

## Gen AI for AI Engineers

## Duration – 24 Hours

**Program Description**

This program equips developers with the foundational and advanced concepts of Generative AI, enabling them to build, fine-tune, and deploy AI-driven applications effectively. Participants will explore generative models, transformers, Variational Autoencoders (VAEs), and Generative Adversarial Networks (GANs).

The course delves into essential topics like retrieval-augmented generation (RAG), prompt engineering, ethical considerations, and explainable AI techniques. Additionally, it covers practical applications such as fraud detection, domain-specific fine-tuning, and addressing deployment challenges, monitoring, and maintenance of AI systems.

**Learning Outcomes**

- Learn the fundamentals and working principles of generative AI models.
- Gain insights into transformer-based architectures and their role in modern AI.
- Understand the mechanisms behind VAEs and GANs for data generation.
- Design effective prompts to optimize AI-generated outputs.
- Understand how RAG enhances generative AI capabilities.
- Utilize generative models to detect and prevent fraudulent activities.
- Adapt pre-trained models to specialized domains for improved accuracy.
- Recognize and mitigate bias, fairness, and responsibility issues in AI.
- Learn best practices for deploying generative AI models at scale.
- Implement robust monitoring and maintenance strategies for AI applications.
- Enhance model transparency and interpretability for better trust and accountability

**Course Topics**

- ❖ Introduction to Generative Models
- ❖ Introduction to Transformers
- ❖ Variational Autoencoders (VAEs)
- ❖ Introduction to Generative Adversarial Networks (GANs)
- ❖ Introduction to Prompt Engineering
- ❖ What is RAG (Retrieval Augmented Generation)
- ❖ Fraud Detection Using Generative Models.
- ❖ Fine Tune existing LLMs on Domain documents
- ❖ Ethical Considerations
- ❖ Deployment Challenges
- ❖ Monitoring and Maintenance
- ❖ Explainable AI techniques.