AI-Powered Data Analysis: Transforming Insights with AI

2027 □□□□□ 30 – 26
Lisbon (Portugal)



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Ref: 20221465_140126 Duration: Lisbon (Portugal) Fees: 5900 GBP

Why This Course

Data is growing at an unprecedented pace, and traditional analysis methods are no longer enough to unlock its full value. Organizations now rely on artificial intelligence to uncover patterns, predict outcomes, and support faster, smarter decisions.

However, leveraging AI effectively requires more than basic technical knowledge. Professionals must understand the underlying concepts, select the right tools, prepare data properly, and apply advanced algorithms with confidence and responsibility.

This intensive 1-week program is designed to bridge that gap. It provides a structured and practical pathway from AI fundamentals to real-world implementation, enabling participants to transform raw data into meaningful insights using modern AI-driven techniques.

What You'll Learn and Practice

By joining this program, you will:

- Build a strong foundation in artificial intelligence and its role in modern data analysis
- Use leading AI tools for data preprocessing, visualization, and modeling
- Apply machine learning algorithms to solve complex analytical challenges
- Develop predictive models that support strategic decision-making
- Understand ethical considerations and best practices in AI-driven analytics
- Design complete AI-powered data workflows from data collection to insight generation

The Program Flow

Day 1: Introduction to AI in Data Analysis

- Core AI concepts and their practical relevance to data analytics
- Overview of AI platforms and tools used in modern data environments
- Introduction to Python for AI-based analysis
- Ethical principles, bias awareness, and responsible AI practices



Day 2: Data Preparation and Exploratory Analysis

- AI-powered data cleaning and preprocessing methods
- Intelligent data visualization techniques
- Automated feature selection and feature engineering
- Conducting exploratory data analysis with AI support

Day 3: Machine Learning for Data Analysis

- Supervised and unsupervised learning techniques
- Building, validating, and optimizing predictive models
- Time series analysis and AI-driven forecasting
- Ensemble models and advanced performance enhancement strategies

Day 4: Deep Learning and Natural Language Processing

- Fundamentals of neural networks and deep learning
- Convolutional Neural Networks CNNs for image-based analysis
- Natural Language Processing NLP techniques for text analytics
- Sentiment analysis, topic modeling, and text classification

Day 5: AI Applications and Future Trends

- AI integration in business intelligence and decision-support systems
- Industry applications across finance, healthcare, marketing, and beyond
- Emerging innovations shaping the future of AI in analytics
- Designing and implementing an end-to-end AI-driven data analysis workflow

Individual Impact

Participants will leave the program with:

- The capability to design and execute AI-powered data analysis projects
- Practical skills to automate complex analytical processes
- Advanced techniques to uncover deeper insights from structured and unstructured data
- Greater confidence in building predictive models and interpreting results
- A structured framework for responsible and ethical AI implementation

Work Impact

Organizations will benefit through:



- More accurate and data-driven decision-making
- Faster processing and analysis of large and complex datasets
- Enhanced predictive capabilities and strategic forecasting
- Improved operational efficiency through AI automation
- Stronger competitive advantage driven by advanced analytics

Training Methodology

This program emphasizes hands-on learning and practical application through:

- Guided coding exercises and real-world datasets
- Case studies from multiple industries
- Interactive workshops focused on model building and evaluation
- Step-by-step development of AI-driven analytical solutions
- Practical templates and workflows ready for workplace implementation

Beyond the Course

Upon completion, participants will be prepared to:

- Lead AI-driven analytics initiatives within their organizations
- Implement predictive and machine learning solutions confidently
- Integrate AI tools into existing data ecosystems
- Contribute to innovation strategies powered by intelligent data analysis

This program empowers professionals to move beyond traditional analytics and fully harness the transformative potential of artificial intelligence in data-driven environments.

