



Online Programme in Financial Analysis and Algorithmic Trading Using Python

February 8 – 12, 2021

(Online course duration 15 hours)

(Additional: 15 hours recorded sessions)

Coordinator

Dr Smita Roy Trivedi

Assistant Professor

— Close
— Close: 30 Day Mean
— Upper
— Lower

The chart shows four data series: 'Close' (green line), 'Close: 30 Day Mean' (orange line), 'Upper' (yellow line), and 'Lower' (grey line). The x-axis represents time from 2012-02 to 2013-11, and the y-axis represents values from 50 to 60.



**National Institute of Bank Management
Pune, India**

2012-02 2012-05 2012-08 2012-11 2013-02 2013-05 2013-08 2013-11
Date

Globally, Python is fast emerging as the programming language of choice for banking and financial sector. Python, developed under an OSI-approved open source license, is a powerful yet easy to learn programming language. It is especially useful for complex financial analysis, which explains its increased use by banking and financial sector. In this programme, we focus on use of Python for basic financial analysis and algorithmic trading.

In financial analysis using Python, we cover the handling and visualization of financial market data as well as portfolio optimization and basic time series modelling. The generation of buy or sell signals based on a set of instructions to the computing system is algorithmic trading. With the markets becoming more and more volatile post the pandemic, the importance of backtesting of trading strategies cannot be overemphasized. This programme focuses on the backtesting of trading strategies using Python and its application in Algorithmic trading.

Methodology

Hands on sessions (Python). No prior experience of programming is required.

Objectives

The programme aims to help participants to :

- Understand Python basics including working with arrays, modules and packages for importing and visualizing data.
- Use Python for financial analysis including portfolio optimization and basic time series modelling.
- Use Python for backtesting of trading strategies, including those based technical analysis.
- Understand the application of Python in Algorithmic trading.

Content

- ❑ **Introduction to programming with Python:** Python variables and data types; Basic Python Syntax; Python Operators, Functions, Sequences and Iterations.
- ❑ **Working with Python:** Using Modules and Packages (Numpy, Pandas, Matplotlib) for Importing, Exporting, Arranging and Visualizing Data.
- ❑ **Financial analysis with Python:** Portfolio Optimization and Basic times series analysis.
- ❑ **Credit Risk Management with Python.**
- ❑ **Algorithmic trading:** Misconceptions regarding Algorithmic trading, Algorithm pseudo code generation, Comparison of Excel and Python Regressing for financial analysis.
- ❑ **News Sentiment Analysis with Python.**
- ❑ **Backtesting of trading strategies with Python:** Importing data, determining and coding strategies and understanding backtesting results.
- ❑ **Application of Python in Algorithmic trading.**

Dates

February 8 – 12, 2021

The programme will commence at 2 pm on February 8, 2021 will involve total 15 study hours (spread over 5 days) during the course, and conclude by 6.00 pm on February 12, 2021

Pedagogy

This online course will have 15 hours of online delivery time, over 5 days. The course material will comprise of:

- ❖ Reading material for self-study
- ❖ Video sessions comprising of:
 - ♦ 15 hours of pre-recorded video sessions for conceptual learning
 - ♦ Live, interactive video sessions by faculty and guest speakers
- ❖ Python Note book files and notes
- ❖ Self-assessment quizzes and assignments to track progress in the course

Target Group

The programme is intended for officers working in treasuries of banks and non-banking financial institutions, executives working in corporate treasuries, traders (retail/institutional), fund managers, and financial markets analysts.

Modalities

- ❖ Participants enrolled to the program will be provided with login id and password to log into the online learning management platform of the institute. The detailed programme schedule will be shared with the participants. Guidance will be provided for navigating through the various activities in the platform such as accessing courseware, viewing video sessions, participating in live sessions, taking quizzes, etc. The programme window will be open for maximum 5 days.
- ❖ Live session schedule will be provided at the start of the programme.
- ❖ Executives attending the program would need internet access on a desktop or laptop with Google Chrome to enable access to live and recorded sessions. Participants would also need to have MS-Office on their desktop / laptop for accessing excel and word files for exercises.

Completion certificate will be given to the participant at the end of the programme.

Participant has to remain logged in for at least the total number of engagement hours within the duration of the programme for being considered to have completed the same.

Nominations and Enquiries

Nominations are invited from both Institutions and Individuals from India and Abroad. Executives working in Banks/Financial Institution/Consulting Firms/Technology Firms in the Banking and Financial Services domain can apply for the programme in their individual capacity.

Please address your enquiries and nominations to:

Dr Smita Roy Trivedi
Programme Coordinator
National Institute of Bank Management
NIBM Post office, Kondhwe Khurd
Pune 411 048, India

Tel. : 0091-20-26716000 (EPABX)

Mobile : 7774897240

E-mail : smita@nibmindia.org

Web : www.nibmindia.org

Last Date for Receiving Nominations: February 6, 2021

Programme Fee (per participant) for 15 hours programme

US \$ 600 for foreign participant

	Fee	GST	Fee+GST	TDS
Member Banks :	13200	2376	15576	1320
Non-Member Banks :	15500	2790	18290	1550
Individual Nominee :	15500	2790	18290	----

The fee includes the cost of tuition, access to reading material and recorded videos, etc. (Central Goods and Services Tax (GST) @ 18%, and TDS @ 10%. Kindly send the TDS Certificate on priority to NIBM).

Mode of Payment for Indian Participants

- The fee may preferably be transferred by RTGS/NEFT/ECS to our A/c No. 20002400021 with Bank of Maharashtra, NIBM Branch, Pune (IFSC Code MAHB0001124). NIBM PAN No. AAATN0040P and ST No. AAATN0040PST001.
- National Institute of Bank Management
NIBM Post Office, Kondhwe Khurd, Pune 411 048, INDIA.

Mode of Payment for Foreign Participants

Mode of Remittance: SWIFT*

- Name & Address of our Bankers : Punjab National Bank
C-2, Shop No. 4-5, Bramha Estate
Kondhwe Khurd, Pune 411 048
Maharashtra, India
- Name of the Beneficiary : National Institute of Bank Management
- NIBM's Bank Account No. with Punjab National Bank : 11281131004402
- Bank's Swift Code : PUNBINBBDIB
- Preferred Currency : USD
- Correspondent Bank of Punjab National Bank : WELLS FARGO BANK NA
- Punjab National Bank A/c No.: with Correspondent Bank : 2000193007918
- Swift Code with Wells Fargo Bank : PNBpus3nnyc
- IFSC : PUNB0108810

*** The Foreign Bank Charges/ SWIFT charges/Commission is to be borne by the remitter. The fees mentioned in the invoice/brochure is to be paid to NIBM, net of all bank charges.**

***Payments will be accepted only through electronic mode.
Cheques/DDs/Pay Orders will not be accepted.**

- **For all electronic remittances, kindly send a confirmatory e-mail at: accounts@nibmindia.org giving details of the remitter and participant, name and dates of programme, etc.**