Training Course on AI for Fraud Detection and Risk Management

Professional Development Training Course Outline

Category	Information Technology	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The rise of financial crimes, digital scams, and cyber threats has pushed organizations to seek intelligent and scalable solutions. Artificial Intelligence (AI) is transforming the landscape of fraud detection and risk management by offering real-time analytics, anomaly detection, and predictive insights. Training Course on AI for Fraud Detection and Risk Management is designed to help professionals, analysts, and IT specialists leverage the power of machine learning, deep learning, and natural language processing to detect, analyze, and respond to fraudulent activities with greater speed and precision.

As the volume of data and complexity of attacks increases, businesses need more than traditional rules-based systems. Through this course, participants will gain hands-on experience with AI-driven risk modeling, automated fraud alerts, and predictive analytics tools that help reduce exposure and improve decision-making. Whether you're in finance, e-commerce, cybersecurity, or compliance, this course will empower you to stay ahead in an AI-powered future.

Programme Curriculum

Training Course on AI for Fraud Detection and Risk Management

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Course Objectives

1. Understand the fundamentals of AI in fraud detection and risk analytics.
2. Identify various types of financial fraud, including credit card fraud and insurance scams.
3. Apply machine learning algorithms for anomaly detection and trend analysis.
4. Explore deep learning techniques in transaction monitoring.
5. Utilize big data and AI models for real-time fraud alerts.
6. Develop risk scoring models for customers and transactions.
7. Learn natural language processing (NLP) to detect social engineering attacks.
8. Implement AI-driven compliance monitoring and regulatory risk controls.
9. Analyze behavioral biometrics and user patterns to detect identity theft.
10. Integrate AI-powered tools with legacy fraud management systems.
11. Use data visualization to interpret risk levels and fraud trends.
12. Evaluate ethical implications and AI governance frameworks.
13. Design an end-to-end AI fraud detection system using open-source tools.

Target Audience

1. Data Scientists
2. Fraud Analysts
3. Risk Managers
4. Cybersecurity Experts
5. Compliance Officers
6. Financial Auditors
7. IT Professionals
8. Business Intelligence Analysts

Course Duration:

- 5 days

Course Modules

Module 1: Introduction to AI in Fraud Detection

- Evolution of fraud in the digital age
- Overview of AI technologies used in fraud detection
- Benefits of AI vs traditional methods
- Case studies in fraud analytics
- Key challenges and ethical considerations

Module 2: Machine Learning Algorithms for Fraud Analytics

- Supervised vs unsupervised learning
- Decision trees and random forests
- Support vector machines
- K-means clustering for outlier detection
- Model evaluation metrics

Module 3: Deep Learning for Transaction Risk

- Neural networks basics
- Recurrent Neural Networks (RNNs) for sequential data
- Autoencoders for anomaly detection
- Fraud pattern recognition
- Frameworks: TensorFlow and PyTorch

Module 4: Predictive Analytics and Real-Time Monitoring

- Time-series analysis
- Risk forecasting models
- Streaming data and event processing
- Real-time alerts and dashboards
- Apache Kafka and Spark in fraud detection

Module 5: Natural Language Processing (NLP) for Fraud Investigation

- Introduction to NLP in cybersecurity
- Detecting phishing and social engineering
- Sentiment and intent analysis
- Text classification for fraud cases
- Named entity recognition

Module 6: AI for Behavioral Biometrics and Identity Theft

- Understanding digital identity
- User behavior profiling
- Device fingerprinting
- Multi-factor AI authentication
- Red flag pattern automation

Module 7: AI-Driven Compliance and Governance

- Regulatory frameworks (GDPR, PCI DSS, AML)
- Automating compliance checks
- Audit trail generation with AI
- Governance and bias in AI models
- AI policy documentation

Module 8: Building an End-to-End Fraud Detection System

- Data ingestion and preprocessing
- Model training and deployment
- Real-time monitoring integration
- User interface design
- Post-deployment evaluation

Training Methodology

- **Instructor-Led Sessions:** Expert-led classes covering foundational and advanced AI concepts for fraud detection.
- **Hands-On Labs:** Guided exercises where participants build models, analyze datasets, and deploy AI systems using cutting-edge tools.
- **Real-World Case Studies:** Exploration of actual fraud scenarios to apply AI techniques in practical contexts.
- **Peer Discussions:** Collaborative forums and breakout sessions for sharing insights, solutions, and best practices.
- **Project-Based Learning:** Comprehensive projects that reinforce learning through end-to-end AI system development.
- **Optional: Post-Training Support:** Continued access to resources, community forums, and mentorship for ongoing learning.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Keywords: AI fraud detection, machine learning risk, fraud analytics, deep learning fraud, transaction monitoring AI, predictive risk modeling, big data fraud detection, NLP fraud analysis, AI compliance, financial crime AI, AML tools, real-time fraud alerts, behavioral biometrics, cybersecurity AI, ethical AI frameworks, risk scoring AI, anomaly detection models, AI in finance, data science for fraud, AI-driven audit systems.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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