

ARTIFICIAL INTELLIGENCE (AI) IN BANKING



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Introduction

The Artificial Intelligence (AI) in Banking Training Course gives banking professionals a working command of the technologies reshaping financial services. AI now supports credit decisions, fraud detection, risk modelling, customer service, and compliance monitoring across the industry. This course explains how machine learning, natural language processing, and automation apply to real banking problems. It covers data foundations, model development, deployment, and monitoring. Furthermore, it addresses model risk, explainability, and regulatory expectations. As a result, participants gain the practical understanding to sponsor AI initiatives, work with data teams, and evaluate results on evidence rather than hype.

Artificial Intelligence (AI) in Banking Course Objectives

- Explain artificial intelligence, machine learning, and deep learning in banking terms.
- Distinguish supervised, unsupervised, and reinforcement learning approaches.
- Identify valuable AI applications across retail, corporate, and risk functions.
- Apply the machine learning lifecycle from problem definition to monitoring.
- Build credit risk and fraud detection models using structured and behavioural data.
- Use natural language processing for customer service and document analysis.
- Apply robotic process automation and intelligent document processing in operations.
- Assess model risk, bias, explainability, and fairness in banking AI.
- Align AI governance with data protection and prudential requirements.
- Measure AI value using model, operational, and customer performance indicators.

Course Methodology

- Interactive lectures with real banking AI case studies.
- Hands-on exercises on model design and data preparation.

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- Workshops on use case prioritisation and value assessment.
- Simulation of model approval and governance committee reviews.
- Structured peer discussion with facilitator feedback on AI implementation.

Who Should Take This Course

- Banking professionals driving digital and AI initiatives.
- Data analysts and business intelligence specialists.
- Credit, risk, and financial crime analytics teams.
- Customer service and operations managers.
- Compliance, audit, and model risk officers.
- Product and technology managers in financial institutions.

Artificial Intelligence (AI) in Banking Course Outlines

Day 1: AI Foundations in Financial Services

- Core AI concepts: machine learning, deep learning, and generative AI.
- Supervised, unsupervised, and reinforcement learning explained simply.
- Data infrastructure, quality, and feature engineering basics.
- The AI lifecycle: framing, data, modelling, deployment, monitoring.
- Banking AI maturity levels and adoption trends.
- Ethics, transparency, and customer trust considerations.
- Case study: a bank moving from data pilot to production AI.

Day 2: Credit, Risk, and Fraud Applications

- Credit scoring with traditional and alternative data.



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- Probability of default and expected loss modelling.
- Early warning systems built on predictive analytics.
- Fraud detection using anomaly detection and behavioural rules.
- Anti-money laundering transaction monitoring and alert triage.
- Model validation, backtesting, and performance monitoring.
- Workshop: outlining a machine learning model for fraud detection.

Day 3: Customer Experience and Intelligent Service

- Natural language processing and its banking applications.
- Chatbots, virtual assistants, and conversational banking.
- Voice analytics and sentiment analysis for service quality.
- Customer segmentation, personalisation, and recommendation engines.
- Next-best-action models and cross-sell optimisation.
- Consent management and privacy in personalisation.
- Workshop: mapping AI touchpoints across the customer journey.

Day 4: Operations, Automation, and Efficiency

- Robotic process automation in back-office and reconciliation work.
- Intelligent document processing for KYC and onboarding.
- Optical character recognition, extraction accuracy, and validation.
- Straight-through processing and exception handling design.
- Process mining, workflow analytics, and capacity planning.
- Cost-to-serve measurement and efficiency tracking.
- Workshop: choosing a process for an automation pilot.





Day 5: Governance, Risk, and Scaling AI

- Model risk management and the three lines of defence.
- Explainability, bias testing, and fairness assessment methods.
- Data protection, privacy, and regulatory expectations.
- AI governance policies, committees, and approval gates.
- Cloud platforms, MLOps, and production monitoring practices.
- Talent, operating model, and change management for AI scale.
- Course review, assessment, and action planning.

Conclusion

By successfully completing Artificial Intelligence (AI) in Banking, participants will gain a solid understanding of machine learning, natural language processing, automation, and the governance that keeps banking AI safe and useful. They will also acquire practical skills in use case selection, model design, operational automation, and model risk assessment. In addition, the course prepares them to scale AI responsibly across their institutions. Gentex Training Center delivers this programme with a strong focus on real banking practice and measurable business value.

FAQs for Artificial Intelligence (AI) in Banking course

Q1 What is the "Artificial Intelligence (AI) in Banking" course about?



It is a five-day programme on how artificial intelligence works in banking. It covers machine learning and deep learning foundations, credit and fraud analytics, chatbots and personalisation, operations automation, and AI governance, so participants can judge use cases and support delivery.

Q2 What are the key benefits of the "Artificial Intelligence (AI) in Banking" course?

Participants gain a realistic view of what AI can and cannot do in banking, which prevents wasted investment. The course improves fraud and credit performance, lowers processing cost through automation, raises customer satisfaction, and strengthens model governance so AI systems withstand audit and regulatory scrutiny.

Q3 What skills will I gain from the "Artificial Intelligence (AI) in Banking" course?

Participants gain AI and machine learning application assessment, credit risk and fraud model design, natural language processing and personalisation design, and operations automation with model risk and AI governance assessment. These four skills cover the practical path from AI concept to controlled deployment.

Q4 What tools, methods, or standards are covered in the "Artificial Intelligence (AI) in Banking" course?

The course covers supervised, unsupervised, and reinforcement learning, feature engineering, probability of default modelling, anomaly detection and network analysis for fraud, AML transaction monitoring, NLP and sentiment analysis, recommendation engines, robotic process automation, intelligent document processing with OCR, process mining, MLOps, model risk management and the three lines of defence, bias and explainability testing, and data protection rules.

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Q5 How is the "Artificial Intelligence (AI) in Banking" course applied in real-world practice?

Participants apply the concepts in their own institutions. They assess and prioritise use cases, define data and model requirements with technical teams, review model validation reports, plan automation pilots, and monitor deployed models. Many leave with a structured AI adoption plan ready for management review.

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