Machine Learning in Finance Training Course

Professional Development Training Course Outline

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

Course Introduction

Machine Learning in Finance is a rapidly evolving field that integrates artificial intelligence, predictive analytics, and data science to transform financial decision-making. Machine Learning in Finance Training Course equips learners with advanced knowledge in algorithmic trading, risk modeling, fraud detection, credit scoring, and financial forecasting using machine learning techniques. Participants will gain practical exposure to real-world financial datasets and AI-driven financial systems.

As financial institutions increasingly adopt automation and AI-powered analytics, professionals skilled in machine learning for finance are in high demand. This course provides a structured pathway to understand deep learning, supervised and unsupervised learning, and time-series forecasting models applied in banking, investment, fintech, and insurance sectors, ensuring strong career growth and industry relevance.

Programme Curriculum

Machine Learning in Finance Training Course

Introduction

Machine Learning in Finance is a rapidly evolving field that integrates artificial intelligence, predictive analytics, and data science to transform financial decision-making. Machine Learning in Finance Training Course equips learners with advanced knowledge in algorithmic trading, risk modeling, fraud detection, credit scoring, and financial forecasting using machine learning techniques. Participants will gain practical exposure to real-world financial datasets and AI-driven financial systems.

As financial institutions increasingly adopt automation and AI-powered analytics, professionals skilled in machine learning for finance are in high demand. This course provides a structured pathway to understand deep learning, supervised and unsupervised learning, and time-series forecasting models applied in banking, investment, fintech, and insurance sectors, ensuring strong career growth and industry relevance.

Course Objectives

1. Understand fundamentals of machine learning in financial systems
2. Apply predictive analytics for financial forecasting and investment decisions
3. Develop risk assessment models using AI algorithms
4. Analyze financial data using supervised and unsupervised learning
5. Implement fraud detection systems using machine learning techniques
6. Build credit scoring models for banking and lending institutions
7. Apply deep learning in algorithmic trading strategies
8. Understand data preprocessing and feature engineering in finance
9. Use time-series analysis for market prediction
10. Interpret financial big data using AI tools
11. Enhance decision-making in fintech environments
12. Integrate machine learning models into financial applications
13. Evaluate performance metrics for financial AI models

Organizational Benefits

- Improved financial forecasting accuracy
- Enhanced fraud detection and prevention systems
- Faster and data-driven decision-making
- Reduced operational financial risks
- Optimized investment strategies and portfolio management
- Increased efficiency in banking operations
- Better customer credit risk evaluation
- Advanced algorithmic trading performance
- Competitive advantage in fintech innovation
- Improved regulatory compliance and reporting systems

Target Audiences

- Financial analysts and investment professionals
- Data scientists in fintech companies
- Banking and credit risk officers
- Software developers in financial systems
- Portfolio and asset managers
- Business intelligence analysts
- AI and machine learning engineers
- University students in finance and data science

Course Duration: 5 days

Course Modules

Module 1: Introduction to Machine Learning in Finance

- Overview of AI in financial systems
- Role of machine learning in banking
- Types of financial data analysis
- Key ML algorithms in finance
- Case study: AI adoption in global banking systems
- Practical exercise on financial datasets

Module 2: Data Collection and Preprocessing

- Financial data sources and acquisition
- Data cleaning techniques
- Handling missing financial data
- Feature engineering strategies
- Case study: Data preprocessing in hedge funds
- Hands-on dataset transformation

Module 3: Supervised Learning in Finance

- Regression and classification models
- Credit scoring applications
- Loan default prediction models
- Model training and validation
- Case study: Credit risk modeling in commercial banks
- Practical model building

Module 4: Unsupervised Learning Applications

- Clustering financial data
- Customer segmentation in banking
- Anomaly detection systems
- Market behavior analysis
- Case study: Fraud detection in global fintech firms
- Clustering implementation exercise

Module 5: Time Series Analysis and Forecasting

- Financial forecasting techniques
- Stock price prediction models
- ARIMA and LSTM models
- Market trend analysis
- Case study: Stock prediction in global stock exchanges

- Forecasting simulation task

Module 6: Algorithmic Trading Systems

- Introduction to trading algorithms
- High-frequency trading systems
- Strategy optimization models
- Risk-return optimization
- Case study: Algorithmic trading in Wall Street firms
- Trading simulation exercise

Module 7: Fraud Detection and Risk Management

- Fraud detection techniques
- Transaction anomaly detection
- Risk scoring systems
- Insurance claim analysis
- Case study: Global banking fraud prevention systems
- Risk modeling exercise

Module 8: AI Integration in Financial Services

- Machine learning deployment in fintech
- Cloud-based financial AI systems
- Ethical AI in finance
- Model evaluation metrics
- Case study: AI transformation in global financial institutions
- Final project implementation

Training Methodology

- Instructor-led interactive sessions
- Real-world financial case study analysis
- Hands-on machine learning coding exercises
- Group discussions and collaborative problem solving
- Project-based learning approach
- Simulation of financial market scenarios
- Practical datasets from banking and fintech industries

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.

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

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com