

Course Duration: 5 Days

Course Overview

This four-hour executive-level training introduces managers and decision-makers to the foundational concepts of Artificial Intelligence (AI), including policy implications, governance frameworks, technical fundamentals, and practical applications. Designed to cut through the hype and focus on clarity, this course empowers leaders to understand AI's value, manage risk, and guide ethical, mission-aligned AI integration across their organizations.

Learners will explore key technologies such as machine learning, natural language processing, generative AI, and multi-modal systems, while also gaining insight into the lifecycle of AI projects—from scoping and data acquisition to deployment and sustainment. Real-world use cases will demonstrate the diverse application of AI across industries such as transportation, finance, health, and national security.

Prerequisites

This course does not have any prerequisites.

Course Objectives

- Mission Compliance Understanding: Learn how AI projects must align with Homeland Security mission needs while adhering to evolving policies, governance standards, and ethical expectations.
- Data Governance and Responsible AI Practices: Understand data handling, protection, and stewardship principles that support trustworthy AI development and mitigate bias in decision-making.
- AI Fundamentals: Gain foundational knowledge of key AI concepts, including machine learning, deep learning, natural language processing, and generative AI technologies.



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- Strategic Risk Mitigation: Explore frameworks to identify, assess, and minimize risks associated with AI deployment, including ROI considerations and regulatory compliance.
- Technology and Infrastructure Awareness: Learn about the hardware, software, and cloud/on-premises infrastructures required to support AI development and operations.
- AI Development Lifecycle Management: Understand the full AI lifecycle from scoping and data acquisition to training, testing, deployment, and sustainment to ensure mission success.
- Use Case Evaluation: Analyze successful AI applications across sectors such as transportation, finance, manufacturing, healthcare, and homeland security to identify actionable insights.
- Trend and Future Landscape Awareness: Stay ahead by learning about the latest trends in AI development, multi-modal models, and emerging technologies that impact national security operations.
- Critical Thinking for Practical Application: Differentiate between realistic AI capabilities and "hype," ensuring practical and mission-relevant technology implementation.

Course Outline

Module 1: Introduction

Module 2: Policy, Governance and Ethics Considerations

- Mission Compliance
- Data Governance
- The Importance of Responsible AI Development
- Key Policy Considerations
- Risk Mitigation

Module 3: Demystifying AI

- What is AI?
 - Machine Learning
 - Deep Learning
 - Natural Language Processing
 - Generative AI
 - RAG (Retrieval-Augmented Generation)
 - Multi-Modality
 - Compute Resources

Module 4: AI in Action

- AI Development and Deployment Cycle
 - Scoping
 - Data Acquisition
 - Data Science
 - Operationalizing
- Specific Use Cases
 - Transportation and Shipping
 - Financial
 - Manufacturing
 - Health
 - Homeland and National Security
- Future Trends in AI
 - Practical Application
 - Reality vs FUD