SKYPARK ITECH
"The Future of Innovation"

AI In Finance & Predictive Modeling Internship

(15 Days | Practical-Oriented | Industry Ready)

INTERNSHIP SYLLABUS

Internship Objectives

By the end of this internship, students will be able to:

- Understand **financial data & markets**
- Apply **AI & ML models for prediction**
- Build **real-world finance projects**
- Interpret results for **business & investment decisions**
- Gain confidence to do **final-year & real-time projects independently**

Tools & Technologies

- Python, Pandas, NumPy
- Scikit-learn
- Matplotlib, Seaborn
- Jupyter Notebook
- Time-Series Analysis
- Regression & Classification Models
- Financial Datasets (Stocks, Loans, Credit, Sales)

DAY 1 – Introduction to AI in Finance

- Overview of FinTech & AI Applications
- AI use cases: Stock prediction, Credit scoring, Fraud detection
- Understanding financial datasets

Practical:

Explore sample finance dataset

DAY 2 – Python for Financial Data

- Financial data formats (CSV, Excel, APIs)
- Pandas for financial analysis
- Handling missing values & outliers

Practical:

Clean banking transaction data

DAY 3 – Exploratory Data Analysis (EDA)

- Statistical measures for finance
- Correlation & trend analysis
- Visualizing financial KPIs

Practical:

Stock price trend analysis

DAY 4 – Regression Models for Finance

- Linear & Multiple Regression
- Predicting revenue & stock prices
- Model evaluation (RMSE, R^2)

Practical:

Stock price prediction model

DAY 5 – Classification Models

- Logistic Regression
- Decision Trees
- Financial risk classification

Practical:

Loan approval prediction

DAY 6 – Credit Scoring Systems

- Understanding credit risk
- Feature selection for credit models

Practical:

Credit score prediction system

DAY 7 – Fraud Detection Techniques

- Fraud patterns in transactions
- Supervised vs Unsupervised learning

Practical:

Fraud detection using ML

DAY 8 – Time Series Analysis

- Time series fundamentals
- Moving averages & trends

Practical:

Forecasting stock prices

DAY 9 – Advanced Predictive Modeling

- Random Forest & Gradient Boosting
- Model comparison & optimization

Practical:

Predictive model improvement

DAY 10 – Financial Forecasting

- Sales & revenue forecasting
- Demand prediction

Practical:

Business revenue prediction

DAY 11 – Model Evaluation & Optimization

- Confusion matrix & ROC curve

- Hyperparameter tuning

Practical:

Optimize finance prediction model

DAY 12 – AI Ethics & Compliance in Finance

- Bias & fairness in financial AI
- Regulatory considerations
- Case study discussion

DAY 13 – Mini Project Development

- Project selection guidance
- Dataset preparation
- Model implementation

DAY 14 – Project Completion

- Model testing & results
- Visualization & insights
- Business interpretation of predictions

DAY 15 – Final Project Presentation

- Project demo
- Viva & evaluation
- Career guidance in FinTech & AI
- Internship completion & certification
- Sales Forecasting for Finance