

Cultivating Ethical AI Literacy

A Multidisciplinary Approach for Undergraduate
Education

Dr. Diane Uwacu
Mount Holyoke College

About Me



- ❖ Assistant Professor of Computer Science at Mount Holyoke College
- ❖ Director: Robotics, Simulations and Education Lab (RoSE Lab)
 - Research: Motion Planning Algorithms
- ❖ Relevant Courses:
 - Seminar: Smart Machines, Tough Choices
 - Robotics Planning Algorithms
 - Intro to Comp. Problem Solving

Why Talk about AI Ethics

- ❖ Surge in overreliance on AI
- ❖ Duty to inform students on ethics of AI
 - Future users of AI products
 - Future designers of AI systems
- ❖ From machine learning algorithms to complex robotic systems
- ❖ The concept should not be isolated to one department



The Opportunity - AI @ SLAC

- ❖ Philosophical ethics vs/and engineering design
- ❖ Collaborative space for ethical design
- ❖ The “should” informs the “how”
- ❖ For example: autonomous vehicles

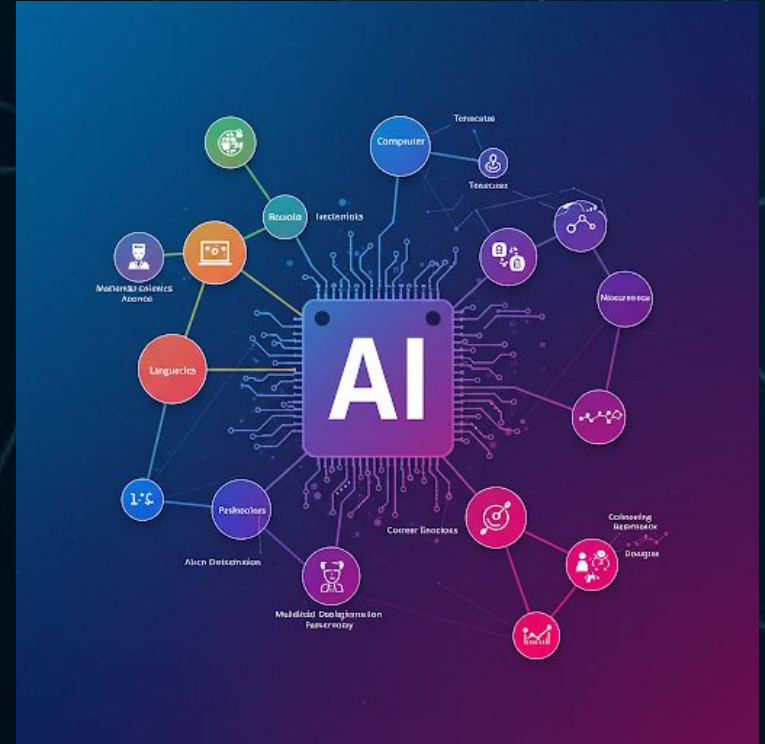


Image by Gemini

The Challenge - Curriculum Design

- ❖ Learning goals: need input from every discipline
 - Theoretical: principles of responsible AI
 - Applied: multidisciplinary of AI
 - Operational: what is computationally achievable
- ❖ Target audience: different backgrounds call for different teaching methods



Covering the Basics

- ❖ Strategy #1: conveying a compelling argument for an ethical use of AI
- ❖ Definitions, algorithm descriptions, example applications, etc
- ❖ Equip students with the ability to analyze the use of AI in their respective fields



Grounding Theory in Practice

- ❖ Strategy #2: a hands-on experience
- ❖ Weekly reflection: How did you encounter AI today, and how did that go?
- ❖ Elevating multidisciplinary voices in the classroom
- ❖ Reports range from GPT prompts to research papers on AI algorithms

Key Takeaways

- ❖ AI ethics: critical component of undergraduate education across all disciplines
- ❖ A multidisciplinary approach: comprehensive understanding
- ❖ Collaborative teaching: enhance student engagement and outcomes
- ❖ Practical applications and reflections: grounding ethical theory