

Programme on

FINANCIAL FORECASTING USING AI/ML

Programme Coordinator: **Prof. V. Ravi**

DECEMBER 02 - 07, 2024
(Offline Mode)



Introduction

From time immemorial, forecasting, being one of the tasks of data mining, played a crucial role in finance (subsuming, banking, insurance and stock markets) apart from other disciplines. Many important problems in finance collapse into regression problems, where the primary objective is to forecast a target variable/feature given a set of independent variables/features. Foreign Exchange rate (aka FOREX) forecasting, interest rate forecasting, gold price forecasting, inflation forecasting, GDP forecasting, stock market forecasting etc. are examples of such problems. Statistical models such as simple linear regression, multiple linear regression, polynomial regression, intrinsically linear regression, LASSO, ridge regression, logistic regression, auto regressive moving average (ARMA) models, Box-Jenkins methodology etc. are some of the earliest and most successful methods for solving the afore-mentioned forecasting problems. However, with the advent of neural networks (NN), especially, multilayer perceptron (MLP) in 1986, the scene of forecasting has changed forever. Several NN architectures have been proposed to tackle difficult, non-linear forecasting problems. Apart from NN, other machine learning techniques including deep learning also contributed to the ever-expanding repertoire of methods to solve forecasting problems.

This course is designed to impart a brief introduction to Python programming language, followed by a decent exposure to the afore-mentioned techniques and rigorous hands-on exercises on using these methods to solving a bunch of important forecasting problems via Python.

Objectives

- ★ To make the participants aware of the new developments in this field and influence them to join the bandwagon for overall growth of the banking industry
- ★ To convince the with use cases, case of studies, best practices in Indian banks and PoCs conducted at the Centre of Excellence in Analytics, IDRBT

Contents

- ★ Introduction to Applied Statistics
- ★ Introduction to Data science (AI/ML subsumed)
- ★ Introduction Time series forecasting- Basic (Box-Jenkins Model)
- ★ Introduction to DS (AI/ML subsumed) algorithms
- ★ Introduction Time series forecasting- Advanced (ML and Deep Learning based, Hybrid Statistical and ML/DL models, Hybrid Chaos, ML/DL models)
- ★ Introduction to Prediction Intervals in Financial Forecasting
- ★ Introduction to Python-Numpy, Pandas, Scikit learn
- ★ Rigorous hands-on exercises using the above mentioned methods on FOREX forecasting, Stock market forecasting, stock market movement forecasting, Inflation forecasting, Gold price forecasting using Python.

Who can Participate?

Officers and executives up to and including AGM level from the analytics division, data warehouse, IT department, digital banking, transaction banking, planning, marketing, SOC and cyber security divisions. Should be a Science/Engineering/Management graduate/postgraduate with no prior knowledge of Python.

End Use

- ★ Participants shall be introduced to this exciting field with numerous examples and, several concepts will be demystified.
- ★ Participants can help write the RFP in the respective areas using AI/ML & Data Science
- ★ They will be ready to be drafted into the full-fledged projects on this subject in the bank.
- ★ They can ask the vendors pertinent and pointed questions.

Fee Details

Domestic Participants from

- ★ RRBs & Coop. Banks: Rs. 70,800/- (Rs. 60,000/- + 18% GST)
- ★ All other Banks & Fis: Rs. 92,040/- (Rs. 78,000/- + 18% GST)

The fees for our programmes can be remitted through NEFT and the bank account details for fee payment are here under:

Account Name : IDRBT
Bank : Axis Bank Limited
Branch : Humayun Nagar (Mehdipatnam Ring Road) Branch, Hyderabad
Account Number : 426010100018823
IFSC Code : UTIB0000426
GSTIN : 36AAAAI0204K1Z4.

Nominations

Nominations should be sent to us latest by **November 18, 2024** by email to program@idrbt.ac.in.

While nominating, please provide the details of the participants (Name, Designation, Bank, Mobile No / Phone No., email address) along with the nominating authority details (Name, Designation, Bank, Mobile No / Phone No., email address, Fees billing address, GST No. of the bank).

Accommodation

Participants will be provided Air Conditioned Single Occupancy room at IDRBT, Hyderabad, with all cafeteria facilities. The Participants can check-in on the evening of one day before the programme and can check-out after completion of the programme on the same day (or) in the morning of the next day of the programme.

Programmes Scheduled in December 2024

S. No.	Programme	Date	Coordinator
1	IT Governance, Risk and Compliance	02 - 04	Dr. Abhishek Thakur
2	Blockchain Technology for Banking	02 - 06	Dr. Susmita Mandal
3	Financial Forecasting using AI/ML	02 - 07	Dr. V. Ravi
4	Application Security	09 - 11	Dr. Susmita Mandal
5	Security in Cloud Computing	09 - 13	Dr. P. Syam Kumar
6	Emerging AI/ML Technologies for Smart Banking	16 - 20	Dr. Mridula Verma
7	Emerging Technologies for Cyber Security	16 - 20	Dr. Dipanjan Roy
8	Workshop on Registration Authority Operations	30 - 31	Dr. N. P. Dhavale

Please visit our website for more details at : <https://www.idrbt.ac.in/offline-programmes>.

Contact Us

Please contact our Programme Office for organizing Customized Programmes and/or any other queries related to programmes at program@idrbt.ac.in or call us on +914023294121/22/24/25.



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