MACHINE LEARNING USING PYTHON

Course ID : PYTHON-L2

Scan for Details on Our Website

Duration: 3 Days

(18 Hours) 09:00 AM – 04:00 PM

Price: 11,900 THB

* (excluding VAT 7%)
* Eligible for 200% tax deduction

Training Schedule

www.9experttraining.com

Category: Development

Python is a programming language known for its simplicity and rich ecosystem of libraries, making it ideal for Artificial Intelligence and Machine Learning applications. This course emphasizes using Python for data analysis and processing to help organizations gain competitive business advantages.

Objectives

1. Understand the core principles of Artificial Intelligence (AI) and Machine Learning.
2. Apply Python programming to develop AI and Machine Learning solutions.

Target Audience

1. Students, engineers, software developers, and learners interested in applying Machine Learning using Python.
2. Individuals who want to learn Python for future roles in data science.
3. Those looking to use Python for Machine Learning and AI applications.

Prerequisites

1. A basic understanding of Python programming.
2. General proficiency in computer usage.
3. Strong motivation and a willingness to learn.

System Requirements

1. x86 64-bit CPU (Intel or AMD architecture)
2. 4GB RAM (8GB recommended)
3. At least 50 GB of free disk space
4. Operating System: Windows 10 or Windows 11
5. Python (latest Windows version)

TRAINING TOPICS

DAY 1 Morning Session 9:00 AM – 12:00 PM

1. Introduction to Artificial Intelligence (AI)

2. Environment Setup

- Installing Python 3.x
- Installing Microsoft Visual Studio Code

DAY 1 Afternoon Session 1:00 PM – 4:00 PM

3. Python Programming Review

- Core data structures: lists, tuples, dictionaries, and sets
- Working with NumPy
- Working with Pandas

4. Web Scraping (Text and Image)

- Using the Requests library
- Parsing content with Beautiful Soup 4
- Automating tasks with Selenium

5. Introduction to Machine Learning

DAY 2 Morning Session 9:00 AM – 12:00 PM

6. Scikit-learn Module

- Regression Analysis
  - Evaluation metrics: MAE, MSE, RMSE
  - Linear regression
  - Multiple linear regression
  - Polynomial regression

DAY 2 Afternoon Session 1:00 PM – 4:00 PM

- Classification
  - Decision trees
  - Random forests
  - Cross-validation techniques
  - Evaluation metrics: accuracy, precision, recall, F1-score
  - Hyperparameter tuning
- Clustering
  - K-means clustering

DAY 3 Morning Session 9:00 AM – 12:00 PM

7. OpenCV

- Introduction to OpenCV
- Face and eye detection
- Face recognition using images, video, and webcam input

8. Keras and TensorFlow

- Artificial Neural Network (ANN)
- Convolutional Neural Network (CNN)
- Pre-trained models for image classification
  - VGG16
  - ResNet50
  - Inception
  - Object detection with YOLO (Image, Video, Webcam)

DAY 3 Afternoon Session 1:00 PM – 4:00 PM

9. Recommendation Systems

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