



Enterprise Computing Solutions - Education Services

## TRAINING OFFERING

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<b>CODE:</b>	<b>LENGTH:</b>	<b>PRICE:</b>
EDU-AIC-AT-330	8 Hours (1 day)	\$495.00

## Description

**Innovate Engineering:** Leverage AI-Driven Smart Solutions Full AI Stack: Learn AI architecture, LLMs, NLP, and neural networks  
**Tool Proficiency:** Includes Transfer Learning with Hugging Face and GUI design  
**Deployment Focus:** Build real AI systems and manage communication pipelines  
**Practical Mastery:** Gain the skills to engineer scalable AI solutions for innovation

## Objectives

**AI & Software Engineers:** Enhance your development skills by mastering AI techniques and designing advanced AI systems.  
**Machine Learning Enthusiasts:** Apply deep learning, neural networks, and NLP techniques to real-world AI challenges.  
**Data Scientists:** Strengthen your AI toolkit with engineering techniques for building and deploying scalable AI solutions.  
**IT Specialists & System Architects:** Integrate AI solutions into existing infrastructures, optimizing performance and scalability.  
**Students & New Graduates:** Develop in-demand AI engineering skills and prepare for a successful career in the rapidly growing AI field.

## Audience

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## Prerequisites

AI+ Data™ or AI+ Developer™ course should be completed. Basic understanding of Python programming is mandatory for hands-on exercises and project work. Familiarity with high school-level algebra and basic statistics is required. Understanding basic programming concepts such as variables, functions, loops, and data structures like lists and dictionaries is essential.

## Program

Course Overview Course Introduction Module 1: Foundations of Artificial Intelligence 1.1 Introduction to AI 1.2 Core Concepts and Techniques in AI 1.3 Ethical Considerations Module 2: Introduction to AI Architecture 2.1 Overview of AI and its Various Applications 2.2 Introduction to AI Architecture 2.3 Understanding the AI Development Lifecycle 2.4 Hands-on: Setting up a Basic AI Environment Module 3: Fundamentals of Neural Networks 3.1 Basics of Neural Networks 3.2 Activation Functions and Their Role 3.3 Backpropagation and Optimization Algorithms 3.4 Hands-on: Building a Simple Neural Network Using a Deep Learning Framework Module 4: Applications of Neural Networks Module 5: Significance of Large Language Models (LLM) 5.1 Exploring Large Language Models 5.2 Popular Large Language Models 5.3 Practical Finetuning of Language Models 5.4 Hands-on: Practical Finetuning for Text Classification Module 6: Application of Generative AI 6.1 Introduction to Generative Adversarial Networks (GANs) 6.2 Applications of Variational Autoencoders (VAEs) 6.3 Generating Realistic Data Using Generative Models 6.4 Hands-on: Implementing Generative Models for Image Synthesis Module 7: Natural Language Processing 7.1 NLP in Real-world Scenarios 7.2 Attention Mechanisms and Practical Use of Transformers 7.3 In-depth Understanding of BERT for Practical NLP Tasks 7.4 Hands-on: Building Practical NLP Pipelines with Pretrained Models Module 8: Transfer Learning with Hugging Face 8.1 Overview of Transfer Learning in AI 8.2 Transfer Learning Strategies and Techniques 8.3 Hands-on: Implementing Transfer Learning with Hugging Face Models for Various Tasks Module 9: Crafting Sophisticated GUIs for AI Solutions 9.1 Overview of GUI-based AI Applications 9.2 Web-based Framework 9.3 Desktop Application Framework Module 10: AI Communication and Deployment Pipeline 10.1 Communicating AI Results Effectively to Non-Technical Stakeholders 10.2 Building a Deployment Pipeline for AI Models 10.3 Developing Prototypes Based on Client Requirements 10.4 Hands-on: Deployment Optional Module: AI Agents for Engineering 1. Understanding AI Agents 2. Case Studies 3. Hands-On Practice with AI Agents

## **Session Dates**

On request. Please [Contact Us](#)

## **Additional Information**

This training is also available as onsite training. Please contact us to find out more.