€TRAINING

# Artificial Intelligence Essentials

10 - 14 November 2024
Online

# Artificial Intelligence Essentials

REF: W1539 DATE: 10 - 14 November 2024 Venue: Online - Fee: 2250 Euro

## Introduction:

The Artificial Intelligence Essentials training program provides fundamental knowledge of AI concepts and applications. Participants explore topics like machine learning and robotics to gain core insights. Through theory and practice, they develop essential skills for applying AI across domains.

## Program Objectives:

### At the end of this program the participants will be able to:

- Develop necessary AI.
- Understand how to plan and analyze using logic.
- Explain how to imitate human in clustering and classification.
- Understand how to design a Machine Learning based applications.
- Analysis and Design AI Applications.

## Targeted Audience:

- Quality, Safety, Reliability and Security officers.
- Project Managers.
- Executive Managers.
- Marketing Managers.
- Instrumentation, process, systems, electrical and mechanical Engineers.
- Finance, Budget-planner, Decision takers and Policymakers.

## Program Outlines:

### Unit 1:

### An Overview of Artificial Intelligence:

- Introduction to AI and Success Stories plus its History.
- Human Intelligence vs Artificial Intelligence.

- Intelligent Agents and Their Roles.
- Limits of Artificial Intelligence.
- Intelligent Decision Making.

## Unit 2:

## Intelligent Agents:

- Introduction to Agents.
- Different Types of Agents.
- Knowledge-base and DataBase.
- Logic Reasoning.
- Unification.
- Deduction Processes.

## Unit 3:

## Machine Learning:

- Supervised and Unsupervised Learning.
- Classification and Clustering.
- Artificial Neural Networks.
- Learn by Examples.
- Object Recognition.
- Features and Classes.

## Unit 4:

## Fuzzy Logic:

- Introduction to Fuzzy Thinking.
- Fuzziness vs Probability.
- Fuzzy set and Fuzzy Rules.
- Importance of Fuzzy logic.

- A real example of Fuzzy Controllers.
- Building a Tiny Machine Learning Application.

## Unit 5:

## Genetic Algorithm:

- Overview of Genetic Algorithms.
- The Need for Optimization, Maximization, and Minimization.
- How GA Work and Evolve.
- Genetic Algorithm Chromosomes, Genes, Selection, Mutation, and Crossover.
- Dimension to Use Genetic Algorithm.
- Real Genetic Algorithm Examples to Optimize Business Processes.