# Fundamentals of Machine Learning for Beginners Training Course



14 - 18 Dec 2026

Casablanca

4500 € (Per Person)

Ref: #AI3674_263859

## Course Introduction / Overview:

This training course is designed to introduce beginners to the core concepts and practical applications of machine learning. As a key subfield of artificial intelligence, machine learning is at the heart of modern data-driven decision-making. This program, offered by BIG BEN Training Center, demystifies complex algorithms and provides a clear, step-by-step pathway to understanding how to build and evaluate predictive models. We will cover the foundational types of machine learning, including supervised, unsupervised, and reinforcement learning, with a focus on practical examples. The course uses a conceptual approach, explaining the intuition behind algorithms like linear regression and K-Means clustering before diving into implementation. The content is inspired by the clear and concise explanations found in "The Hundred-Page Machine Learning Book" by Andriy Burkov, which focuses on providing a solid conceptual understanding without unnecessary jargon. Participants will gain the confidence to apply machine learning to real-world problems and explore its vast potential across various industries.

## Target Audience / This training course is suitable for:

- Aspiring data scientists and machine learning engineers.
- Software developers looking to integrate machine learning.
- Business analysts and strategists.
- Project managers overseeing AI initiatives.
- Students from non-technical backgrounds.
- Anyone interested in understanding the basics of AI.

## Target Sectors and Industries:

- Technology and software development.
- Financial services.
- Retail and e-commerce.
- Healthcare.
- Marketing and advertising.
- Manufacturing.
- Telecommunications.
- Government and public administration.

## Target Organizations Departments:

- Data and Analytics.
- Information Technology.
- Research and Development.
- Product Management.
- Business Strategy.
- Marketing.
- Operations.
- Finance.

## Course Offerings:

By the end of this course, the participants will have able to:

- Explain the core concepts of supervised and unsupervised learning.
- Distinguish between different types of machine learning algorithms.
- Prepare and clean data for model training.
- Build a simple predictive model using a machine learning algorithm.
- Evaluate the performance of a machine learning model.
- Interpret the results of a machine learning analysis.
- Understand the ethical considerations in machine learning.
- Identify real-world business problems suitable for machine learning.

## Course Methodology:

This training course at BIG BEN Training Center uses a pedagogical methodology that is ideal for beginners. The program is built on a "concept first, code second" approach, ensuring that participants develop a strong conceptual foundation before they write any code. We will use a variety of interactive methods to facilitate learning, including whiteboard sessions to explain algorithms, group discussions on real-world case studies, and hands-on exercises that reinforce each new topic. The training avoids complex mathematical formulas and focuses on building intuition. Participants will work on a series of small, guided projects, allowing them to apply each learned concept immediately. This approach builds confidence and a clear understanding of the entire machine learning pipeline. This methodology ensures that participants, regardless of their background, can grasp the fundamentals and start their journey in the field of AI.

## Course Agenda (Course Units):

### Unit One: Introduction to Machine Learning.

- What is machine learning and why is it important?
- The machine learning workflow: from data to model.
- Types of machine learning: supervised, unsupervised, and reinforcement learning.
- Key terminology and concepts.
- Ethical considerations in machine learning.

### Unit Two: Supervised Learning.

- Introduction to supervised learning.
- Linear regression: predicting continuous values.
- Classification problems and logistic regression.
- Understanding model training and testing.
- The concept of overfitting and underfitting.

### Unit Three: Unsupervised Learning.

- Introduction to unsupervised learning and its applications.
- Clustering algorithms: K-Means clustering.
- Dimensionality reduction with Principal Component Analysis.
- Understanding market segmentation using clustering.
- Practical applications of unsupervised learning.

### Unit Four: Building and Evaluating a Model.

- Data preparation: cleaning, scaling, and feature engineering.
- Splitting data for training and testing.
- Evaluating model performance with metrics.
- Understanding the confusion matrix.
- Using cross-validation to improve model reliability.

### Unit Five: Beyond the Basics.

- Introduction to neural networks and deep learning.
- Case studies in various industries.
- Tools and libraries for machine learning.
- Next steps in your machine learning journey.
- Thinking about the future of AI.

## FAQ:

### Qualifications required for registering to this course?

There are no requirements.

### How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

## Something to think about:

In what ways does a clear conceptual understanding of machine learning principles empower a beginner to not only use pre-built models but also to critically evaluate their limitations and potential for misuse?

## What unique qualities does this course offer compared to other courses?

This training course is specifically designed for absolute beginners and non-technical professionals who want a strong, practical foundation in machine learning. Unlike many other courses that quickly dive into complex code and mathematics, our program uses a unique conceptual-first approach. We ensure that participants understand the "why" behind each algorithm before learning the "how." The curriculum is built on a clear, jargon-free framework that makes abstract concepts accessible and engaging. The course focuses on building intuition, not just memorization, and provides hands-on exercises that are relevant to real-world business problems. Participants will leave with a complete understanding of the machine learning lifecycle and the confidence to apply these concepts in their roles, making this a perfect entry point into the world of AI and data science.