

# 45-Day Generative AI & Agentic AI Program

A Job-Oriented Upskilling Programme for Freshers & Software Engineers

Transform your career in just 45 days with our comprehensive Python to GenAI learning pathway. This intensive programme bridges the gap between foundational programming and cutting-edge Generative AI development, equipping you with the skills employers are actively seeking. Whether you're a fresh graduate, junior engineer, or career switcher, this hands-on course delivers practical expertise through real-world projects and industry-standard tools.

## Duration

45 Days  
2 - 3 Hours Daily

## Delivery Mode

Online / Offline  
Hybrid Options

## Prerequisites

Basic Programming  
(Preferred, Not Mandatory)

# Phase 1: Python Foundations for AI

Begin your journey with a solid grounding in Python, the universal language of AI development. This foundational phase ensures you're comfortable with core programming concepts before advancing to AI-specific applications. Through hands-on exercises and practical examples, you'll develop the coding fluency needed for building sophisticated AI systems.

## Learning Outcomes

- Write clean, efficient Python programmes
- Understand Python's role in AI pipelines
- Master data structures and control flow
- Apply object-oriented programming principles
- Set up professional development environments



1

### Python Setup & Basics

Installation, environment configuration, and your first Python programmes

2

### Data Types & Structures

Lists, dictionaries, tuples, and sets for effective data management

3


### Control Flow

Loops, conditionals, and decision-making logic

4

### Functions & OOP

Reusable code through functions and object-oriented design patterns


**Checkpoint:** Day 15 Python Fundamentals Assessment validates your readiness for AI development

# Phase 2: Python Libraries & ML/DL

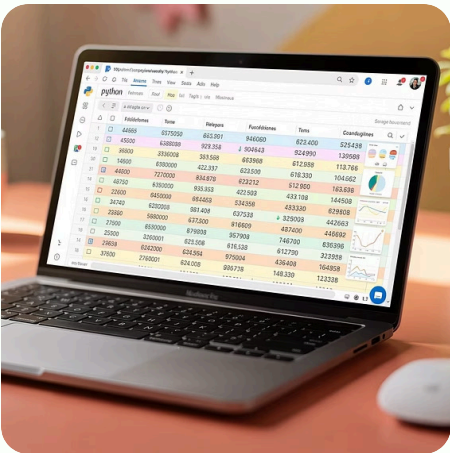
## Introduction

Transition from general programming to AI-focused tools and frameworks. This phase introduces the essential Python libraries that power data science and machine learning, whilst providing conceptual understanding of how intelligent systems learn from data. You'll work with real datasets and build the analytical mindset required for AI development.



### NumPy Mastery

Numerical computing and array operations for efficient data processing



### Pandas Power

Data manipulation, cleaning, and transformation for real-world datasets



### Data Visualisation

Creating meaningful visual representations of data patterns and insights

### API Integration

Learn to connect Python programmes with external services and data sources through RESTful APIs. This critical skill enables your AI applications to access real-time information and integrate with existing systems.

### ML & DL Concepts

Understand how machines learn from data, the difference between traditional ML and deep learning, and how these technologies form the foundation of modern Generative AI systems.

10+

#### Practice Datasets

Real-world data scenarios

15+

#### Coding Exercises

Hands-on implementations

100%

#### Practical Focus

Applied learning approach



# Phase 3: Generative AI Core

Enter the cutting edge of artificial intelligence. This comprehensive phase transforms you from a Python developer into a Generative AI practitioner. Across eight intensive modules, you'll master the theoretical foundations and practical skills needed to build sophisticated AI applications powered by large language models.



## Generative AI Foundations

Evolution of AI, Transformer architecture, LLM families, tokens and embeddings

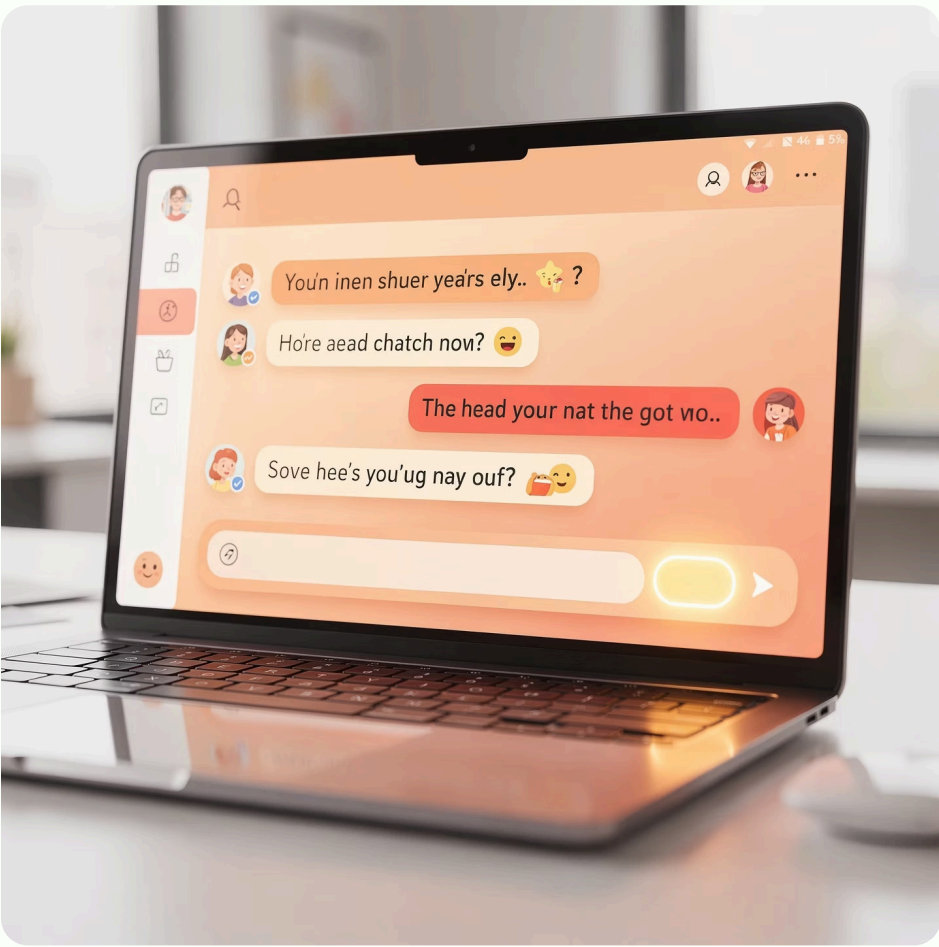


## Prompt Engineering

Zero-shot to advanced techniques, Chain-of-Thought, ReAct, structured prompts

## Build Real Applications

- AI-powered chatbots
- Intelligent text summarisers
- Email automation assistants
- Streamlit web applications



## Transformers & GPT Architecture

Attention mechanisms, QKV matrices, positional encoding, self-attention

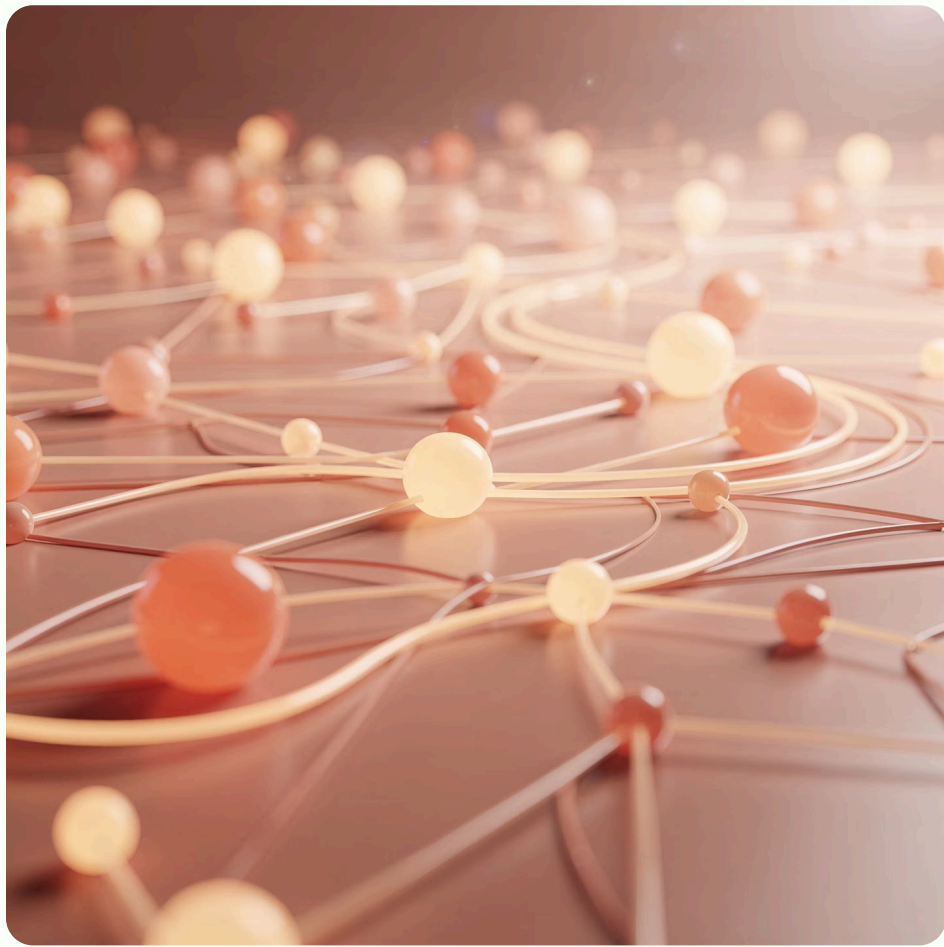


## Working with LLM APIs

OpenAI integration, embeddings, function calling, cost optimisation

## Advanced Techniques

- Retrieval Augmented Generation (RAG)
- Vector databases and semantic search
- Model fine-tuning with LoRA/QLoRA
- Document Q&A with citations



## Agentic AI Systems

Discover autonomous AI agents that can break down complex tasks, use tools, and collaborate with other agents to solve real-world problems.



## Multi-Agent Workflows

Design systems where specialised AI agents work together, each contributing unique capabilities to achieve sophisticated outcomes.

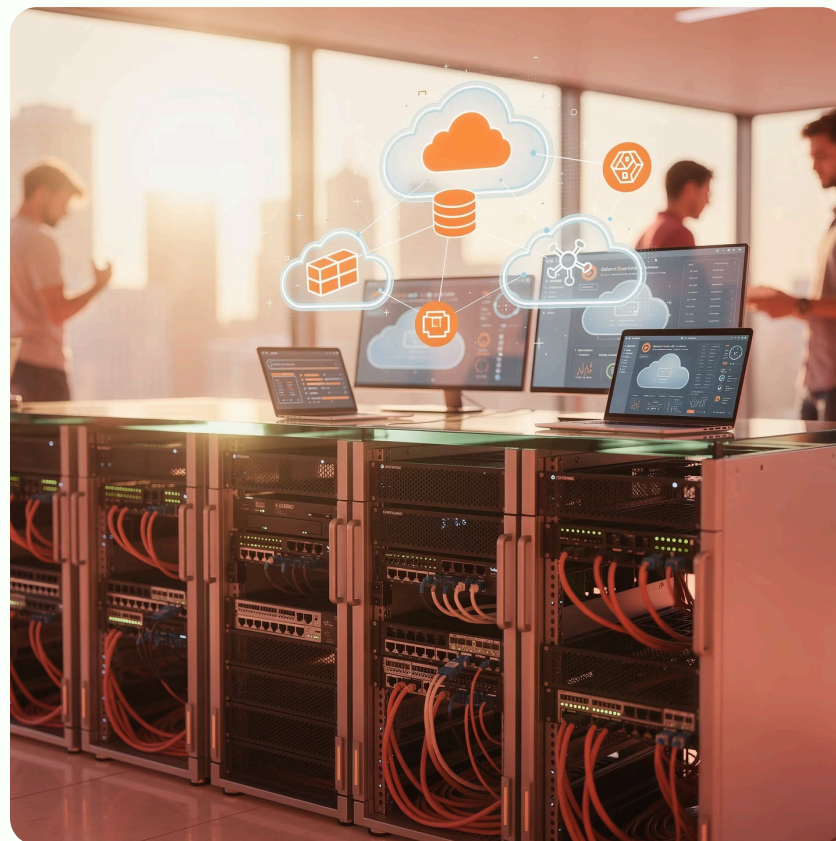
☐ **Checkpoint:** Day 30 assessment covers Generative AI fundamentals and prompt engineering mastery. Day 40 mini-project demonstrates your ability to build complete AI applications.

# Phase 4: Deployment, Evaluation & Capstone

Bring your AI applications to life by learning professional deployment strategies. This final phase focuses on making your projects production-ready, evaluating model performance, and implementing safety measures. You'll understand how to monitor AI systems in real-world environments and ensure they deliver reliable, responsible results.

## Core Topics

- Cloud deployment platforms and strategies
- Model evaluation metrics and techniques
- AI safety, guardrails, and ethical considerations
- Performance monitoring and optimisation
- Production-grade error handling



## Your Capstone Project

Demonstrate your mastery by building one comprehensive Generative AI application from concept to deployment. This portfolio piece showcases your skills to potential employers and serves as proof of your practical capabilities.



### AI Document Q&A Bot

Build an intelligent system that answers questions about uploaded documents using RAG and semantic search



### AI Resume Analyzer

Create an application that evaluates CVs, provides feedback, and matches candidates to job requirements



### AI Customer Support Chatbot

Develop a conversational agent that handles customer queries with context awareness and personalisation



### Multi-Agent Research Assistant

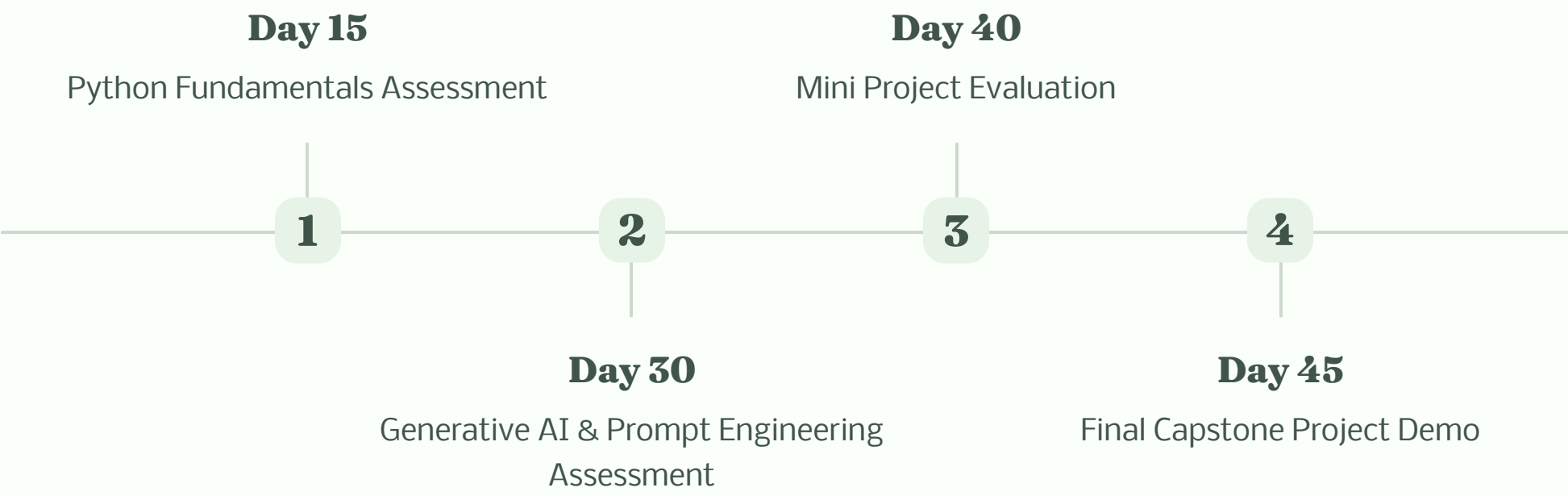
Design a system where multiple AI agents collaborate to research topics and synthesise findings

"Your capstone project becomes the centrepiece of your portfolio—a tangible demonstration of your ability to design, build, and deploy production-ready AI solutions."

# Your Learning Journey & Career Outcomes

## Assessment Checkpoints

Regular evaluations ensure you're building genuine competency, not just completing modules. Each checkpoint validates your readiness for the next phase and provides valuable feedback on your progress.



## Career Opportunities Await

The demand for Generative AI skills has exploded across industries. Companies are actively seeking developers who can bridge the gap between traditional software engineering and AI capabilities. Upon completion, you'll be qualified for multiple entry-level and junior positions in the rapidly expanding AI sector.

**Generative AI Developer**  
Build AI-powered applications using LLMs and modern frameworks

**AI Engineer (Entry Level)**  
Design and implement AI solutions for business problems

**AI Application Developer**  
Create user-facing products that leverage AI capabilities

**LLM Engineer (Junior)**  
Specialise in large language model integration and optimisation

## Tools & Technologies You'll Master



**Python & VS Code**



**NumPy & Pandas**



**OpenAI API**



**Streamlit**



**FAISS & ChromaDB**



**LangChain**



**Docker**



# Why Choose SocialPrachar



At SocialPrachar, we don't just teach—we transform careers. Our curriculum is meticulously designed in partnership with industry professionals to ensure every concept, tool, and project directly aligns with what employers are seeking. We believe in learning by building, which is why hands-on projects form the core of our methodology.



### Industry-Aligned Curriculum

Every module reflects current industry practices and employer requirements. We continuously update our content to match the rapidly evolving AI landscape, ensuring you learn skills that are immediately applicable.



### Strong AI & Tech Ecosystem

Join a vibrant community of learners, mentors, and industry professionals. Our network provides ongoing support, collaboration opportunities, and connections that extend far beyond the programme duration.



### Hands-On, Project-First Learning

Theory without practice is hollow. You'll build real applications from day one, creating a portfolio of work that demonstrates your capabilities to potential employers and gives you genuine problem-solving experience.



### Career-Focused Training Approach

We're invested in your success. From resume building to interview preparation, we provide the support and guidance needed to transition from learning to landing your ideal AI role.

## What You'll Gain

### Strong Python Foundation for AI

Master the programming fundamentals that underpin all AI development

### Hands-On GenAI Experience

Build real applications using cutting-edge LLMs and AI frameworks

### Portfolio-Ready Projects

Showcase your capabilities with professional GitHub repositories and demo applications

### Clear Career Roadmap

Navigate your path in AI with confidence, understanding which roles match your skills

## Learn. Build. Get Hired.

In just 45 days, transform from aspiring developer to job-ready AI professional. Your future in Generative AI starts here.