INNOMATICS®

RESEARCH LABS
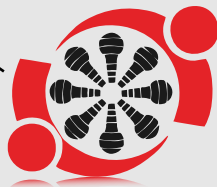
WE DON'T JUST TRAIN
WE TRANSFORM CAREERS

Advance
Generative AI Program

Online / Offline

Kukatpally
#205, 2nd Floor, Fortune Signature,
Near JNTU Metro Station, Kukatpally,
Hyderabad, Telangana 500085.

Gachibowli
2nd Floor, Leeway, BP Raju Marg,
Opp. Sarath City Capital Mall,
Laxmi Cyber City, Whitefields, Kondapur,
Telangana 500081.

www.innomatics.in   +91 9951666670

INNOMATICS®
RESEARCH LABS

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AUTHORIZED IBM PARTNER
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OUR AWARDS & COLLABORATIONS

IN PARTNERSHIP WITH NASSCOM FOUNDATION
futureskills prime
A MeitY - NASSCOM Digital Skilling Initiative

MOST TRUSTED INDIAN COMPANY AWARDED BY
WORLD BRAND AFFAIRS

BEST DATA SCIENCE EDTECH IN INDIA AWARDED BY
THE TIMES GROUP

LEADING EDTECH COMPANY IN 2023 AWARDED BY
MSME
Ministry of MSME, Govt. of India

BEST DATA SCIENCE INSTITUTION AWARDED BY
91.1 FM Radio City

350+ Batches	**10,000+** Career Transformations	**500+** Industry Experts	**Online & Offline** Live Classes	**500+** Hiring Partners

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TOOLS COVERED IN THE COURSE

Chroma	Adobe Firefly	OpenAI	LangChain	Hugging Face
DALL·E 2	Diffusers	PyTorch	LlamaIndex	Midjourney
PEFT	DreamStudio	huggingface_hub	Llama 3	Gemini

WHY GENERATIVE AI?

In today's fast-paced world, artificial intelligence has become an indispensable part of various industries. Generative AI, in particular, represents a groundbreaking leap in AI capabilities. Unlike traditional AI models that analyze existing data, generative AI has the remarkable ability to create entirely new content across multiple formats, including text, images, audio, and more. This transformative technology, exemplified by innovations like ChatGPT and DALL-E, is reshaping industries and creating unprecedented opportunities for those who possess expertise in this field.

WHO IS THIS PROGRAM FOR?

The Advance Generative AI program caters to a diverse audience of professionals seeking to stay ahead in an AI-driven landscape. Whether you're a seasoned business expert, a data analyst exploring new horizons, a scientist pushing the boundaries of innovation, or an IT specialist navigating the digital frontier, this program is tailored to elevate your skills and propel your career forward.

PREREQUISITES FOR ADVANCE GENAI PROGRAM

To fully leverage the potential of our Advance Generative AI program, participants should have a strong foundation in the following areas:
- 🐍 Python Programming
- ⚙️ Machine Learning
- 🧠 Deep Learning
- 🤖 Natural Language Processing

COURSE OBJECTIVE

► Understand the importance of Large Language Models for building Generative AI tools.

► Learn the cutting edge GenAI tools to develop intelligent apps.

► Develop and deploy apps powered by GenAI in Python.

► Process unstructured data and perform text analysis.

► Learn to use Models from HuggingFace.

► Apply skills to real-world GenAI projects.

► Foster critical thinking and problem-solving abilities.

KEY HIGHLIGHTS OF THE TRAINING

Duration
6 Weeks

Instructor-Led LIVE Sessions
Both Online & Offline

Life-time LMS Access
All the course related content

LIVE Doubt Resolution
One-On-One Mentoring session

Topic-wise Assignments
All the Modules

Weekly Quizzes
Evaluate comprehension and application of key concepts, providing timely feedback to enhance learning outcomes.

Monthly Assessments
Mastery of key concepts and practical skills, ensuring readiness for real-world challenges

10+ Use Cases
Providing real-world context for learning

Vibrant Hackathons
Challenging students to solve real-world problems through data-driven solutions

Mock Interviews
Helping students refine their communication and technical skills for professional success

Dedicated Soft Skills
Equipping you with essential communication, teamwork, and leadership abilities for success

Resume Tailoring
Techniques to highlight your skills and experience, increasing your chances of securing job opportunities

Section-1 Introduction To Artificial Intelligence

1. Introduction to AI

2. AI vs ML vs DL

3. Types of learning (Supervised, Unsupervised & Reinforcement)

4. Core Difference between ML and DL

5. Life Cycle of ML and DL Project

Section-2 Introduction To Generative AI

Generative AI, the technology that lets computers tap into their creative side. It's like teaching a computer to paint, compose music, or write stories, all by learning from what's already out there. In this course, you'll explore the inner workings of neural networks, GANs (Generative Adversarial Networks), and other advanced techniques. Whether you're an aspiring artist looking to push boundaries, a musician wanting to compose groundbreaking tunes, or a developer with a passion for innovation, this course will equip you with the skills to bring your ideas to life. Join us and embark on this thrilling journey into the future of AI!

1. Introduction to Generative AI

2. Overview of generative AI technologies.

3. Applications and case studies across industries.

Section-3 Getting Started With Large Language Models

1. Into to large language Models

2. History of NLP

3. Intro to RNN,LSTM,GRU

4. Intro to Encoder Decoder Model

5. Intro and Deep Dive in to Attention ,Transformers

6. Working Of Different Transformers Model

7. What is Large Language Model

8. Types of Large Language Model

Section-4 — Prompt Engineering And Working With LLM

1. Intro to Prompt Engineering

2. LLM with Prompt Engineering

3. Introduction to GPT models.

4. Understanding how GPT-3 and GPT-4 work

5. Training on popular LLMs like GPT (Generative Pre-trained Transformer).

6. Practical applications of LLMs in generating text, code, and more

Case Study: Creating a project with LLMS

Section-5 — Working with Open AI API

1. Intro To Open Ai

2. Utilizing OpenAI APIs

3. Setting up and authenticating API usage.

4. Practical exercises using GPT-3/GPT-4 for text generation.

5. Understanding DALL-E and its capabilities in image generation.

Hands-on project to generate images from textual descriptions.

Section-6 — Working with Google Gemini API

1. Getting Started with Gemini

2. How to obtain an API key for Gemini.

3. Overview of the Gemini API and accessing its features.

4. Detailed exploration of different Gemini models.

5. Selecting and initializing the right model for specific tasks.

6. Step-by-step project to create an AI-powered chatbot using Gemini.

Case Study: Creating a project with Google Gemini API

Section-7 — Working with Meta's LLaMA API

1. Introduction of LLaMA .

2. Comparison with other large language models like GPT-3 and GPT-4.

3. Key features and capabilities of LLaMA

4. Understanding the Model Architecture of LLaMA.

5. Discussion on model sizes and capabilities.

6. Environment setup: Installing necessary libraries and tools

7. Accessing LLaMA models: Overview of the download process and setup on local machines or cloud platforms (Meta LLaMa).

8. Intro to the architecture of LLaMA models

9. Understanding the differences between LLaMA model variants (8B, 13B, 30B, and 70B parameters)

10. Implementing text generation using LLaMA

Case Study: Creating a project with Meta's LLaMA API

Section-8 — Working With Hugging Face Ecosystem

1. Introduction to the Hugging Face ecosystem and the Transformers library.

2. Exploring Hugging Face Models and Tokenizers.

3. Project: Using a pre-trained model to perform sentiment analysis

4. Introduction to the Trainer API.

5. Saving and sharing models through Hugging Face Model Hub.

6. Multi-lingual models and cross-lingual transfer learning.

7. Using pipelines for different tasks (text generation, named entity recognition, summarization).

8. Integrating Hugging Face models with web application

Case Study: Creating a project with Hugging Face Ecosystem

Section-9 — Building Gen AI Apps Using LangChain

1. Introduction to the LangChain framework

2. Understanding the purpose and core components of LangChain Framework

3. LangChain Setup and necessary dependencies

4. Basic configuration and setup for development

5. Step-by-step guide to creating a simple application using LangChain Framework

6. Detailed walkthroughs of real-world applications built with LangChain

Case Study: Creating a project with LangChain

Section-10 — Intro To RAG

1. Intro To RAG

2. Building applications using RAG

3. LLMs in Depth

4. Fine Tuning LLMs

5. Training LLMs by Implementing Fine Tuning

Case Study: Creating a project with RAG

Section-11 — Stable Diffusion by Stability AI

1. Intro to Stable Diffusion

2. Fundamentals of Diffusion Models

3. Application of Stable Diffusion

4. Modifying image attributes and styles using prompt engineering

5. Parameters of image generation: seeds, prompts, and steps explained

6. Tool For Stable Diffusion

7. Fine-tuning and training Stable Diffusion on custom datasets

8. Advanced prompt engineering and achieving specific artistic effects.

9. Introduction to variations and derivatives of Stable Diffusion (e.g., DreamBooth for personalization).

10. Using the Diffusion library for more control over the diffusion process.

11. Integrating Stable Diffusion models into web applications

12. Advance Stable Diffusion Techniques

Case Study: Creating a project with Stable diffusion

INNOMATICS
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COURSE FEE

₹ **34,000/-** INR (Including GST)

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