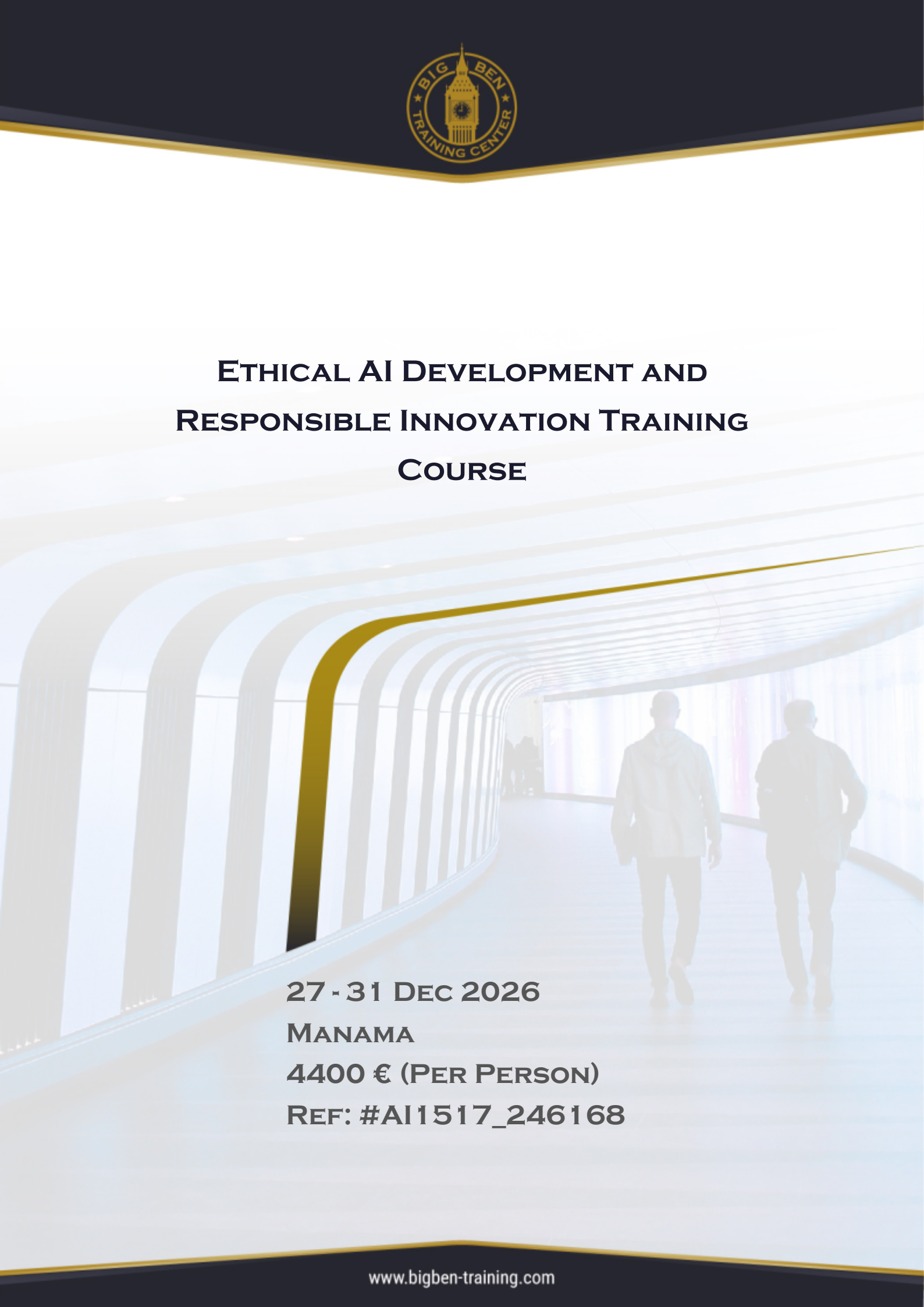
Ethical AI Development and Responsible Innovation Training Course



27 - 31 Dec 2026

Manama

4400 € (Per Person)

Ref: #AI1517_246168

Course Introduction / Overview:

In an era where artificial intelligence is reshaping industries and societies, the imperative for ethical development and responsible innovation has never been more critical. This training course provides a comprehensive exploration of the principles, frameworks, and practical techniques required to design, build, and deploy AI systems that are fair, transparent, and accountable. Moving beyond theoretical discussions, this program delves into the real-world challenges of mitigating algorithmic bias, ensuring data privacy, and establishing robust AI governance. As highlighted by scholar Kate Crawford in her work "Atlas of AI", understanding the full societal and environmental costs of AI is fundamental to responsible creation. This course, offered by BIG BEN Training Center, is meticulously designed to equip professionals with the skills to navigate the complex ethical landscape of AI. Participants will learn to conduct AI impact assessments, implement explainable AI (XAI) techniques, and align AI initiatives with core human values and organizational principles, ensuring that technological advancement serves the greater good. This is not just a technical course; it is a strategic guide to building trustworthy AI and fostering a culture of corporate digital responsibility.

Target Audience / This training course is suitable for:

- AI Developers and Machine Learning Engineers.
- Data Scientists and Analysts.
- Product Managers and Project Managers overseeing AI initiatives.
- IT and Technology Leaders (CTOs, CIOs).
- Legal, Risk, and Compliance Officers.
- Business Executives and Strategists.
- Policy Makers and Regulators.
- Quality Assurance and AI Auditors.
- User Experience (UX) Designers working on AI products.

Target Sectors and Industries:

- Technology and Software Development.
- Financial Services, Banking, and Insurance.
- Healthcare and Life Sciences.
- Government Agencies and Public Sector Services.
- Automotive and Autonomous Systems.
- Retail and E-commerce.
- Telecommunications and Media.
- Energy and Utilities.
- Consulting and Professional Services.

Target Organizations Departments:

- Research and Development (R&D).
- Information Technology (IT) and Data Science.
- Product Development and Management.
- Legal and Corporate Governance.
- Compliance and Risk Management.
- Executive Management and Strategy.
- Internal Audit and Quality Assurance.
- Human Resources (for AI in hiring).
- Customer Service and Operations.

Course Offerings:

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

- Develop a robust understanding of the core principles of AI ethics, including fairness, accountability, and transparency.
- Identify and analyze potential sources of bias in data and algorithms.
- Implement technical strategies for bias detection and mitigation in machine learning models.
- Design and apply AI governance frameworks within an organizational context.
- Conduct comprehensive AI ethics and risk impact assessments.
- Master the concepts and applications of Explainable AI (XAI) to improve model transparency.
- Ensure AI systems comply with emerging regulations and data privacy standards.
- Integrate ethical considerations throughout the entire AI development lifecycle.
- Champion a culture of responsible innovation and trustworthy AI within their teams and organizations.
- Formulate strategies for human-in-the-loop systems to ensure effective oversight.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and highly practical. We believe that mastering the complexities of ethical AI requires more than just theoretical knowledge; it demands hands-on application and critical thinking. The course combines expert-led instruction with a variety of engaging learning techniques. Participants will analyze real-world case studies of ethical AI failures and successes, from biased recruitment tools to fair lending algorithms, to understand the tangible consequences of their work. Interactive group discussions and workshops will encourage collaborative problem-solving and the sharing of diverse perspectives. Practical exercises will involve applying bias detection tools to sample datasets and drafting components of an AI ethics framework. Role-playing scenarios will challenge participants to navigate complex ethical dilemmas from the viewpoint of different stakeholders. Continuous feedback from the instructor and peers is a core component, ensuring a deep and applicable learning experience that extends far beyond the classroom and prepares participants to lead responsible AI initiatives in their own organizations.

Course Agenda (Course Units):

Unit One: Foundations of AI Ethics and Responsible Innovation

- Introduction to Ethical AI and its Importance.
- Historical Context of Ethics in Technology.
- Core Principles: Fairness, Accountability, Transparency, and Safety (FATS).
- Understanding Algorithmic Bias and its Societal Impact.
- The Business Case for Responsible AI and Trustworthy Systems.
- Key Terminology and Concepts in AI Governance.
- Introduction to Global AI Ethics Guidelines and Standards.

Unit Two: Technical Frameworks for Fairness and Transparency

- Methods for Detecting Bias in Datasets and Models.
- Pre-processing, In-processing, and Post-processing Bias Mitigation Techniques.
- Introduction to Explainable AI (XAI) and Interpretability.
- Local and Global Explanation Methods (e.g., LIME, SHAP).
- Techniques for Ensuring Model Robustness and Reliability.
- Privacy-Preserving Machine Learning (PPML) Concepts.
- Hands-on Lab: Applying Fairness Metrics to a Machine Learning Model.

Unit Three: AI Governance, Risk Management, and Compliance

- Developing an Organizational AI Governance Framework.
- Establishing AI Ethics Committees and Review Boards.
- Conducting AI Risk and Impact Assessments.
- Navigating the Global Regulatory Landscape (e.g., EU AI Act, GDPR).
- The Role of AI Audits and Algorithmic Accountability.
- Creating Documentation and Model Cards for Transparency.
- Corporate Digital Responsibility and Stakeholder Engagement.

Unit Four: Integrating Ethics into the AI Development Lifecycle

- Ethical Considerations in Problem Formulation and Data Collection.
- Responsible Data Handling, Annotation, and Management.
- Designing Human-in-the-Loop (HITL) Systems for Oversight.
- Ethical Guidelines for AI Model Training, Validation, and Testing.
- Best Practices for Responsible AI Deployment and Monitoring.
- Managing Model Drift and Ensuring Long-term Fairness.
- Case Study Workshop: A to Z Ethical Design of an AI Product.

Unit Five: Advanced Topics and the Future of Responsible AI

- The Ethics of Autonomous Systems and Decision-Making.
- AI for Social Good and Sustainable Development Goals.
- Value Alignment: Ensuring AI Behaves According to Human Values.
- The Future of AI Regulation and International Cooperation.
- Building and Sustaining a Culture of Responsible Innovation.
- Communicating AI Ethics and Trust to Non-technical Stakeholders.
- Final Project: Developing a Responsible AI Strategy for a Hypothetical Company.

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 becomes more autonomous, where should the ultimate line of accountability be drawn between the human creator, the corporate owner, and the AI agent itself?

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

This course distinguishes itself by moving beyond a purely theoretical or technical-only approach to ethical AI. It uniquely integrates three critical pillars: technical implementation, strategic governance, and organizational culture. While many courses focus either on the code-level techniques for fairness or the high-level policy discussions, this program bridges that gap. Participants will not only learn how to implement bias mitigation algorithms but also how to build the business case for them, design the governance frameworks to support them, and champion the cultural shift required for their adoption. The curriculum is built around a rich portfolio of current, real-world case studies, ensuring that the learning is grounded in the practical challenges and complex trade-offs that professionals face today. The emphasis is on developing actionable skills, such as conducting comprehensive impact assessments and creating model cards, rather than just discussing abstract principles. This holistic, practice-oriented approach ensures that graduates are not just aware of AI ethics but are fully equipped to be effective architects and leaders of responsible innovation within their organizations.