CERTIFICATE IN ARTIFICIAL INTELLIGENCE IN FINANCE



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GENTEX Training Center LLC | Orlando - FL, USA
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Introduction

Certificate in Artificial Intelligence in Finance Training Course builds the practical capability finance professionals need to apply artificial intelligence where it creates real value and control it where it creates risk. Finance functions now hold enough data to support fraud detection, credit scoring, anomaly detection, and forecasting at a level manual review cannot reach. The same tools also produce unreliable outputs, biased recommendations, and compliance exposure when used carelessly. This course covers both sides. It explains data foundations, model types, and application design. Furthermore, it applies fraud detection, credit scoring, forecasting, and reporting automation. In addition, it develops model governance and regulatory awareness. As a result, participants use AI in finance with confidence and control.

Certificate in Artificial Intelligence in Finance Course Objectives

- Explain AI, machine learning, and generative AI concepts in financial terms.
- Identify finance processes suited to AI and automation.
- Apply supervised learning to credit scoring and default prediction.
- Apply anomaly detection and classification to fraud detection.
- Apply forecasting methods to revenue, cost, and cash planning.
- Use generative AI for reporting narratives and analysis drafting.
- Apply explainability techniques including SHAP and feature importance.
- Validate models using cross-validation and out-of-sample testing.
- Assess AI risk including bias, hallucination, and overreliance.
- Apply model governance, documentation, and regulatory standards.

Course Methodology

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- Interactive lectures with real financial AI application cases.
- Data preparation and feature engineering workshops.
- Fraud detection and credit scoring modelling exercises.
- Forecasting and explainability practice.
- Structured peer review with facilitator feedback on AI governance proposals.

Who Should Take This Course

- Financial analysts and risk analysts.
- Management accountants and controllers.
- Fraud, credit, and audit professionals.
- Treasury, FP&A, and reporting specialists.
- Finance professionals adopting AI tools.
- Internal auditors reviewing model risk and controls.

Certificate in Artificial Intelligence in Finance Course Outlines

Day 1: AI Foundations for Finance Professionals

- AI, machine learning, and generative AI explained practically.
- Supervised, unsupervised, and reinforcement learning overview.
- Financial data sources: transactions, market, and operational data.
- Data preparation, quality, and bias considerations.
- AI suitability assessment for finance processes.
- Model development lifecycle in finance contexts.
- Case study: selecting an AI use case with measurable value.

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Day 2: Credit Scoring and Predictive Modelling

- Regression and classification fundamentals.
- Logistic regression for default prediction.
- Decision trees, random forests, and gradient boosting.
- Credit scoring model development and calibration.
- Probability of default and expected loss estimation.
- Scorecard construction and cut-off setting.
- Workshop: building a credit default prediction model.

Day 3: Fraud Detection and Anomaly Analysis

- Fraud patterns in payments, claims, and expenses.
- Classification approaches for fraud detection.
- Anomaly detection with clustering and isolation forests.
- Rule-based and machine learning hybrid designs.
- Imbalanced data handling and sampling techniques.
- False positive management and operational impact.
- Workshop: building a fraud detection model.

Day 4: Forecasting, Reporting Automation, and Explainability

- Time series and machine learning forecasting methods.
- Forecast accuracy measurement and validation.
- Generative AI for report drafting and narrative writing.
- Prompt design for reliable financial outputs.

- Explainability with SHAP and feature importance.
- Bias detection and fairness assessment.
- Workshop: interpreting model outputs for a finance committee.

Day 5: Validation, Governance, and Deployment

- Model validation: cross-validation and out-of-sample testing.
- Backtesting and performance drift monitoring.
- AI governance frameworks and model inventory.
- Data privacy, confidentiality, and access control.
- Regulatory expectations on AI in financial services.
- Deployment, monitoring, and periodic review.
- Course review, assessment, and action planning.

Conclusion

By successfully completing Certificate in Artificial Intelligence in Finance, participants will gain a thorough understanding of AI foundations in finance, credit scoring and predictive modelling, fraud detection and anomaly analysis, forecasting and reporting automation, explainability, and model validation and governance. They will also acquire practical skills in financial data preparation and AI use case selection, credit scoring and predictive modelling, fraud detection and anomaly analysis, and forecasting, explainability, validation and AI governance. In addition, the course prepares them to deploy AI in finance with measurable benefit and proper control. Gentex Training Center delivers this programme with a strong focus on applied AI modelling technique and responsible deployment.

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FAQs for Certificate in Artificial Intelligence in Finance course

Q1 What is the "Certificate in Artificial Intelligence in Finance" course about?

It is a five-day programme on applying AI across finance work. It covers AI foundations, data preparation, credit scoring and default prediction, fraud detection and anomaly analysis, forecasting and reporting automation, explainability, and model validation and governance.

Q2 What are the key benefits of the "Certificate in Artificial Intelligence in Finance" course?

Participants use AI where it improves decisions and control it where it introduces risk. The course sharpens credit scoring accuracy, strengthens fraud detection while managing false positives, improves forecasting and planning, adds reliable AI drafting for reports, raises explainability for committee and regulator review, and builds governance that keeps models dependable.

Q3 What skills will I gain from the "Certificate in Artificial Intelligence in Finance" course?

Participants gain financial data preparation and AI use case selection, credit scoring and predictive modelling, fraud detection and anomaly analysis, and forecasting, explainability, validation and AI governance. These four skills cover the practical core of AI application in finance.

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Q4 What tools, methods, or standards are covered in the "Certificate in Artificial Intelligence in Finance" course?

The course covers AI, machine learning and generative AI concepts, supervised, unsupervised and reinforcement learning, financial data sources across transactions, market and operations, data quality and bias assessment, AI suitability assessment, the model development lifecycle, logistic regression for default prediction, decision trees, random forests and gradient boosting, credit scoring calibration, probability of default and expected loss estimation, scorecard construction and cut-off setting, fraud classification approaches, anomaly detection with clustering and isolation forests, hybrid rule and machine learning design, imbalanced data sampling, false positive management, time series and machine learning forecasting, forecast accuracy measurement, generative AI report drafting, prompt design for financial outputs, SHAP and permutation importance, partial dependence analysis, fairness and bias assessment, cross-validation and out-of-sample testing, backtesting and drift monitoring, AI governance frameworks, model inventory standards, data privacy and access control, and regulatory expectations on AI in financial services.

Q5 How is the "Certificate in Artificial Intelligence in Finance" course applied in real-world practice?

Participants apply the methods to real financial datasets. They prepare and engineer features, build credit default and fraud detection models, calibrate scorecards, run forecasting and planning models, generate report drafts with verification steps, produce SHAP explanations for review committees, validate models out of sample, monitor performance drift, and document models for governance. Many leave with a model development checklist, an explainability framework, and an AI governance template ready to use.

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