

**Overview of Generative AI**

**Course Number:** AI-116WA  
**Duration:** 1 day

**Overview**

Generative AI (Gen AI) is a type of artificial intelligence that can create new content, such as text, images, music, and audio, by learning from existing data. This 1-day Generative AI training course gives students a comprehensive introduction to Gen AI, covering its core concepts, applications, and limitations.

**Prerequisites**

No prior experience is presumed.

**Materials**

All Generative AI training students receive comprehensive courseware.

**Software Needed on Each Student PC**

All attendees must have a modern web browser and an Internet connection.

**Objectives**

* Use generative AI tools to enhance productivity and creativity in various professional and personal projects
* Make informed decisions about implementing generative AI solutions by understanding their capabilities, limitations, and ethical considerations
* Critically evaluate the authenticity and potential biases in AI-generated content to ensure responsible and ethical use
* Communicate confidently about generative AI concepts, terminology, and applications with technical and non-technical stakeholders
* Identify opportunities for generative AI to optimize processes and solve problems
* Understand the potential impact of generative AI on employment, society, and the environment
* Generate creative content, explore latent spaces, and detect biases in AI-generated output

**Outline**

* Understanding Generative AI
  + The Big Picture
    - ML is a subset of AI
    - Deep Learning is a subset of ML
    - GenAI is a subset of Deep Learning
    - Understanding inference, influence, prompt, completion, and feedback
    - Understanding Prompt Engineering
  + Understanding AI Models
    - Foundation Model
    - Generative Models
    - Large Language Models
  + The Mechanism Behind Generation
    - Machine Learning
    - Deep Learning
    - Artificial Neural Networks
    - Training a Model
  + The Balance Between Randomness and Training
  + Hyperparameter Tuning
  + Tokens and Tokenization
  + Hands-on Activity: Latent Space Exploration
  + Tokens and Model Usage Pricing
  + Generative AI options
* Real-world Uses of Generative AI
  + Data Analytics using Generative AI
  + Sentiment Analysis using Generative AI
  + Music, Movies, and Art
  + Create with AI Art Tools
  + Game Design and Virtual Worlds
  + 3D Modelling and Prototyping
  + Fashion and Apparel
  + Blogs, Articles, and Scripts
  + Hands-on Activity: Scriptwriting with AI
  + Advertising and Marketing
  + Deepfakes and Their Implications
* Ethical Considerations and Limitations of AI
  + Ethical Considerations
    - Authenticity and Misinformation
    - Deepfake detection workshop
    - Bias and Fairness
    - Intellectual Property
    - Consent and Privacy
    - Transparency and Accountability
    - Impact on Employment
    - Environmental Impact
    - Safety and Security
    - Regulation and Governance
    - Public Perception and Trust
    - Hands-on Activity: Bias detection workshop
  + Limitations and Challenges of GenAI
    - Training Needs Data
    - Computational Costs
    - Quality and Realism
    - Detection of AI-Generated Content
* Conclusion