Artificial Intelligence and Machine Learning Fundamentals (AIMLF)

ID AIMLF **Price** on request **Duration** 3 days

Course Objectives

- Understand the importance, principles, and fields of AI
- Implement basic artificial intelligence concepts with Python
- Apply regression and classification concepts to real-world problems
- Perform predictive analysis using decision trees and random forests
- Carry out clustering using the k-means and mean shift algorithms
- Understand the fundamentals of deep learning via practical examples

Course Content

1: Principles of Artificial Intelligence

- Introduction
- Fields and Applications of Artificial Intelligence
- AI Tools and Learning Models
- The Role of Python in Artificial Intelligence
- Python for Game AI
- Summary

2: AI with Search Techniques and Games

- Introduction
- Heuristics
- Pathfinding with the A* Algorithm
- Game AI with the Minmax Algorithm and Alpha-Beta Pruning
- Summary

3: Regression

- Introduction
- Linear Regression with One Variable
- Linear Regression with Multiple Variables
- Polynomial and Support Vector Regression
- Summary

4: Classification

- Introduction
- The Fundamentals of Classification
- Classification with Support Vector Machines
- Summary

5: Using Trees for Predictive Analysis

- Introduction to Decision Trees
- Random Forest Classifier
- Summary

6: Clustering

- Introduction to Clustering
- The k-means Algorithm
- Mean Shift Algorithm
- Summary

7: Deep Learning with Neural Networks

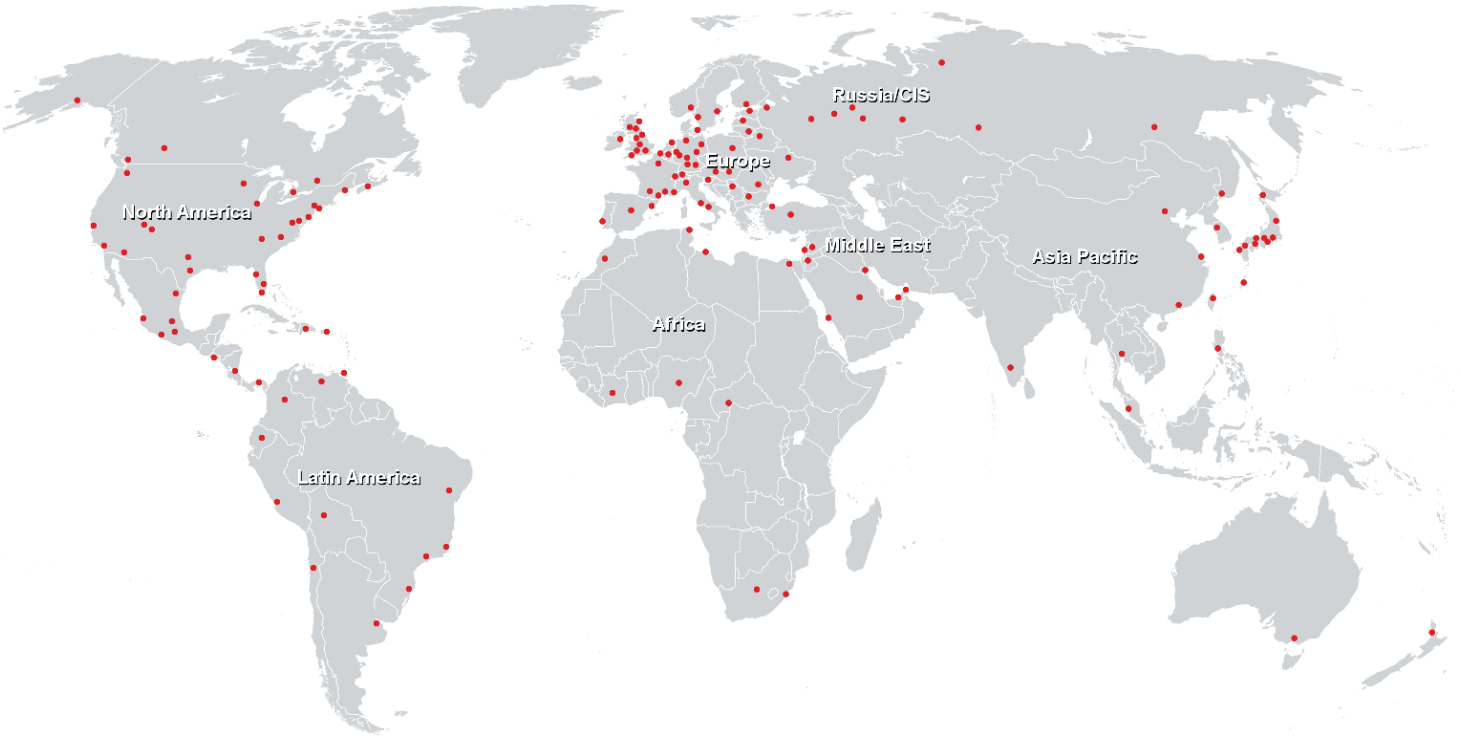
- Introduction
- TensorFlow for Python
- Introduction to Neural Networks
- Deep Learning
- Summary

8: Appendix A

- Lesson 1: Principles of AI
- Lesson 2: AI with Search Techniques and Games
- Lesson 4: Classification
- Lesson 5: Using Trees for Predictive Analysis
- Lesson 6: Clustering
- Lesson 7: Deep Learning with Neural Networks

Artificial Intelligence and Machine Learning Fundamentals (AIMLF)

Training Centres worldwide





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