ARTIFICIAL INTELLIGENCE IN INSURANCE



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TRAINING CENTER

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Introduction

Artificial Intelligence in Insurance Training Course prepares insurance professionals to apply AI across the whole business, from underwriting to claims and customer service. Insurers hold unusually rich data: policy records, claims histories, telematics, medical information, and images. AI converts that data into faster decisions, sharper risk selection, and earlier fraud detection, and it also raises fairness, explainability, and regulatory questions that insurers cannot set aside. This course covers both sides of the change. It explains data foundations, model development, and application design. Furthermore, it applies underwriting, claims, fraud, pricing, and service models. In addition, it develops explainability, governance, and regulatory compliance. As a result, participants deploy AI in insurance with measurable benefit and confidence.

Artificial Intelligence in Insurance Course Objectives

- Explain AI and machine learning applications across the insurance value chain.
- Assess data readiness across policy, claims, telematics, and external sources.
- Apply supervised learning to risk classification and underwriting decisions.
- Apply claims triage models for severity, complexity, and handling route.
- Build fraud detection models for claims and application fraud.
- Apply pricing and rating analytics using GLM and machine learning approaches.
- Apply natural language processing to policy documents and customer correspondence.
- Apply computer vision to damage assessment and document verification.
- Evaluate explainability, bias, and fairness in insurance models.
- Apply model governance, validation, and regulatory compliance frameworks.

Course Methodology

- Interactive lectures with real insurance AI and modelling cases.

- Underwriting, claims, and pricing model development workshops.
- Fraud detection and triage modelling exercises.
- Explainability and fairness assessment practice.
- Structured peer review with facilitator feedback on model governance proposals.

Who Should Take This Course

- Insurance data scientists and analysts.
- Underwriting and pricing professionals.
- Claims managers and fraud investigation staff.
- Insurance risk, actuarial, and compliance professionals.
- Insurance technology and innovation leads.
- Internal auditors reviewing insurance models and controls.

Artificial Intelligence in Insurance Course Outlines

Day 1: AI Foundations and Insurance Data

- AI and machine learning across the insurance value chain.
- Data sources: policy, claims, telematics, medical, and external data.
- Data quality, completeness, and bias considerations.
- Feature engineering for insurance risk and customer variables.
- Model development lifecycle in insurance contexts.
- AI use case identification and prioritisation.
- Case study: selecting an AI use case with clear business value.

Day 2: Underwriting and Risk Selection

- Risk classification and segmentation methods.
- Logistic regression and gradient boosting for underwriting.
- Risk factor analysis and variable selection.
- Predictive models for loss frequency and severity.
- Portfolio monitoring and risk concentration analysis.
- Model calibration and lift chart evaluation.
- Workshop: building a risk classification model.

Day 3: Claims Triage and Fraud Detection

- Claims triage models for severity and complexity.
- Straight-through processing and automation rules.
- Fraud detection for claims and application fraud.
- Anomaly detection and network analysis techniques.
- Imbalanced data handling and false positive management.
- Investigation prioritisation and referral scoring.
- Workshop: building a claims fraud detection model.

Day 4: Pricing, Documents, and Customer Analytics

- Pricing analytics: GLM versus machine learning approaches.
- Rating factor selection and interaction effects.
- Natural language processing for policy and claims documents.
- Automated document classification and data extraction.
- Computer vision for damage assessment and verification.
- Customer segmentation, churn, and retention modelling.
- Workshop: extracting data from insurance documents with AI.

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Day 5: Explainability, Governance, and Regulation

- Explainability techniques: SHAP and local interpretable models.
- Fairness assessment and protected attribute handling.
- Model validation, monitoring, and performance drift.
- Governance frameworks and model inventory standards.
- Regulatory expectations on AI in insurance.
- Documentation and audit readiness for AI models.
- Course review, assessment, and action planning.

Conclusion

By successfully completing Artificial Intelligence in Insurance, participants will gain a thorough understanding of AI foundations and insurance data, underwriting and risk selection modelling, claims triage and fraud detection, pricing, document and customer analytics, explainability, and model governance and regulation. They will also acquire practical skills in insurance data preparation and use case selection, underwriting and risk classification modelling, claims triage and fraud detection modelling, and pricing and customer analytics, explainability and governance. In addition, the course prepares them to deploy AI in insurance with measurable benefit and regulatory confidence. Gentex Training Center delivers this programme with a strong focus on applied modelling technique and responsible AI deployment.

FAQs for Artificial Intelligence in Insurance course

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Q1 What is the "Artificial Intelligence in Insurance" course about?

It is a five-day programme on applying AI across the insurance business. It covers insurance data foundations, underwriting and risk classification modelling, claims triage and fraud detection, pricing analytics, document and customer analytics, explainability, and model governance and regulation.

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

Participants improve underwriting accuracy, shorten claims handling, and detect fraud earlier. The course sharpens risk classification and pricing, strengthens triage and referral decisions, improves fraud detection while managing false positives, speeds document processing through AI extraction, and builds governance that satisfies regulators and internal reviewers.

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

Participants gain insurance data preparation and AI use case selection, underwriting and risk classification modelling, claims triage and fraud detection modelling, and pricing and customer analytics, explainability and governance. These four skills cover the practical core of AI application in insurance.

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

The course covers AI and machine learning across the insurance value chain, policy, claims, telematics, medical and external data sources, data quality and bias assessment, feature engineering for insurance risk and customer variables, the model development lifecycle, AI use case identification, risk classification and segmentation methods, logistic regression and gradient boosting for underwriting, risk factor analysis and variable selection, loss frequency and severity prediction, portfolio monitoring and risk concentration analysis, model calibration and lift chart evaluation, claims triage for severity and complexity, straight-through processing, fraud detection for claims and application fraud, anomaly detection and network analysis, imbalanced data handling and false positive management, referral scoring, GLM versus machine learning pricing approaches, rating factor selection and interaction effects, natural language processing for policy and claims documents, automated document classification and extraction, computer vision for damage assessment and verification, customer segmentation, churn and retention modelling, SHAP and local interpretable model-agnostic explanations, fairness assessment and protected attribute handling, model validation and performance drift monitoring, governance frameworks and model inventory standards, regulatory expectations on AI in insurance, and documentation and audit readiness.

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

Participants apply the methods to their own portfolios, claims, and documents. They prepare insurance datasets, build risk classification and pricing models, calibrate outputs against loss experience, develop triage and fraud detection models, extract data from policy and claims documents, segment customers and model retention, assess model fairness, validate and monitor performance, and document models for regulatory and audit review. Many leave with a model development checklist, an explainability framework, and a governance template ready to use.