

# Certified AI Practitioner

**Training Course** Certified AI Practitioner - CAIP

**Course Language** English

**Course Duration** Total Number of hours - 40 Hours

## Course Objectives

- Understand the core concepts, history, and evolution of Artificial Intelligence (AI).
- Explore machine learning (ML), deep learning, and natural language processing (NLP).
- Apply AI models for real-world business and technical problems.
- Work with AI tools, frameworks, and platforms such as TensorFlow, PyTorch, and OpenAI models.
- Evaluate ethical considerations and challenges in AI deployment.
- Develop AI strategies for business and industry applications.

## Learning Outcomes

- Explain AI concepts, methodologies, and real-world applications.
- Develop and implement AI models using machine learning frameworks.
- Analyze AI-driven business solutions and optimize processes.
- Identify and mitigate ethical risks in AI applications.
- Work with AI-powered tools for NLP, computer vision, and automation.

### Module 1: Introduction to AI

- Definition and history of AI
- Types of AI: Narrow AI, General AI, and Super AI
- Key AI technologies: Machine Learning, Deep Learning, NLP, Computer Vision
- Applications of AI across industries

### Module 2: Machine Learning Fundamentals

- Supervised, Unsupervised, and Reinforcement Learning
- Common algorithms: Linear Regression, Decision Trees, Neural Networks
- Model evaluation and performance metrics

### Module 3: Deep Learning & Neural Networks

- Introduction to Artificial Neural Networks (ANN)
- Convolutional Neural Networks (CNN) for image processing
- Recurrent Neural Networks (RNN) and transformers for NLP

### Module 4: Natural Language Processing (NLP)

- Fundamentals of NLP and text processing
- Chatbots and AI-driven conversational agents
- Sentiment analysis and language models (GPT, BERT, etc.)

### Module 5: AI in Computer Vision

- Image classification, object detection, and facial recognition
- AI-powered image and video analysis

### Module 6: AI Tools and Implementation

- Introduction to TensorFlow and PyTorch
- Hands-on AI model development in Python
- AI deployment using cloud platforms

### Module 7: Ethics & Challenges in AI

- AI bias and fairness
- Ethical concerns in AI decision-making
- Regulatory compliance and responsible AI

### Module 8: AI for Business & Industry

- AI strategies for organizations
- AI-driven automation and process optimization
- Future trends and AI innovations

## Course Content

### Target Audience

- Data scientists and analysts looking to advance their AI skills.
- Software engineers and developers interested in AI implementation.
- Business leaders and managers exploring AI-driven solutions.
- Students and researchers in AI, ML, and data science.
- Anyone curious about AI and its practical applications.

### Course Material /Technology used/ Details Relevant to the course.

- PowerPoint presentation prepared by the trainer
- Digital manual to be given to trainees
- Exam from CertNexus.
- Course fees inclusive of Exam fees.
- Basic knowledge in Python Programming recommended.

### Prerequisite :

**Basic Programming Skills (Python)**

**Statistics & Probability ( Basic Knowledge )**

**Linear Algebra & Calculus ( Basic Knowledge)**