MERCURY

Professional AI Training for Data Science and Automation

18 - 22 Jan 2027
Rome (Italy)

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Ref.: 121655_1041869 **Date:** 18 - 22 Jan 2027 **Location:** Rome (Italy) **Fees:** 7200 **Euro**

Introduction

Artificial intelligence has become a strategic driver for innovation, operational efficiency, and intelligent decision-making across modern industries. This Professional AI Training for Data Science and Automation course provides participants with a theoretical foundation in artificial intelligence applications, data science methodologies, and intelligent automation systems used in business environments. It explores how machine learning, predictive analytics, automation frameworks, and AI-driven data processing transform organizational performance and digital operations. Participants examine the principles of data analysis, AI model development, workflow automation, and intelligent business solutions through structured theoretical learning scenarios. The program highlights emerging trends in AI engineering, business intelligence automation, natural language processing, and enterprise data management practices. Participants gain advanced knowledge of AI technologies and automation strategies that support data-driven transformation, operational scalability, and digital innovation initiatives.

Targeted Groups

This Professional AI Training for Data Science and Automation training targets professionals seeking knowledge and skills:

- Data analysts seeking AI integration knowledge.
- Business intelligence professionals managing analytics systems.
- Automation specialists are improving operational workflows.
- Digital transformation managers leading AI initiatives.
- IT professionals supporting intelligent systems.
- Software developers exploring machine learning applications.
- Operations managers are improving process efficiency.
- Project managers handling AI implementation projects.
- Researchers are interested in predictive analytics models.
- Professionals involved in enterprise automation strategies.
- Technology consultants supporting AI adoption programs.
- Decision-makers responsible for data-driven operations.

Course Objectives

Participants will achieve the following objectives by completing the Professional AI Training for Data Science and Automation course:

- Understand the foundations of artificial intelligence technologies.
- Analyze core principles of data science and analytics.
- Identify machine learning models and automation methods.
- Evaluate AI applications in business environments.
- Examine intelligent process automation frameworks.
- Interpret predictive analytics and forecasting concepts.
- Understand data preparation and feature engineering processes.
- Explore AI tools used in enterprise automation.

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- Assess ethical and governance considerations in AI systems.
- Analyze automation opportunities within operational workflows.
- Understand AI-powered decision support systems.
- Evaluate natural language processing applications.
- Examine data visualization and reporting techniques.
- Identify risks associated with AI implementation projects.
- Understand cloud-based AI and automation ecosystems.
- Analyze AI strategies for operational optimization.
- Explore future trends in intelligent automation technologies.

Targeted Competencies

Participants will gain the following competencies during the Professional AI Training for Data Science and Automation program:

- Understanding AI concepts and intelligent systems.
- Analyzing structured and unstructured data environments.
- Evaluating machine learning and predictive models.
- Applying automation principles to business operations.
- Interpreting data science workflows and methodologies.
- Understanding AI governance and ethical standards.
- Assessing enterprise automation opportunities.
- Evaluating business intelligence and analytics strategies.
- Understanding AI-driven reporting and visualization methods.
- Analyzing process automation frameworks.
- Identifying data quality and data management requirements.
- Understanding cloud AI infrastructure concepts.
- Evaluating intelligent decision-making systems.
- Interpreting AI performance measurement indicators.

Studying Scenarios

In this Professional AI Training for Data Science and Automation training, participants develop skills through the following scenarios:

- Evaluating AI integration within enterprise operations.
- Analyzing predictive analytics for business forecasting.
- Reviewing automated workflow optimization scenarios.
- Assessing machine learning applications in data analysis.
- Studying AI-driven customer experience improvements.
- Evaluating intelligent reporting and dashboard solutions.
- Reviewing automation strategies for operational efficiency.
- Analyzing data governance and AI compliance cases.

Course Content

Unit 1: Foundations of Artificial Intelligence and Data Science

- Introduction to artificial intelligence concepts and evolution.
- Understanding AI in digital transformation initiatives.
- Fundamentals of data science and business analytics.
- Types of artificial intelligence applications in industries.

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- Understanding supervised and unsupervised learning models.
- Foundations of deep learning and neural networks.
- Data lifecycle management and data architecture principles.
- Understanding structured, semi-structured, and unstructured data.
- AI terminology used in enterprise technology environments.

Unit 2: Data Analysis, Machine Learning, and Predictive Analytics

- Fundamentals of machine learning algorithms and workflows.
- Data collection and data preparation methodologies.
- Feature engineering and data transformation concepts.
- Understanding regression, classification, and clustering models.
- Predictive analytics for operational forecasting.
- AI-powered data visualization and reporting practices.
- Statistical analysis foundations for AI applications.
- Evaluating model accuracy and performance indicators.
- Understanding business intelligence and AI integration.

Unit 3: Intelligent Automation and AI-Powered Operations

- Introduction to intelligent automation frameworks.
- Understanding robotic process automation concepts.
- AI-driven workflow optimization methodologies.
- Automation opportunities in operational environments.
- Business process automation and efficiency improvement.
- Intelligent document processing and automated reporting.
- AI-powered customer service and virtual assistants.
- Automation governance and operational control principles.
- Enterprise automation strategies for digital scalability.

Unit 4: AI Technologies, Cloud Platforms, and Emerging Innovations

- Cloud computing foundations for AI deployment.
- AI infrastructure and scalable data environments.
- Understanding AI development platforms and ecosystems.
- Natural language processing and conversational AI concepts.
- Computer vision applications in business operations.
- AI integration with Internet of Things technologies.
- Generative AI concepts and enterprise applications.
- Understanding AI cybersecurity and data protection challenges.
- Emerging trends in intelligent automation technologies.

Unit 5: AI Governance, Ethics, and Strategic Implementation

- AI ethics and responsible AI implementation principles.
- Data privacy regulations and compliance considerations.
- AI governance frameworks and accountability structures.
- Risk management in AI and automation projects.
- Evaluating bias and fairness in machine learning systems.
- Strategic planning for enterprise AI transformation.
- Measuring AI performance and operational impact.
- AI project management and implementation lifecycle.

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- Building sustainable AI and data-driven business strategies.

Final Insights & Key Takeaways

This course provides participants with an understanding of artificial intelligence, data science methodologies, and intelligent automation strategies used in modern organizations. Participants strengthen their ability to evaluate AI technologies, analyze automation opportunities, and support data-driven transformation initiatives across business environments.

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