AI FOR CLAIMS AND FRAUD DETECTION IN INSURANCE



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TRAINING CENTER

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Introduction

The AI for Claims and Fraud Detection in Insurance Training Course prepares insurance professionals to apply artificial intelligence across claims handling and fraud detection. Insurance runs on claims: each one carries cost, delay, and fraud risk. Manual review cannot keep pace with claims volume, and it applies judgement unevenly. This course explains how machine learning, document processing, and automation change claims work. It covers claims triage, fraud scoring, document analysis, and network detection. Furthermore, it addresses model governance, explainability, and regulatory expectations. As a result, participants select credible use cases and deliver results insurers can defend.

AI for Claims and Fraud Detection in Insurance Course Objectives

- Explain artificial intelligence and machine learning concepts in insurance contexts.
- Apply claims data models and prepare claims and policy data for modelling.
- Build claims triage and severity prediction models.
- Develop fraud detection models using anomaly detection and network analysis.
- Apply document processing for claim forms, invoices, and medical reports.
- Use natural language processing for claim narratives and correspondence.
- Apply image analysis for damage assessment and document verification.
- Assess model performance using precision, recall, and cost-based metrics.
- Apply AI governance, explainability, and bias testing in insurance decisions.
- Design a phased AI roadmap for claims operations with benefit tracking.

Course Methodology

- Interactive lectures with real insurance claims and fraud case studies.

- Model design and feature engineering workshops on claims data.
- Fraud network and anomaly detection exercises.
- Document processing and narrative analysis practice.
- Structured peer discussion with facilitator feedback on deployment decisions.

Who Should Take This Course

- Claims managers and claims operations teams.
- Fraud investigation and special investigation unit staff.
- Data scientists and analysts in insurance.
- Underwriting and risk analytics professionals.
- Product and digital transformation managers in insurance.
- Compliance and model risk officers in insurance firms.

AI for Claims and Fraud Detection in Insurance Course Outlines

Day 1: AI Foundations for Insurance Claims

- Artificial intelligence, machine learning, and generative AI explained.
- Supervised, unsupervised, and reinforcement learning in insurance.
- Claims data models, sources, and quality requirements.
- Feature engineering for claims, policy, and customer data.
- The AI lifecycle: framing, data, modelling, deployment, monitoring.
- Claims AI use case landscape and prioritisation criteria.
- Case study: an insurer scaling AI across claims operations.

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Day 2: Claims Triage and Automation

- Claims triage models for routing and prioritisation.
- Severity and cost prediction modelling.
- Straight-through processing for low-complexity claims.
- Intelligent document processing for claim forms and invoices.
- Automated reserve setting and leakage detection.
- Human-in-the-loop design and exception escalation.
- Workshop: designing a claims triage model outline.

Day 3: Fraud Detection and Network Analysis

- Fraud typologies in motor, property, health, and life claims.
- Anomaly detection and unsupervised learning approaches.
- Behavioural signals, velocity checks, and repeat claim patterns.
- Network analysis and link detection across claimants and providers.
- Supervised classification models and rule-model hybrid design.
- False positive reduction and investigation workload balance.
- Workshop: building a fraud detection model and investigation rules.

Day 4: Document, Text, and Image Analysis

- Optical character recognition and intelligent document processing.
- Natural language processing for claim narratives and emails.
- Sentiment and inconsistency detection in claimant communication.
- Image analysis for damage assessment and vehicle inspection.
- Document tampering and forgery detection techniques.

- Accuracy measurement and quality assurance for extraction.
- Workshop: mapping AI touchpoints across the claims journey.

Day 5: Governance, Explainability, and Value Realisation

- AI governance frameworks for insurers.
- Explainability, fairness, and bias testing requirements.
- Data protection, consent, and regulatory expectations.
- MLOps, model monitoring, and drift management.
- Building an AI roadmap with funding and decision gates.
- Benefit tracking: fraud loss, cycle time, cost per claim, and satisfaction.
- Course review, assessment, and action planning.

Conclusion

By successfully completing AI for Claims and Fraud Detection in Insurance, participants will gain a thorough understanding of claims AI use cases, triage and automation models, fraud detection techniques, document and image analysis, and AI governance. They will also acquire practical skills in data preparation, model design, fraud detection and benefit measurement. In addition, the course prepares them to scale AI across claims operations responsibly. Gentex Training Center delivers this programme with a strong focus on applied insurance practice and measurable performance gains.

FAQs for AI for Claims and Fraud Detection in Insurance course

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Q1 What is the "AI for Claims and Fraud Detection in Insurance" course about?

It is a five-day programme on applying artificial intelligence in insurance claims and fraud detection. It covers claims data foundations, triage and severity models, fraud detection and network analysis, document, text and image processing, and AI governance for insurers.

Q2 What are the key benefits of the "AI for Claims and Fraud Detection in Insurance" course?

Participants learn to target AI where claims returns are measurable, which avoids wasted pilots. The course reduces fraud losses and false positives, shortens claims cycle times, lowers cost per claim, improves document processing accuracy, and strengthens model governance so AI decisions withstand audit and regulatory review.

Q3 What skills will I gain from the "AI for Claims and Fraud Detection in Insurance" course?

Participants gain claims data preparation and feature engineering, claims triage and severity model design, fraud detection and network analysis model building, and document, text and image analysis with AI governance and benefit measurement. These four skills cover the practical path from insurance data to governed AI deployment.

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Q4 What tools, methods, or standards are covered in the "AI for Claims and Fraud Detection in Insurance" course?

The course covers supervised, unsupervised and reinforcement learning, claims data models and feature engineering, claims triage and severity prediction models, straight-through processing design, intelligent document processing with optical character recognition, automated reserve setting and leakage detection, anomaly detection and behavioural signal analysis, velocity checks, network and link analysis, rule-model hybrid architectures, natural language processing for claim narratives, sentiment and inconsistency detection, image analysis for damage assessment, document tampering detection techniques, model evaluation with precision, recall and cost-based metrics, explainability and bias testing, MLOps and drift monitoring, and data protection and consent requirements.

Q5 How is the "AI for Claims and Fraud Detection in Insurance" course applied in real-world practice?

Participants apply the methods to live claims and policy data. They prepare training datasets, design triage and fraud models, build investigation rules, map document automation, and set monitoring dashboards for deployed models. Many leave with a prioritised AI roadmap and model design outlines ready for development.