical challenges:
- Transparency
- Accountability
- Privacy
- Case studies illustrating real-world ethical dilemmas

Module 4: Interdisciplinary Perspectives

- Integration of philosophical, social, and cultural perspectives on AI and ML ethics
- Consideration of how ethical considerations intersect with technology, law, and social sciences

Module 5: Ethics in the AI Development Lifecycle

- Ethical issues at different stages of AI development:
- Data collection
- Model training
- Strategies for incorporating ethical considerations at each phase

Module 6: Legal and Regulatory Landscape

- Overview of existing and emerging regulations related to AI and ML
- Examination of legal frameworks and guidelines for ethical AI practices

Module 7: Case Studies and Ethical Dilemmas

- In-depth analysis of real-world case studies highlighting ethical challenges
- Presentation and discussion of ethical dilemmas for student analysis

Module 8: Ethical Decision-Making Models

- Introduction to ethical decision-making models applicable to AI and ML
- Practical application of ethical decision-making frameworks in hypothetical scenarios

Module 9: Responsible AI Development Practices

- Best practices for integrating ethical considerations into AI development
- Collaboration and communication strategies for fostering responsible AI practices

Module 10: Global and Societal Impact

- Exploration of the global impact of AI and ML technologies on different societies
- Consideration of cultural and ethical dimensions in the adoption of AI and ML on a global scale

Module 11: Collaborative Projects and Case-Based Learning

- Group projects involving the application of ethical principles to practical AI and ML scenarios
- Collaborative problem-solving activities and case-based learning

Module 12: Reflection and Ethical Self-Awareness

- Opportunities for students to reflect on their own ethical values and biases
- Exercises to enhance self-awareness regarding the impact of personal decisions in AI and ML contexts

Scope, Sequence, Integration

The scope and sequence section is designed in accordance with Bloom's Taxonomy

Module	Bloom's Taxonomy	**Objectives**
	Remember:	Recall fundamental concepts of AI and ML. Recognize key historical developments.

Module 1: Introduction to AI and ML Ethics	Understand:	Explain the evolution of AI and ML. Summarize applications and impacts across domains.
	Apply:	Apply basic AI and ML terminology. Demonstrate the need for ethical considerations.
	Analyze:	Analyze historical events shaping AI development. Assess ethical implications of applications.
Module 2: Foundations of Ethical Theories and Principles	Remember:	Recall major ethical theories.
	Understand:	Explain application of ethical theories to AI and ML. Summarize key ethical principles.
	Apply:	Apply theories to analyze AI scenarios. Utilize principles to evaluate impact on stakeholders.
	Analyze:	Analyze ethical dimensions of complex AI cases. Identify conflicts between ethical principles.
	Evaluate:	Evaluate strengths and weaknesses of applying theories. Formulate ethical stances on AI development.
	Create:	Develop ethical guidelines based on chosen framework. Create a hypothetical ethical code of conduct.
Module 3: Ethical Challenges in AI and ML	Remember:	Recall specific ethical challenges (bias, transparency, accountability, privacy).
	Understand:	Explain implications of bias in AI algorithms. Summarize privacy considerations.
	Apply:	Apply principles to address bias. Propose strategies for transparency.
	Analyze:	Analyze challenges in AI decision-making. Assess consequences of privacy violations.

	Evaluate:	Evaluate implications of AI surveillance. Critique AI technologies' impact on marginalized communities.
	Create:	Create guidelines for ethical data collection. Propose modifications to address ethical concerns.
Module 4: Interdisciplinary Perspectives	Remember:	Recall integration of philosophical, social, and cultural perspectives on AI ethics.
	Understand:	Explain how ethical considerations intersect with technology, law, and social sciences.
	Apply:	Apply interdisciplinary perspectives to analyze AI challenges. Relate ethics to cultural contexts.
	Analyze:	Analyze intersection of ethics with technology. Assess impact of legal frameworks.
	Evaluate:	Evaluate role of cultural diversity in AI. Formulate opinions on global responsibilities.
Module 5: Ethics in the AI Development Lifecycle	Remember:	Recall ethical issues at different stages (data collection, model training, deployment).
	Understand:	Explain importance of ethical considerations at each AI development phase.
	Apply:	Apply strategies for ethical data collection. Propose guidelines for model training.
	Analyze:	Analyze potential ethical challenges in model deployment. Assess impact of biased training data.
	Evaluate:	Evaluate effectiveness of ethical strategies in data collection and training. Formulate opinions on organizational responsibilities.
	Create:	Create comprehensive ethical framework for AI development. Develop hypothetical AI project plan with ethical considerations.
Module 6:	Remember:	Recall existing and emerging AI regulations.

Legal and Regulatory Landscape	Understand:	Explain legal frameworks governing AI ethics.
	Apply:	Apply legal and regulatory knowledge to assess AI projects. Propose strategies for legal and ethical alignment.
	Analyze:	Analyze potential legal consequences of unethical AI practices. Assess impact of emerging regulations.
	Evaluate:	Evaluate effectiveness of current legal frameworks. Formulate opinions on additional regulations.
	Create:	Create guide for AI developers on legal and ethical compliance. Develop hypothetical AI project proposal with legal and ethical considerations.
Module 7: **Case Studies and Ethical Dilemmas**	Remember:	Recall in-depth analysis of real-world case studies.
	Understand:	Explain ethical dilemmas presented in case studies. Summarize various perspectives.
	Apply:	Apply ethical principles to analyze case dilemmas. Engage in discussions to present viewpoints.
	Analyze:	Analyze ethical dimensions of complex case studies. Assess impact of different decisions on stakeholders.
	Evaluate:	Evaluate outcomes of ethical decision-making in resolving dilemmas. Formulate opinions on alternative ethical approaches.
	Create:	Create comprehensive case study on ethical considerations. Develop and present hypothetical ethical dilemma scenario.
	Remember:	Recall introduction to ethical decision-making models.
	Understand:	Explain principles and frameworks of ethical decision-making in AI.
	Apply:	Apply models to hypothetical scenarios. Utilize frameworks for AI project decisions.

Module 8: Ethical Decision-Making Models	Analyze:	Analyze strengths and weaknesses of different models. Assess appropriateness in various AI contexts.
	Evaluate:	Evaluate effectiveness of decision-making in addressing AI challenges. Formulate opinions on adaptability to emerging technologies.
	Create:	Create guidebook on ethical decision-making. Develop hypothetical AI project plan with decision-making frameworks.
Module 9: Responsible AI Development Practices	Remember:	Recall best practices for integrating ethical considerations into AI development.
	Understand:	Explain importance of collaboration and communication in fostering responsible AI practices.
	Apply:	Apply collaborative strategies for integrating ethical considerations. Propose communication methods for ethical awareness.
	Analyze:	Analyze impact of responsible AI practices on development. Assess role of collaboration in ethical challenges.
Module 10: Collaborative Projects and Case-	Remember:	Recall exploration of global impact of AI on societies.
	Understand:	Explain cultural and ethical dimensions in global AI adoption.
	Apply:	Apply cultural considerations to assess AI impact on societies. Propose strategies for ethical AI in global context.
	Analyze:	Analyze ethical implications on different cultural perspectives. Assess challenges in implementing

Based Learning		global ethical standards.
	Evaluate:	Evaluate effectiveness of ethical strategies in global societal impacts. Formulate opinions on developer responsibilities.
	Create:	Create global impact assessment framework. Develop collaborative project addressing cultural and ethical considerations in global AI.
Module 11: Collaborative Projects and Case-Based Learning	Remember:	Recall group projects applying ethical principles to AI scenarios.
	Understand:	Explain importance of collaborative problem-solving. Summarize ethical principles in case-based learning.
	Apply:	Apply ethical principles to solve AI challenges within a group. Collaboratively engage in problem-solving activities.
	Analyze:	Analyze ethical dimensions of collaborative projects. Assess effectiveness of teamwork in ethical challenges.
	Evaluate:	Evaluate outcomes of group projects in ethical decision-making. Formulate opinions on collaboration in ethical awareness.
	Create:	Create collaborative project proposal on a specific AI challenge. Develop and present case study with ethical dilemmas for group analysis.
Module 12:	Remember:	Recall opportunities for students to reflect on their ethical values and biases.
	Understand:	Explain exercises designed to enhance self-awareness in AI contexts.
	Apply:	Apply reflective practices to recognize personal ethical values. Engage in exercises for self-awareness in ethical decision-making.

Reflection and Ethical Self-Awareness	Analyze:	Analyze impact of personal values on ethical perspectives in AI. Assess importance of self-awareness in addressing ethical challenges.
	Evaluate:	Evaluate effectiveness of reflection and self-awareness exercises.
	Create:	Create reflective journal on personal ethical growth in AI..

Implementation

Identification of Constraints

Implementing a curriculum on Ethical Decision-Making in AI and ML requires careful consideration of potential constraints. Anticipating challenges and having strategies in place to address them is essential for successful implementation.

1. Limited Practical Experience:

a. Implementation Strategy: Integrate hands-on projects and real-world case studies to provide practical experience in ethical decision-making in AI and ML.
b. Identification Measures: Monitor students' ability to apply ethical principles in practical scenarios. Use feedback sessions and assessments to identify areas where practical experience is lacking.

2. Rapid Technological Changes:

a. Implementation Strategy: Establish mechanisms for continuous updates to keep the curriculum aligned with the latest developments in AI and ML technologies.
b. Identification Measures: Regularly assess the relevance of content in relation to technological advancements. Encourage educators to stay informed and adapt their teaching methods accordingly.

3. Diverse Ethical Perspectives:

a. Implementation Strategy: Foster an inclusive learning environment that encourages the exploration of diverse ethical perspectives on AI and ML.
b. Identification Measures: Monitor classroom discussions and assignments for the representation of various ethical viewpoints. Encourage students to express diverse perspectives.

4. Ethical Dilemmas in Case Studies:

a. Implementation Strategy: Develop case studies that present nuanced ethical dilemmas and require critical thinking for resolution.
b. Identification Measures: Evaluate student responses to case studies. Identify areas where students may struggle with ethical analysis and decision-making.

5 Ethical Decision-Making Models Complexity:

a. Implementation Strategy: Break down complex ethical decision-making models into digestible components. Provide step-by-step guidance.
b. Identification Measures: Assess students' understanding of ethical decision-making models through assignments and discussions. Identify areas of confusion or difficulty.

Overall Implementation Guidelines:

Foster a collaborative learning environment where students feel comfortable discussing and challenging ethical concepts.

Implement regular assessments and feedback mechanisms to gauge the effectiveness of the curriculum and identify areas for improvement.

By addressing these considerations in the implementation phase, the curriculum aims to create a robust framework for ethical decision-making in AI and ML education while remaining adaptable to evolving challenges.

Action Plan to Minimize Them

Constraint	Solutions
Limited Practical Experience:	• Introduce hands-on projects and simulations to provide practical experience. • Collaborate with industry experts for real-world insights and case studies. • Establish partnerships with companies for internships or practical training.
Rapid Technological Changes:	• Create a dedicated team for continuous curriculum updates. • Implement a regular review process to ensure alignment with technological advancements. • Encourage educators to participate in professional development programs focused on emerging technologies.
Diverse Ethical Perspectives:	• Facilitate open and inclusive class discussions on diverse ethical viewpoints. • Invite guest speakers representing various perspectives in AI and ML ethics. • Incorporate literature and case studies that showcase a range of ethical considerations.

Accessibility to Resources:	• Ensure all necessary resources are readily available, possibly through online platforms. • Establish a resource-sharing network among educational institutions.
Ethical Dilemmas in Case Studies:	• Develop case studies with varying levels of complexity to challenge students. • Conduct regular workshops to enhance students' analytical and decision-making skills.
Adaptability to Emerging Ethical Issues:	• Establish a task force dedicated to monitoring emerging ethical issues in AI and ML. • Conduct regular workshops and webinars on emerging topics. • Encourage students and educators to participate in forums and discussions on contemporary ethical challenges.

Overall Implementation Guidelines:

Develop a robust communication plan to keep educators, students, and stakeholders informed about updates and changes.

Establish a feedback loop for continuous improvement, allowing stakeholders to voice concerns and suggest enhancements.

Provide ongoing support and training for educators to ensure effective implementation.

By implementing this action plan, the curriculum aims to minimize constraints, enhance the learning experience, and ensure that educators and students are well-equipped to navigate the dynamic landscape of ethical decision-making in AI and ML.

Learning Experience (resources, activities, instructional strategies)

Creating an engaging and effective learning experience for Ethical Decision-Making in AI and ML involves a combination of theoretical understanding, practical application, and critical reflection. The following is a detailed outline of the learning experience:

Module 1: Introduction to AI and ML Ethics

- Learning Activities: Lecture and Discussions: Overview of AI and ML technologies, historical milestones, and ethical implications.
- Case Studies: Analyze historical cases to identify ethical considerations.
- Guest Speaker Session: Invite an expert to share real-world insights on AI and ML ethics.

Module 2: Foundations of Ethical Theories and Principles

- Learning Activities: Theoretical Frameworks: Lectures on deontology, consequentialism, and virtue ethics.
- Application Exercises: Apply ethical theories to hypothetical AI scenarios.
- Group Discussions: Collaborative analysis of ethical principles in AI development.

Module 3: Ethical Challenges in AI and ML

- Learning Activities: Interactive Workshops: Hands-on sessions addressing bias in AI algorithms and ensuring transparency.
- Case Studies: Analyze real-world ethical dilemmas in AI and ML.

- Debates: Engage in debates on the ethical implications of AI surveillance.

Module 4: Interdisciplinary Perspectives

- Learning Activities: Guest Lectures: Experts from legal, social, and cultural fields share their perspectives.
- Collaborative Projects: Develop interdisciplinary case studies highlighting ethical considerations.
- Panel Discussions: Explore the intersection of ethics with technology, law, and social sciences.

Module 5: Ethics in the AI Development Lifecycle

- Learning Activities: Role-Playing: Simulate scenarios involving ethical decision-making at each phase.
- Ethical Framework Development: Students create comprehensive ethical guidelines for AI development.
- Guest Speaker Series: Industry professionals share experiences in implementing ethical considerations.

Module 6: Legal and Regulatory Landscape

- Learning Activities: Legal Case Studies: Analyze legal consequences of unethical AI practices.
- Mock Regulatory Compliance Exercise: Simulate scenarios to navigate legal and ethical considerations.
- Regulatory Guest Speaker: Invite a legal expert to discuss ethical AI regulations.

Module 7: Case Studies and Ethical Dilemmas

- Learning Activities: Case Study Analysis: Individual and group analysis of complex ethical dilemmas.
- Role-Playing: Act out ethical decision-making scenarios.
- Debriefing Sessions: Reflect on lessons learned from case studies.

Module 8: Ethical Decision-Making Models

- Learning Activities: Model Application: Apply ethical decision-making frameworks to hypothetical scenarios.
- Practical Exercises: Develop a guidebook on ethical decision-making in AI.
- Peer Review: Provide and receive feedback on the application of decision-making models.

Module 9: Responsible AI Development Practices

- Learning Activities: Collaborative Projects: Develop AI project plans emphasizing responsible practices.
- Role of Collaboration: Analyze the impact of collaboration on ethical challenges.
- Communication Strategies: Develop effective communication strategies for fostering responsible AI practices.

Module 10: Global and Societal Impact

- Learning Activities: Global Impact Assessment: Create a framework to assess the global impact of AI.
- Collaborative Project: Develop a project addressing cultural and ethical considerations in global AI.

Module 11: Collaborative Projects and Case-Based Learning

- Learning Activities: Group Projects: Apply ethical principles to real-world AI challenges.
- Case-Based Learning: Analyze and discuss ethical dilemmas in AI through case studies.
- Presentations: Share findings and ethical considerations from collaborative projects.

Module 12: Reflection and Ethical Self-Awareness

- Learning Activities: Reflective Journaling: Document personal ethical growth in AI.
- Peer Discussions: Share reflections with peers to gain diverse perspectives.

Assessment:

- Formative Assessments: Regular quizzes, discussions, and case study analyses.
- Summative Assessments: Final projects, presentations, and comprehensive examinations.
- Peer and Self-Assessment: Encourage students to assess their own work and provide constructive feedback to peers.

Feedback Mechanisms:

Regular feedback sessions for educators and students to identify areas of improvement.

Continuous refinement of the curriculum based on feedback and emerging trends.

Overall, the learning experience is designed to be dynamic, interactive, and adaptable, fostering a deep understanding of ethical decision-making in the ever-evolving landscape of AI and ML

Evaluation

Student Performance Assessment

Assessing student progress is crucial to determining the efficiency of a curriculum. Effective assessment in the context of Ethical Decision-Making in AI and ML should be comprehensive,

reflective of real-world scenarios, and designed to evaluate a range of skills, including critical thinking, ethical reasoning, and practical application.

Formative Assessments:

Formative assessments are designed to gauge ongoing student progress and engagement throughout the Ethical Decision-Making in AI and ML course. Class participation serves as an early indicator of students' ability to articulate ethical viewpoints and actively contribute to discussions and debates. Case study analyses provide a platform for applying ethical principles to real-world scenarios, evaluating their aptitude in identifying dilemmas and proposing solutions. Peer reviews of ethical decision-making models promote collaboration and the development of critical thinking skills, with students assessing and providing constructive feedback to their peers.

Feedback Mechanisms:

Peer and self-reflection sessions encourage students to assess their own ethical development and offer constructive feedback to their peers. Anonymous feedback surveys at the end of the course collect insights on the effectiveness of the curriculum, teaching methods, and assessments, aiding in continuous refinement.

Rubrics and Criteria:

Each assessment tool comes with clearly defined rubrics and criteria, outlining expectations for evaluation. Criteria encompass clarity of thought, depth of ethical analysis, incorporation of diverse perspectives, and effective communication. These rubrics serve as guiding frameworks for fair and consistent assessment.

Teacher Performance Assessment

Evaluating teacher performance is crucial for maintaining educational standards and ensuring the effectiveness of the Ethical Decision-Making in Artificial Intelligence (AI) and Machine Learning (ML) course. The assessment plan incorporates various measures to comprehensively evaluate the teacher's performance.

Classroom Observations:

Regular classroom observations provide direct insight into the teacher's instructional methods, engagement strategies, and the overall learning environment. Key aspects include:

- Interaction with Students: Assess how the teacher engages students in discussions, encourages participation, and responds to questions.
- Use of Technology: Evaluate the integration of technology tools to enhance the learning experience.

Curriculum Development and Innovation:

Assessing the teacher's involvement in curriculum development and innovation is crucial for ensuring the relevance and dynamism of the course. Key aspects include:

- Curriculum Relevance: Evaluate the alignment of instructional materials with current ethical issues in AI and ML.
- Innovative Teaching Strategies: Assess the incorporation of innovative teaching methods and technologies.

Assessment Design and Grading:

The quality of assessments and grading practices significantly influences the learning experience. Key aspects include:

- Assessment Clarity: Assess the clarity and fairness of assessment instructions and expectations.
- Alignment with Learning Objectives: Evaluate how well assessments align with the course's learning objectives.

Professional Development:

Continuous professional development is essential for staying current in the rapidly evolving field of AI and ML ethics. Key aspects include:

- Attendance at Workshops and Conferences: Evaluate the teacher's participation in relevant workshops and conferences.

Student Engagement and Support:

Creating an inclusive and supportive learning environment is crucial. Key aspects include:

- Accessibility: Assess the availability and approachability of the teacher for student queries and concerns.
- Promotion of Inclusivity: Evaluate efforts to create an inclusive environment that accommodates diverse perspectives.

Peer and Student Feedback:

Gathering feedback from both peers and students provides valuable insights into the teacher's performance. Key aspects include:

- Peer Evaluations: Collect input from colleagues regarding collaboration and contributions to the overall educational environment.
- Student Feedback: Solicit anonymous feedback from students regarding teaching methods, clarity of communication, and overall satisfaction.

Overall Professionalism:

Evaluate the teacher's overall professionalism, including punctuality, organization, and adherence to ethical standards.

Feedback and Improvement Plan:

After the assessment, provide constructive feedback to the teacher, emphasizing strengths and suggesting areas for improvement. Collaboratively develop a plan for professional development and growth.

The teacher performance assessment plan aims to ensure that educators effectively deliver the Ethical Decision-Making in AI and ML course, fostering an engaging and enriching learning experience for students. Continuous feedback and improvement strategies contribute to the ongoing enhancement of teaching quality.

Summative Evaluation

Summative assessments are comprehensive evaluations that measure overall understanding and proficiency in ethical decision-making in AI and ML. An ethical analysis paper requires students to delve deeply into ethical challenges, demonstrating critical analysis and the integration of interdisciplinary perspectives. Final project presentations assess the application of ethical principles to practical scenarios, evaluating clarity, depth, and the ability to respond to questions effectively. Scenario-based simulations present students with real-world ethical dilemmas, evaluating their decision-making skills, ethical reasoning, and adaptability. The development of an ethical code for an AI project assesses the creation of comprehensive guidelines, considering the relevance to various AI development stages and incorporating diverse perspectives.

Case studies, projects, and assessments align with real-world scenarios, ensuring practical applicability. The overall summative evaluation indicates that the Ethical Decision-Making in AI and ML curriculum has been successful in achieving its intended goals. The feedback obtained will be instrumental in refining the curriculum, ensuring its ongoing relevance, and preparing students for the ethical complexities of the rapidly advancing technological landscape.

Need for Revision ?

The decision to revise the program should be based on a thorough analysis of stakeholder feedback, emerging ethical challenges in AI and ML, advancements in technology, and the ongoing alignment with learning objectives. If the assessment reveals areas for improvement or outdated content, a revision may be necessary to ensure the program remains relevant, effective, and responsive to the evolving landscape of AI and ML. Regular reviews contribute to the program's continued success in preparing students for ethical decision-making in these dynamic fields.

References

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Ieee Access*, *8*, 75264-75278.

https://ieeexplore.ieee.org/abstract/document/9069875/

Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., ... & Koedinger, K. R. (2021). Ethics of AI in education: Towards a community-wide framework. *International Journal of Artificial Intelligence in Education*, 1-23.

https://www.mdpi.com/2227-7102/12/8/569

Webb, M. E., Fluck, A., Magenheim, J., Malyn-Smith, J., Waters, J., Deschênes, M., & Zagami, J. (2021). Machine learning for human learners: opportunities, issues, tensions and threats. *Educational Technology Research and Development*, *69*, 2109-2130.

https://link.springer.com/article/10.1007/s11423-020-09858-2

Dignum, V. (2020). AI is multidisciplinary. *AI Matters*, *5*(4), 18-21.

https://dl.acm.org/doi/abs/10.1145/3375637.3375644

Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). Artificial intelligence in education: Challenges and opportunities for sustainable development.

http://repositorio.minedu.gob.pe/handle/20.500.12799/6533

Lepri, B., Oliver, N., & Pentland, A. (2021). Ethical machines: The human-centric use of artificial intelligence. *IScience*, *24*(3).

https://www.cell.com/iscience/pdf/S2589-0042(21)00217-0.pdf

Frauendorf, J. L., & Almeida de Souza, É. (2022). Artificial Intelligence (AI) and Machine Learning (ML). In *The Architectural and Technological Revolution of 5G* (pp. 195-204). Cham: Springer International Publishing.

https://link.springer.com/chapter/10.1007/978-3-031-10650-7_14