

Course: Credit Risk Analysis with AI

DELIVERED BY:

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Certified Financial Risk Manager with 20+ years of experience in risk and finance management within the banking industry and fintech innovation.



OBJECTIVES:

- Define key AI and ML concepts and explain their relevance to credit risk assessment for personal and corporate loans.
- Describe the regulatory requirements of the EU AI Act as they apply to high-risk AI systems in credit risk.
- Identify the main ML algorithms and models used for credit scoring, default prediction, and risk pricing.
- Apply practical LLM prompting techniques, including structured outputs and problem segmentation, to credit risk tasks.
- Demonstrate how LLMs can automate credit risk report writing, including borrower descriptions, industry analysis, and financial statement commentary.
- Evaluate the explainability, transparency, and governance requirements for AI models used in credit decisions.
- Design integrated workflows combining ML-based scoring models with LLM-generated narrative reports for end-to-end credit risk analysis.
- Provide practical examples illustrating the application of AI technologies across the credit risk assessment lifecycle.



SKILLS DELIVERED:

- Understanding how ML models are applied to credit scoring and default prediction for personal and corporate loans
- Identifying key components and requirements of the EU AI Act relevant to credit risk AI systems
- Applying LLM prompting techniques and structured output methods to automate credit risk report writing
- Designing integrated AI workflows that combine ML scoring with LLM-generated narratives
- Interpreting model outputs, performance metrics, and explainability requirements for regulatory compliance
- Supporting credit risk decision-making with modern AI-powered tools and methodologies



DESIGNED FOR:

- Credit Risk Analysts and Officers
- Risk Management Professionals
- Data Scientists and ML Engineers working in financial services
- Credit Underwriting and Loan Origination Teams
- Compliance and Regulatory Reporting Professionals
- Senior Management and Decision Makers in lending institutions
- Internal Audit Professionals reviewing AI/ML model governance

TOPIC	DURATION
<p>1. Introduction to AI in Credit Risk Analysis</p> <ul style="list-style-type: none"> • Definitions of Artificial Intelligence (AI) and Machine Learning (ML) in the context of credit risk • Overview of ML approaches to credit scoring (supervised learning, ensemble methods, neural networks) • Introduction to Large Language Models (LLMs) and their capabilities • LLM applications for agentic workflows: automated information gathering, data synthesis, and summary generation • LLM usage in credit risk report writing: borrower descriptions, industry analysis, financial statement narratives, chart and table generation 	50 min.
<p>2. Regulatory Framework: EU AI Act and Credit Risk</p> <ul style="list-style-type: none"> • Overview of the EU AI Act and its classification of AI systems by risk level • Credit risk assessment as a high-risk AI application under the EU AI Act • Explainability and transparency requirements for AI models used in credit decisions • Data governance, human oversight, and documentation obligations • Compliance strategies for deploying AI in credit risk within the EU regulatory framework • Interaction with existing financial regulations (CRD, CRR, EBA guidelines on loan origination) 	40 min.
<p>3. Machine Learning Models for Credit Risk Assessment</p> <ul style="list-style-type: none"> • Practical overview of ML algorithms: logistic regression, decision trees, random forests, gradient boosting (XGBoost, LightGBM), and neural networks • Binary classification for credit default prediction (PD models for personal and corporate loans) • Feature engineering and variable selection for credit risk models • Model training, validation, and backtesting methodologies • Risk pricing and risk-adjusted return on capital (RAROC) applications • Model performance metrics: AUC-ROC, Gini coefficient, KS statistic, confusion matrix analysis • Practical examples with personal and corporate loan portfolios 	70 min.

TOPIC	DURATION
<p>4. Large Language Models: Practical Application in Credit Risk</p> <ul style="list-style-type: none"> • Practical overview of LLM architecture and capabilities relevant to credit analysts • Prompting techniques: zero-shot, few-shot, chain-of-thought, and role-based prompting • Context window limitations and strategies for handling large credit dossiers • Structured outputs: generating standardised JSON, tables, and formatted reports from LLM responses • Problem segmentation approach: decomposing complex credit analysis tasks into manageable LLM sub-tasks • Practical demonstrations: automating borrower descriptions, industry reports, and financial commentary 	60 min.
<p>5. Combining Modern Technologies for Credit Risk Solutions</p> <ul style="list-style-type: none"> • Designing end-to-end AI-powered credit risk workflows (from data ingestion to decision support) • Integrating ML scoring models with LLM-generated narrative reports • Agentic AI workflows: orchestrating information retrieval, analysis, and report generation • Use cases: automated credit memos, portfolio monitoring dashboards, and early warning systems • Challenges and best practices: data quality, model governance, bias mitigation, and audit trails • Future trends in AI for credit risk management 	50 min.
<p>6. Conclusions and Q&A</p> <ul style="list-style-type: none"> • Summary of key learning points • Frequently asked questions and answers • Additional resources and next steps 	30 min.
TOTAL	5 hours



Duration:
5 hours (5 CPD Units)



Language:
English



Delivery mode:
Live Online



Skills level:
Advanced Level