QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1198

Machine Learning Fundamentals Training Course

MACHINE LEARNING & COMPUTER VISION
ARTIFICIAL INTELLIGENCE & APPLICATIONS

DURATION
5 Days

DELIVERY
Classroom

LOCATION
Geneva, Switzerland

DATES
5 – 9 Oct 2026

Scheduled Event Details

CITY	Geneva, Switzerland
DATE	5 – 9 Oct 2026
DELIVERY TYPE	Classroom
COURSE FEE	€7,300

Course Overview

The Machine Learning Fundamentals Training Course is a comprehensive professional development program designed to equip executives, managers, AI specialists, data scientists, software engineers, business analysts, and technical professionals with the essential knowledge and practical skills required to understand and apply Machine Learning technologies in modern organizations. Machine Learning is one of the core pillars of Artificial Intelligence, enabling organizations to transform data into actionable insights, automate decision-making, improve operational efficiency, enhance customer experiences, and support innovation. This course provides a solid foundation in Machine Learning concepts while preparing participants to contribute effectively to enterprise AI initiatives.

Government entities, ministries, public sector organizations, banks and financial institutions, oil and gas companies, manufacturing organizations, healthcare providers, telecommunications companies, transportation authorities, logistics providers, educational institutions, and multinational corporations increasingly rely on Machine Learning to solve complex business challenges. Applications include predictive analytics, fraud detection, customer segmentation, demand forecasting, predictive maintenance, intelligent automation, quality assurance, risk management, recommendation systems, cybersecurity analytics, and operational optimization. Organizations that successfully implement Machine Learning improve productivity, reduce operational costs, enhance service quality, and make faster, more informed business decisions.

This course provides a comprehensive introduction to the Machine Learning lifecycle, covering business problem identification, data collection, data preparation, exploratory data analysis, feature engineering, supervised learning, unsupervised learning, an introduction to reinforcement learning, model training, validation, evaluation, optimization, deployment, monitoring, and continuous improvement. Participants will also gain an understanding of neural networks, explainable AI, MLOps fundamentals, responsible AI, governance, cybersecurity, privacy, regulatory compliance, and enterprise implementation best practices. Practical workshops and real-world case studies

ensure participants develop the confidence to apply Machine Learning techniques across diverse business environments.

The Machine Learning Fundamentals Training Course combines expert instruction, interactive discussions, practical exercises, enterprise case studies, and internationally recognized best practices to help participants build a strong foundation in Machine Learning. By the end of the course, participants will be able to identify valuable Machine Learning opportunities, develop basic predictive models, evaluate AI solutions, support enterprise digital transformation initiatives, and contribute to sustainable organizational innovation through data-driven decision-making.

Objectives

- Analyze the fundamental concepts, principles, and enterprise applications of Machine Learning.
- Develop practical skills for preparing data and building foundational Machine Learning models.
- Evaluate business opportunities suitable for Machine Learning implementation.
- Apply supervised and unsupervised learning techniques to organizational challenges.
- Design data-driven solutions that improve operational efficiency and business performance.
- Improve model accuracy through feature engineering, validation, and optimization techniques.
- Strengthen understanding of explainable AI, responsible AI, governance, cybersecurity, privacy, and regulatory compliance.
- Implement best practices for developing, deploying, and monitoring Machine Learning solutions.
- Assess technical, operational, ethical, and security risks associated with Machine Learning applications.
- Align Machine Learning initiatives with organizational strategy, innovation, and digital transformation objectives.

Who Should Attend

This course is designed for executives, digital transformation leaders, AI specialists, data scientists, machine learning engineers, software developers, IT managers, business analysts, solution architects, innovation managers, project managers, data engineers, consultants, researchers, and decision-makers seeking a strong understanding of Machine Learning technologies and enterprise AI applications.

The program is equally valuable for professionals working in government entities, ministries, public sector organizations, banks and financial institutions, oil and gas organizations, manufacturing companies, healthcare providers, telecommunications companies, transportation authorities, logistics providers, educational institutions, consulting firms, and multinational corporations seeking to leverage Machine Learning to improve operational performance and support strategic decision-making.

Professionals responsible for business analytics, intelligent automation, predictive maintenance, fraud detection, cybersecurity, quality management, enterprise data management, governance, compliance, innovation, research and development, and AI implementation will benefit from the practical methodologies and implementation frameworks presented throughout the course.

Learning Outcomes

- By the end of this course, participants will be able to:
- Explain the core concepts and categories of Machine Learning.
- Prepare and preprocess datasets for Machine Learning projects.
- Develop regression, classification, and clustering models for business applications.
- Apply supervised and unsupervised learning techniques to solve real-world challenges.
- Evaluate Machine Learning models using industry-standard performance metrics.
- Improve model performance through feature engineering and optimization methods.
- Apply explainable AI and responsible AI principles while ensuring governance, cybersecurity, privacy, and regulatory compliance.
- Integrate Machine Learning models into enterprise workflows and business processes.
- Identify strategic opportunities for applying Machine Learning across multiple industries.
- Develop implementation roadmaps for successful enterprise Machine Learning adoption.

Course Outline

DAY 01

Introduction to Machine Learning

- Introduction to Artificial Intelligence and Machine Learning
- Core Machine Learning concepts and terminology
- Categories of Machine Learning
- Business problem identification and AI opportunity assessment

PRACTICAL WORKSHOP ON ENTERPRISE MACHINE LEARNING USE CASES

DAY 02

Data Preparation and Supervised Learning

- Data collection, cleaning, and preprocessing
- Feature engineering fundamentals
- Regression algorithms
- Classification algorithms

PRACTICAL EXERCISE

Practical exercise on developing predictive Machine Learning models

DAY 03

Unsupervised Learning and Model Evaluation

- Clustering techniques
- Dimensionality reduction methods
- Introduction to reinforcement learning and neural networks
- Model evaluation and optimization techniques

WORKSHOP ON SOLVING BUSINESS PROBLEMS USING MACHINE LEARNING

DAY 04

Enterprise Machine Learning Implementation

- Model deployment and MLOps fundamentals
- Explainable AI and responsible AI
- AI governance, cybersecurity, privacy, and regulatory compliance
- Measuring business value and operational performance

PRACTICAL

Practical workshop on integrating Machine Learning into enterprise systems

DAY 05

Building an Enterprise Machine Learning Strategy

- Future trends in Machine Learning and Artificial Intelligence
- International best practices for enterprise AI implementation
- Scaling Machine Learning capabilities across the organization
- Organizational change management and continuous innovation

FINAL WORKSHOP

Final workshop involving the development of a comprehensive enterprise Machine Learning strategy integrating supervised learning, unsupervised learning, predictive analytics, feature engineering, neural networks, MLOps, explainable AI, responsible AI, governance, cybersecurity, privacy, regulatory compliance, risk management, performance measurement, organizational readiness, and continuous improvement to maximize operational excellence, innovation, digital transformation, and sustainable business success.

Register or Request More Information

Course page: https://quest-training.com/courses/machine-learning-fundamentals-training-course
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