QUEST
Professional Center

PROFESSIONAL TRAINING COURSE

Course No. 1197

Applied Machine Learning Training Course

MACHINE LEARNING & COMPUTER VISION
ARTIFICIAL INTELLIGENCE & APPLICATIONS

DURATION
5 Days

DELIVERY
Classroom

Course Overview

The Applied Machine Learning Training Course is a comprehensive professional development program designed to equip executives, managers, AI specialists, data scientists, machine learning engineers, software developers, business analysts, and technical professionals with the practical knowledge and implementation skills required to develop, deploy, and manage machine learning solutions in modern organizations. As Artificial Intelligence continues to reshape industries, applied machine learning has become a critical capability for organizations seeking to transform data into actionable insights, automate complex processes, improve decision-making, optimize operational performance, and accelerate digital transformation initiatives. This course bridges the gap between machine learning theory and real-world business implementation.

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 operational and strategic challenges. Applications include predictive analytics, fraud detection, customer segmentation, demand forecasting, predictive maintenance, quality assurance, risk management, intelligent automation, recommendation systems, anomaly detection, and business process optimization. Organizations that successfully implement applied machine learning gain measurable improvements in efficiency, productivity, innovation, and competitive advantage.

This course focuses on the complete applied machine learning lifecycle, beginning with business problem identification and data collection before progressing through data preparation, exploratory data analysis, feature engineering, supervised learning, unsupervised learning, model selection, training, validation, optimization, deployment, monitoring, and continuous improvement. Participants will gain practical experience using regression, classification, clustering, ensemble learning, model evaluation techniques, explainable AI, MLOps fundamentals, responsible AI, governance, cybersecurity, privacy, regulatory compliance, and enterprise implementation best practices. Hands-on workshops and real-world case studies ensure participants develop practical skills applicable across multiple industries.

The Applied Machine Learning Training Course combines expert instruction, interactive discussions, practical laboratories, enterprise case studies, and internationally recognized best practices to help participants confidently implement machine learning projects that generate measurable business value. By the end of the course, participants will be able to identify suitable machine learning

opportunities, build reliable predictive models, integrate AI solutions into enterprise environments, improve organizational performance, and support innovation and long-term digital transformation strategies.

Objectives

- Analyze the principles, methodologies, and enterprise applications of applied machine learning.
- Develop practical skills for designing, building, and deploying machine learning models.
- Evaluate business opportunities suitable for machine learning implementation.
- Apply supervised and unsupervised learning techniques to solve organizational challenges.
- Design AI-powered analytical solutions that improve business performance.
- Improve model accuracy through feature engineering, optimization, and performance evaluation.
- Strengthen understanding of explainable AI, responsible AI, governance, cybersecurity, privacy, and regulatory compliance.
- Implement best practices for deploying, monitoring, and maintaining enterprise machine learning solutions.
- Assess technical, operational, ethical, and security risks associated with machine learning applications.
- Align applied 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, machine learning engineers, data scientists, software developers, IT managers, solution architects, business analysts, innovation managers, project managers, data engineers, business intelligence professionals, consultants, researchers, and decision-makers responsible for enterprise analytics and Artificial Intelligence implementation.

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, educational institutions, transportation authorities, logistics providers, consulting firms, and multinational corporations seeking to implement machine learning technologies to improve operational performance and

strategic decision-making.

Professionals responsible for predictive analytics, intelligent automation, fraud detection, cybersecurity, quality management, asset management, predictive maintenance, enterprise analytics, governance, compliance, innovation, research and development, and AI strategy 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 complete applied machine learning lifecycle.
- Prepare, clean, and transform datasets for machine learning projects.
- Develop regression, classification, clustering, and ensemble learning models.
- Evaluate machine learning models using appropriate validation and performance metrics.
- Optimize model performance using feature engineering and hyperparameter tuning techniques.
- Apply explainable AI principles to improve transparency and trust in machine learning solutions.
- Implement responsible AI practices while ensuring governance, cybersecurity, privacy, and regulatory compliance.
- Deploy and monitor machine learning models within enterprise environments.
- Identify strategic opportunities for applying machine learning across business functions.
- Develop implementation roadmaps for scalable enterprise machine learning adoption.

Course Outline

DAY 01

Foundations of Applied Machine Learning

- Introduction to Artificial Intelligence and Machine Learning
- Business problem identification and AI opportunity assessment
- Machine learning lifecycle
- Data collection and exploratory data analysis

DAY 01 — CONTINUED

PRACTICAL

Practical workshop on identifying enterprise machine learning opportunities

DAY 02

Building Machine Learning Models

- Data preprocessing and feature engineering
- Supervised learning techniques
- Regression and classification algorithms
- Model training and validation

PRACTICAL EXERCISE

Practical exercise on developing predictive machine learning models

DAY 03

Advanced Machine Learning Techniques

- Unsupervised learning and clustering
- Ensemble learning methods
- Model evaluation and optimization
- Anomaly detection and recommendation systems

WORKSHOP

Workshop on solving enterprise business challenges using machine learning

DAY 04

Enterprise Machine Learning Implementation

- Model deployment and MLOps fundamentals
- Monitoring, maintenance, and continuous improvement
- Explainable AI, responsible AI, governance, cybersecurity, privacy, and regulatory compliance

DAY 04 — CONTINUED

- Measuring business value and operational performance

PRACTICAL

Practical workshop on integrating machine learning models into enterprise systems

DAY 05

Building an Enterprise Machine Learning Strategy

- Future trends in applied machine learning and Artificial Intelligence
- Scaling enterprise AI capabilities
- International best practices for enterprise implementation
- 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, ensemble learning, explainable AI, MLOps, governance, cybersecurity, privacy, regulatory compliance, performance measurement, organizational readiness, risk management, and continuous improvement to maximize operational excellence, innovation, digital transformation, and sustainable business success.

Register or Request More Information

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