

# Human-Centered AI

## Course Description

In this course, students will learn how to build AI systems that align with human behavior, values, and societal expectations. They will explore human-centered design principles for AI and learn how to prioritize ethical considerations and human needs in their engineering work.

## Skills

### Human-Centered Design

- Identify the key principles of human-centered design.
- Explain the main components of human-centered design.
- Identify the areas of AI development that are improved by human-centered design.
- Explain how human-centered design principles influence the development of AI.

### The Impact of AI

- Explain how a system functions without the use of AI and describe the performance characteristics and limitations of that type of system.
- Compare and contrast the performance of a system before and after AI implementation.
- Analyze the impact of AI on system efficiency.
- Analyze performance data to describe potential improvements to a system.
- Identify inefficiencies, bottlenecks, and areas for optimization.
- Describe solutions to enhance overall system functionality.

## Skills Cont.

### Human Oversight

- Identify oversight methods for AI systems.
- Describe the human-in-the-loop, human-on-the-loop, and human-out-of-the-loop methods.
- Evaluate the human role in ensuring ethical, safe, and reliable AI decision-making.
- Assess the potential impact of oversight methods on AI decision-making and compare the pros and cons of the proposed oversight methods.
- Evaluate the ethical and practical implications of each methodology.
- Describe the key features of the selected oversight methods and assess the suitability of the oversight methods based on the potential use cases.
- Justify the selection of individual control methods

### Ethics of AI

- Identify the key ethical concerns in AI systems.
- Explain the impact of AI decision-making on individual rights.
- Evaluate the privacy and data security risks posed by AI solutions to individuals.
- Identify the key societal ethical concerns in AI systems.
- Explain the potential long-term social impact of AI decision-making.