



OppenFynn Innovation Labs<sup>®</sup>

## Comprehensive Course on Financial Analytics - Fundamentals to Advanced

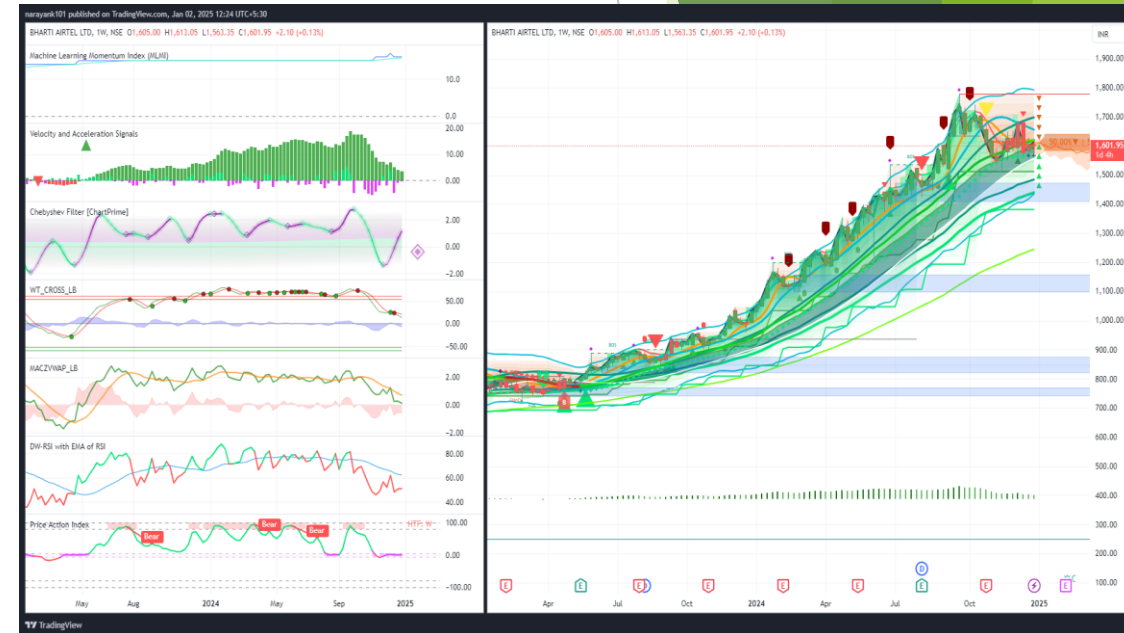


*This comprehensive and all-inclusive course is meticulously designed to equip you with in-depth knowledge of financial markets, along with the essential statistical and programming skills needed to perform quantitative analysis of various financial instruments.*

# About this Course

- ▶ This comprehensive and all-inclusive course is meticulously designed to equip you with in-depth knowledge of financial markets, along with the essential statistical and programming skills needed to perform quantitative analysis of various financial instruments.
- ▶ Throughout the course, you will master a wide range of concepts, starting from the fundamentals of financial markets and mutual funds, including their types, to more advanced topics. Key areas covered include:
  - Fundamental and technical analysis of financial assets
  - Risk management strategies
  - Basics of statistics
  - Python programming tailored for finance
  - Introduction to machine learning and its applications in financial markets
  - Advanced machine learning models for quantitative finance
  - Quantitative modeling techniques
  - Futures and options trading, from basics to advanced concepts like option Greeks, open interest, and strategic trading approaches
  - Practical application of Trading-View indicators

- ▶ By the end of this course, you will gain the expertise and skills required to excel in the dynamic world of financial markets, making it a perfect fit for aspiring professionals and enthusiasts alike.



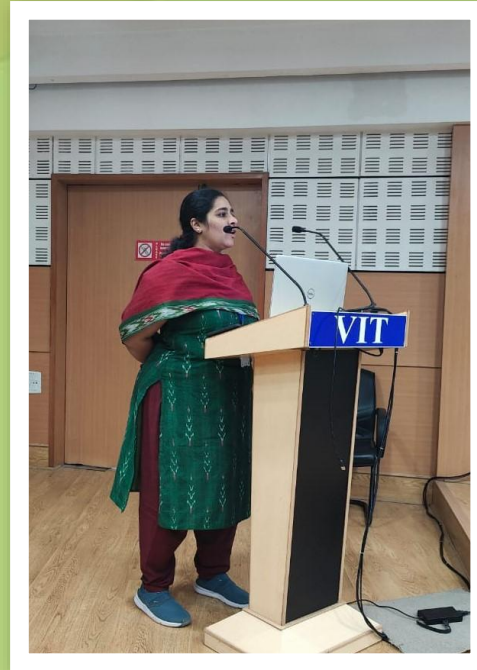
## Disclaimer:

We are not SEBI Registered, all the materials taught in this course are purely educational in nature. Participants should take informed decisions based on their risk appetite and can consult their financial advisor.

# Team



Dr. Narayan .K - PhD(IISc),  
EDP( IIM - Kashipur), AI and  
Quantum Expert, Certified  
Options Writer



Divya Shree .S - B.E,  
M.Tech, Certified AI  
and Deep Learning  
Engineer

## About the Faculty:

Dr. Narayan .K. Ph.D (IISc), EMBA (IIM-Kashipur) has a total of 16 years of research and 5 years of trading experience.

*He specializes in Technical and Quantitative Analysis of stocks and option Greeks.*

He is recipient of award for research publication by Vision Group on Science and Technology, Department of IT and BT, Government of Karnataka.

He has more than 65+ scopus indexed publication and guided 5 students for their PhD.

# Detailed Syllabus

(The Course is divided into Three Phase, The entire course duration is for 16 Weeks , 3 hrs of classes per week)

Phase-1	Phase -2	Phase 3
<b>Capital Markets Fundamental and Technical Analysis</b>	<b>Statistics and Python Programming</b>	<b>Futures and Options Basics to Advanced</b>
Module 1: Capital Market Basics	Module 7: Python Programming	Module 12:-Futures and Option Basics
Module 2: Mutual Funds	Module 8: Statistics Basics	Module 13:- Option Advanced
Module 3: Basics of Candle Stick Patterns	Module 9:- Advanced Statistics using Python	Module 14: Option Strategies
Module 4:- Technical Analysis	Module 10:- Introduction to Machine Learning	Module 15:- Expiry Day Trading
Module 5:- Trade Setups	Module 11: Machine Learning for Financial Market	Module 16: Positional Option Trading
Module 6: Risk Management		



# Phase 1 (Capital Markets Fundamental and Technical Analysis)

## Module 1: Capital Market Basics and Fundamental Analysis

- Types of exchange , concept of equity and debt
- Market capitalization, large cap, Mid cap, Small cap stocks
- Ask and bid rates, types of brokers, how to choose a right broker.
- Fundamental Analysis Basics: P/E Ratio, EPS Ratio, P/B Analysis

## Module 2: Mutual Funds

- Types of Mutual Funds
- Types of Debt Mutual Funds
- Types of Equity Mutual Funds
- Hybrid Funds
- SIP, Advantages of SIP
- International Funds
- Types of Risk in Mutual Fund

## Module 3: Basics of Candle Stick Patterns

- Formation of Bullish and Bearish candle stick patterns
- Various Time Frames of Candle stick patterns
- Various candle stick patterns
- Basics Chart patterns, Using Trading View Platform

## Module 4:- Technical Analysis

- Introduction to Trading View Platform
- Moving Averages, Trendlines, Various Chart Patterns.
- Introduction to Basic Indicators such as Divergence, RSI, VWAP, MACD, ADX, and Super Trend.
- Advanced Machine Learning Indicators such as KNN, Super Trend AI, Machine Learning Momentum Index
- Concept of Supply and Demand
- Trade Set up in trading view
- Multi-Time Frame analysis.

## Module 5:- Trade Setups

- Trading time intervals, Swing Trading, Momentum Trading.
- Formulation of Trade Set-up, Intraday, Swing , Positional

## Module 6: Risk Management

- Position Sizing
- Risk vs reward
- Trading Psychology

# Phase 2:- Statistics and Python Programming

## Module 7: Python Programming

- Basics of Python Programming
- Jupiter Notebook, Google Colab
- Creating an environment in Python.
- Data Types
- Python Libraries, NumPy, Pandas , Pandas Data Frame
- Data Manipulation

## Module 8: Statistics Basics

- Basics of Statistics
- Introduction Excel Programming
- Hypothesis Testing, Probability, Variance
- Standard Deviation, Mean, Median, Mode
- Z -Score, Stationarity Check
- Calculation of Beta, Generation of Alpha

## Module 9:- Advanced Statistics using Python

- Time Series Modelling
- ARIMA Models
- Volatility Modelling using ARCH
- Historical , Implied and Realized Volatility
- Trade Set up in trading view
- Multi-Time Frame trading
- Co-relation and Co-integration

## Module 10:- Introduction to Machine Learning

- Definition of Machine Learning
- Types of Machine Learning
- Machine Learning for Trading

## Module 11: Machine Learning for Financial Market

- Yahoo Finance Libraries
- Simple Machine Learning Trading Strategies
- Statistical Arbitrage and PCA
- Back-testing- Vectorized Back testing
- Introduction to Algorithmic Trading Pro & Cons
- HFT, MFT and LFT trading



# Phase 3: Futures and Options Basics to Advanced

## Module 12:-Futures and Option Basics

- Introduction to Index and Stock options
- Index and Stock Futures
- Options: Detailed Explanation From theoretical to practical Implications
- Difference between stock and Index options
- Introduction to Option Greeks and its Importance, Analytics
- Importance of India VIX
- Volatility Premium
- Straddle Premium vs VWAP

## Module 13:- Option Advanced

- Concept of Open Interest, Short buildup, Long Buildup, Short Covering, Long Unwinding
- Option Buying vs option selling, Option chain Analysis
- ATM, ITM and OTM Options
- Effect of Theta on ATM, ITM, and OTM Options.

## Module 14: Option Strategies

- Option Strategies for passive income generation
- Bull Call spread, Bear-put spread, Callender spread, short straddle, Long straddle , Adjustments, Margin Requirements.
- Position Sizing , Risk Management and Hedging

## Module 15:- Expiry Day Trading

- Expiry day trading do's and don'ts
- Effect of Gamma on expiry day option movements
- Trade Set-up , Stop Loss and Target
- Trading Psychology
- Paper trading, Introduction to Sensibull and Opstra Packages

## Module 16: Positional Option Trading

- Basics of Positional Option Trading Strategies
- Trade Management based on VIX
- Live examples using Sensibull

# Prerequisites and Course Outcomes

## Prerequisites

- ▶ Minimum Educational Qualification Expected from the candidates enrolling for the course is Graduation in any stream of Science/Engineering/ Commerce.
- ▶ Basic Programming interest will be required to understand all the modules under Phase 2.
- ▶ An Interest and Inclination to Learn new concept.
- ▶ Critical analytical thinking will be required to understand the concepts.
- ▶ Candidates Enrolled are required to attend at least 85% of classes to understand the concepts.
- ▶ Candidates should be comfortable with Spoken English as all the classes will be conducted in English.

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## Course Outcomes

- ▶ Candidates at the end of the course will get a complete birds eye knowledge about financial markets.
- ▶ Candidates will get hands on experience in Python Programming for finance, including use of all the financial python libraries.
- ▶ This course will be beneficial for managing personal finances/ start a career in Quant Trading/Hedge Funds.
- ▶ Course recording shall be provided after each lectures.
- ▶ One Year Support will be provided where doubts will be cleared.



- ▶ Class Duration: Four Months (16 weeks for all 16 Modules, covered in Three Phases)
- ▶ Class Schedule: 3 Hours a week: Online live classes with recordings access for 1 year.
- ▶ Timings : Tuesday and Friday/Saturday 6 – 7.30 PM IST
  
- ▶ Cost: **We have different pricings as per client requirements**
  - i. For the entire course covering all the three Phase (16 Modules) INR 18,500/- +18% GST = **INR 21,830/-** (course will be covered in 4 Months/ 16 weeks)
  - ii. For participants interested only up to Phase 2 upto Module 11 (excluding F&O)= INR 13,500 +18 % GST= **INR 15,930/-**  
(11 Modules will be covered in Three Months Duration)
  - iii. For participants interested only in Phase 1 up to Module 6 (excluding Python and F&O) = INR 5,500 +18% GST = INR 6490/- ( 6 modules will be covered 1.5 Months)

# Payment Terms

- Full amount to be paid at the beginning of the course and no partial payment will be entertained. Course will be confirmed through confirmation mail on receipt of full payment.
- One Free Webinar will be conducted before commencement of the course.
- Fee Once Paid will not be refunded under any circumstances
- Payment details

**OPPENFYNN INNOVATION LABS (GSTIN: 29AAHFO2616F1ZB )**

**Bank: IDBI Bank, Yelahanka Branch, Bangalore**

**Current Account No: 0694102000014076**



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## THE TEAM



**Dr. Arjun Shetty**

*B.Tech(MIT Manipal), M.Tech(IIT Hyderabad), PhD(IISc Bangalore), PostDoc( Institute for Quantum Computing Canada)*



**Dr. Narayan K**

*B.E, M.Tech(MIT Manipal), MBA (IIM), PhD(IISc Bangalore)*



**Divya Shree.S**

*B.E, M.Tech, Certified AI and Deep Learning Engineer(IIT Roorkee)*



Tools we cover





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- ▶ <https://www.oppenfynninnovationlabs.com/>
  - ▶ You tube:- <https://www.youtube.com/channel/UCLZsUGK3kP4AMao0nwO1J8A>
  - ▶ LinkedIn:- <https://www.linkedin.com/company/oppenfynn-innovation-labs/?originalSubdomain=in>
  - ▶ X (Twitter) <https://x.com/narayank1011>
  - ▶ [contact@oppenfynn.org](mailto:contact@oppenfynn.org)
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*Thank You*