AI and Machine Learning for Business Intelligence Training Course

13 - 17 Dec 2026

Doha

5500 € (Per Person)

Ref: #BUI2251_220344

Course Introduction / Overview:

This course provides a comprehensive exploration of the integration of Artificial Intelligence (AI) and Machine Learning (ML) into Business Intelligence (BI) frameworks. In an era where data is a primary corporate asset, traditional BI systems are evolving into intelligent platforms capable of predictive and prescriptive analytics. This program is designed to bridge the gap between foundational BI concepts and the advanced capabilities offered by AI. As highlighted by the renowned academic Thomas H. Davenport in his influential work "Competing on Analytics," the competitive edge for modern enterprises lies in their ability to leverage sophisticated analytical techniques. This course moves beyond simple data reporting to empower participants with the skills to build and deploy ML models that uncover deep insights, automate complex analyses, and drive data-driven decision-making. At BIG BEN Training Center, we have structured this curriculum to provide a strategic roadmap for implementing AI-powered BI, covering everything from core algorithms and data preparation to ethical considerations and future trends, ensuring a holistic understanding of this transformative technology. Participants will gain practical knowledge to transform their organization's BI strategy, turning raw data into actionable intelligence and a sustainable competitive advantage.

Target Audience / This training course is suitable for:

- Business Intelligence Professionals.
- Data Analysts and Scientists.
- IT Managers and Project Managers.
- Business Analysts and Strategists.
- Marketing and Sales Managers.
- Financial Analysts and Controllers.
- Operations and Supply Chain Managers.
- Executives and Decision-Makers seeking to leverage AI.

Target Sectors and Industries:

- Banking and Financial Services.
- Healthcare and Pharmaceuticals.
- Retail and E-commerce.
- Manufacturing and Logistics.
- Telecommunications and Technology.
- Energy and Utilities.
- Government Agencies and Public Sector Organizations.
- Consulting and Professional Services.

Target Organizations Departments:

- Business Intelligence and Analytics Departments.
- Information Technology (IT) Departments.
- Finance and Accounting Departments.
- Marketing and Sales Departments.
- Operations and Supply Chain Management.
- Strategic Planning and Corporate Development.
- Human Resources Departments.
- Research and Development (R&D) Departments.

Course Offerings:

By the end of this course, the participants will have able to:

- Articulate the strategic value of integrating AI and ML into BI systems.
- Differentiate between various machine learning algorithms and their business applications.
- Implement a structured process for preparing data for ML model training.
- Develop predictive models for forecasting, classification, and clustering tasks.
- Utilize Natural Language Processing (NLP) techniques to analyze unstructured text data.
- Integrate AI-driven insights into BI dashboards and reports for effective data storytelling.
- Evaluate the performance and accuracy of machine learning models.
- Develop a strategic roadmap for AI adoption within their organization's BI framework.
- Address the ethical and governance challenges associated with AI in business intelligence.
- Analyze future trends shaping the landscape of AI-powered analytics.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, practical, and engaging, ensuring that participants can immediately apply their learning in a real-world business context. This course blends expert-led instruction with hands-on exercises, collaborative group discussions, and in-depth case study analysis. We believe in learning by doing, so a significant portion of the program is dedicated to practical workshops where participants will work with sample datasets to build, train, and evaluate machine learning models. The sessions will foster a dynamic learning environment where participants can share experiences and solve complex problems together. Our instructors facilitate a continuous feedback loop, providing personalized guidance and ensuring that all concepts are thoroughly understood. The curriculum emphasizes a strategic perspective, encouraging participants to think critically about how AI and ML can solve specific business challenges within their own organizations. This immersive approach moves beyond theoretical knowledge to build tangible skills and strategic thinking, empowering attendees to lead AI-driven BI initiatives with confidence and competence.

Course Agenda (Course Units):

Unit One: The New Frontier of Business Intelligence

- The Evolution from Traditional BI to AI-Powered Analytics.
- Defining Artificial Intelligence, Machine Learning, and Deep Learning in a Business Context.
- The Business Case for AI in BI: ROI and Strategic Advantages.
- Understanding the AI and ML Project Lifecycle.
- Key Terminology and Foundational Concepts.
- Exploring AI-Powered BI Tools and Platforms.
- Case Study: Successful AI Integration in a Global Enterprise.

Unit Two: Core Machine Learning Models for Business

- Supervised Learning: Regression for Forecasting and Prediction.
- Supervised Learning: Classification for Customer Churn and Fraud Detection.
- Unsupervised Learning: Clustering for Market Segmentation and Anomaly Detection.
- Introduction to Recommendation Engines.
- Building Your First Predictive Model: A Practical Workshop.
- Model Evaluation Metrics: Accuracy, Precision, and Recall.
- Understanding Overfitting and Underfitting in Models.

Unit three: Data Preparation and Feature Engineering

- The Importance of Data Quality for Machine Learning.
- Techniques for Data Cleaning, Transformation, and Integration.
- Handling Missing Values and Outliers.
- Feature Engineering: Creating Powerful Predictors from Raw Data.
- Data Reduction and Dimensionality Techniques.
- Automating Data Preparation Pipelines.
- Best Practices for Data Governance in AI Projects.

Unit Four: Advanced AI Applications and Data Storytelling

- Introduction to Natural Language Processing (NLP) for Text Analysis.
- Sentiment Analysis for Customer Feedback and Brand Monitoring.
- An Overview of Deep Learning and Neural Networks for Complex Patterns.
- Leveraging AI for Automated Reporting and Insights Generation.
- The Art of Data Storytelling with AI-Driven Visualizations.
- Communicating Complex Model Results to Non-Technical Stakeholders.
- Workshop: Creating an Insightful Narrative from Model Outputs.

Unit Five: Strategy, Governance, and the Future of BI

- Developing a Strategic Roadmap for AI Adoption in BI.
- Building an AI-Ready Culture within the Organization.
- Ethical Considerations: Bias, Fairness, and Transparency in AI.
- Explainable AI (XAI): Making Black Box Models Understandable.
- Managing and Deploying ML Models in a Production Environment.
- The Future of BI: Hyper-automation, Cognitive Computing, and Beyond.
- Final Project: Designing an AI-Powered BI Solution for a Business Problem.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As AI automates more analytical tasks, what is the evolving role of the human business analyst in ensuring ethical and contextually relevant decision-making?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by focusing on the strategic implementation of AI and Machine Learning within a Business Intelligence context, rather than concentrating solely on the technical aspects of algorithms. While many programs teach the "how" of building models, we emphasize the "why" and "when," ensuring participants understand how to align AI initiatives with core business objectives. Our curriculum is built around real-world business problems, using case studies that illustrate both the successes and challenges of AI adoption in diverse industries. A key differentiator is our dedicated module on strategy, governance, and ethics, which equips leaders to navigate the complexities of responsible AI implementation, including bias and transparency. Furthermore, the course places a strong emphasis on data storytelling, teaching participants how to translate complex, AI-generated insights into clear, compelling narratives that drive executive action. This blend of technical knowledge, strategic thinking, and effective communication skills provides a holistic and immediately applicable learning experience that empowers participants to become true leaders in the new era of intelligent analytics.