

Course No. 1191

AI Model Development Training Course

**MACHINE LEARNING & COMPUTER VISION
ARTIFICIAL INTELLIGENCE & APPLICATIONS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The AI Model Development Training Course is a comprehensive professional development program designed to equip executives, managers, AI specialists, data professionals, software engineers, and technical leaders with the knowledge and practical skills required to develop, evaluate, deploy, and manage Artificial Intelligence models for enterprise applications. As organizations increasingly adopt AI to automate processes, improve decision-making, optimize operations, and deliver innovative services, the ability to design and develop effective AI models has become a strategic capability that supports digital transformation and long-term organizational competitiveness.

Government entities, ministries, public sector organizations, banks and financial institutions, oil and gas companies, manufacturing organizations, healthcare providers, educational institutions, telecommunications companies, and multinational corporations rely on AI models to analyze large volumes of data, forecast trends, detect anomalies, automate business processes, improve customer experiences, strengthen cybersecurity, optimize resource allocation, and support strategic planning. Developing reliable AI models enables organizations to transform raw data into actionable intelligence while improving operational efficiency, service quality, and business performance.

This course focuses on the complete lifecycle of AI model development, from business problem identification and data preparation to model selection, training, validation, deployment, monitoring, and continuous improvement. Participants will gain practical knowledge of machine learning fundamentals, supervised and unsupervised learning, feature engineering, model evaluation techniques, prompt engineering for foundation models, model optimization, MLOps concepts, AI governance, responsible AI, explainable AI (XAI), cybersecurity, privacy, bias mitigation, regulatory compliance, and enterprise implementation best practices.

The AI Model Development Training Course combines interactive workshops, practical exercises, enterprise case studies, and internationally recognized best practices to help participants confidently build AI-powered solutions that address real business challenges. By the end of the course, participants will be able to develop enterprise AI models, evaluate model performance, integrate AI into business operations, support organizational innovation, improve decision-making, and contribute to sustainable digital transformation through responsible and effective AI model development.

Objectives

- Analyze the complete lifecycle of AI model development and deployment.
- Develop practical skills for building and evaluating AI models for enterprise applications.
- Evaluate business opportunities suitable for AI model implementation.
- Apply machine learning techniques to solve organizational challenges.
- Design AI models that align with business objectives and operational requirements.
- Improve model performance through feature engineering, optimization, and validation.
- Strengthen understanding of responsible AI, governance, explainability, cybersecurity, privacy, and regulatory compliance.
- Implement best practices for model deployment, monitoring, and continuous improvement.
- Assess model risks, bias, ethical considerations, and operational limitations.
- Align AI model development initiatives with digital transformation, innovation, and organizational strategy.

Who Should Attend

This course is designed for executives, senior managers, digital transformation leaders, AI specialists, data scientists, machine learning engineers, software developers, IT managers, business analysts, innovation managers, project managers, solution architects, data engineers, research professionals, consultants, and technical decision-makers responsible for AI implementation and enterprise technology initiatives.

The program is equally valuable for professionals working in government entities, ministries, public sector organizations, banks and financial institutions, oil and gas organizations, healthcare providers, manufacturing companies, educational institutions, telecommunications companies, consulting firms, and multinational corporations seeking to develop AI capabilities that improve operational performance and support strategic objectives.

Professionals responsible for analytics, intelligent automation, enterprise architecture, digital services, predictive analytics, business intelligence, risk management, customer experience, operations improvement, and technology innovation will benefit from the practical frameworks and implementation methodologies presented throughout the course.

Learning Outcomes

- By the end of this course, participants will be able to:
- Explain the principles and lifecycle of AI model development.
- Prepare datasets for effective AI model training and evaluation.
- Select appropriate machine learning techniques for different business problems.
- Develop, train, validate, and optimize AI models for enterprise applications.
- Evaluate AI model performance using appropriate metrics and validation techniques.
- Apply explainable AI principles to improve model transparency and trust.
- Implement responsible AI practices while addressing bias, privacy, governance, and regulatory requirements.
- Deploy and monitor AI models using enterprise implementation best practices.
- Identify opportunities to integrate AI models into organizational workflows and business processes.
- Develop AI implementation roadmaps that support innovation, operational excellence, and sustainable digital transformation.

Course Outline

DAY 01

Foundations of AI Model Development

- Introduction to Artificial Intelligence and machine learning
- AI model development lifecycle
- Business problem definition and AI opportunity assessment
- Data collection and preparation fundamentals

PRACTICAL WORKSHOP ON IDENTIFYING ENTERPRISE AI USE CASES

DAY 02

Building and Training AI Models

- Supervised, unsupervised, and reinforcement learning concepts
- Feature engineering and data preprocessing
- Model selection and training techniques
- Model evaluation metrics and validation methods

PRACTICAL EXERCISE

Practical exercise on developing AI models for business scenarios

DAY 03

Optimizing and Managing AI Models

- Model optimization and hyperparameter tuning
- Explainable AI (XAI) and model interpretability
- Bias detection and fairness assessment
- Responsible AI, governance, cybersecurity, privacy, and regulatory compliance

WORKSHOP ON EVALUATING ENTERPRISE AI MODEL PERFORMANCE

DAY 04

Enterprise AI Deployment and Operations

- Model deployment strategies and MLOps fundamentals
- AI integration with enterprise systems
- Monitoring model performance and lifecycle management
- Measuring business value and operational impact

PRACTICAL

Practical workshop on implementing AI models within enterprise workflows

DAY 05

Building an Enterprise AI Model Development Strategy

- Future trends in AI model development
- Scaling AI capabilities across the organization
- International best practices for enterprise AI implementation
- Organizational change management and continuous model improvement

FINAL WORKSHOP

Final workshop involving the development of a comprehensive enterprise AI model development strategy integrating data preparation, machine learning, model optimization, explainable AI, MLOps, governance, cybersecurity, privacy, regulatory compliance, performance monitoring, risk management, 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/ai-model-development-training-course>

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