

AGENTIC AI & GENERATIVE AI MASTER PROGRAM

Master cutting-edge AI technologies including Generative AI, Agentic AI, LLMs, LangChain, RAG, Prompt Engineering, and AI Automation with real-time projects and hands-on training.

Program Highlights

- Real-Time Industry Projects
- Hands-on Assignments & Case Studies
- LangChain & RAG Applications
- AI Agent Development
- Cloud Deployment Projects
- Resume & Interview Preparation
- Career Guidance & Placement Assistance
- Flexible Learning Support

☎ + 91 90593 72919

🌐 <https://chhavishkait.com/>

✉ chhavishkait@gmail.com

📍 Flat No 402, DV Town Ship, East Sudha Nagar, AS Rao Nagar, Secunderabad - 500056

Module 1: Python Fundamentals for AI

Introduction to Python

- Python Basics & Syntax
- Variables & Data Types
- Operators & Expressions
- Input & Output Statements

Control Flow Statements

- If, Else, Elif Conditions
- Loops (For & While)
- Break, Continue & Pass

Functions & Modules

- User Defined Functions
- Lambda Functions
- Python Modules & Libraries

File Handling & Exception Handling

- Text & CSV Files
- JSON Handling
- Exception Handling Concepts

Python Libraries

- NumPy
- Pandas
- Matplotlib
- Data Visualization Basics

Module 2: Artificial Intelligence Fundamentals

Introduction to AI

- What is Artificial Intelligence?
- Types of AI
- AI Applications in Real World

Machine Learning Basics

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning

Data Processing

- Data Cleaning
- Feature Engineering
- Model Evaluation Metrics

Module 3: Deep Learning & Neural Networks

Deep Learning Basics

- Neural Networks
- Perceptron
- Activation Functions

Training Concepts

- Gradient Descent
- Optimizers
- Hyperparameters

Frameworks

- TensorFlow
- PyTorch

Deep Learning Projects

- Classification Projects
- Regression Projects
- Image Processing Projects

Module 4: Natural Language Processing (NLP)

NLP Fundamentals

- Text Processing
- Tokenization
- Lemmatization
- Stopword Removal

Text Vectorization

- Bag of Words
- TF-IDF
- Word Embeddings

Sequence Models

- RNN
- LSTM
- GRU

Module 5: Transformers & LLMs

Transformers

- Attention Mechanism
- Self Attention
- Encoder & Decoder Architecture

Large Language Models

- GPT
- LLaMA
- Gemini
- Claude

Hugging Face

- Transformers Library
- Fine-Tuning Basics

Module 6: Generative AI

Introduction to Generative AI

- What is Generative AI?
- Generative vs Discriminative Models

Applications of Generative AI

- Chatbots
- Text Generation
- AI Content Creation
- AI Assistants

Prompt Engineering

- Zero-shot Prompting
- Few-shot Prompting
- Chain of Thought Prompting

Module 7: LangChain & RAG

LangChain Fundamentals

- Chains
- Prompt Templates
- Memory Types

Retrieval-Augmented Generation (RAG)

- Vector Databases
- FAISS
- Pinecone
- Query Retrieval

Hands-on Projects

- AI Chatbot Development
- RAG Applications

Module 8: Agentic AI

Introduction to Agentic AI

- What is Agentic AI?
- AI Agents Architecture

Agent Frameworks

- LangGraph
- Crew AI
- Multi-Agent Systems

AI Agent Development

- Tool Calling
- AI Planning & Reasoning
- Autonomous AI Systems

Deployment & Automation

- Cloud Deployment
- API Integration
- Workflow Automation

Module 9: Capstone Projects

Real-Time AI Projects

- Generative AI Chatbot
- AI Knowledge Assistant
- Multi-Agent Workflow System
- RAG-Based AI Application

Cloud Platforms

- AWS Deployment
- Google Cloud Deployment