

**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