



Certificate Program in

Machine Learning for Quantitative Finance

Jointly Offered by IIM Sirmaur and NSE Academy

ABOUT IIM SIRMAUR

Indian Institute of Management Sirmaur (IIM Sirmaur) is a Centrally Funded Institution of National Importance set up by the Government of India in 2015. IIM Sirmaur is one of the newer institutions of the IIM family in the country. As a premier institution, under the aegis of Ministry of Education, GoI, it aims to provide Management Education of high quality and promotes allied areas of knowledge and inter-disciplinary studies.

The Institute strives for the seamless integration of management education with local and global aspirations in an enabling environment. It supports that management education is not just about seeking the most competitive employment opportunities, but also about learning to serve socio-economic concerns through ethical and visionary corporate leadership. It strives to focus on indigenous areas and innovative practices, to develop sensitive corporate leaders and entrepreneurs of tomorrow.



PROGRAM DIRECTORS

Dr. Kiran Kumar Paidipati

Dr. Kiran Kumar Paidipati is working as an **Assistant Professor** in the Area of Decision Sciences at IIM Sirmaur. Prior to this, he served as an Assistant Professor in the Department of Statistics, Lady Shri Ram College for Women, **University of Delhi**, New Delhi. He also worked as a UGC Post-Doctoral Fellow in the **Department of Statistics, Pondicherry University**, Puducherry. As an academician, he has more than four years of teaching and research experience.

Dr. Paidipati completed his Ph.D. in Statistics from Pondicherry University in 2016 and M. Sc. Statistics from Sri Venkateswara University, Tirupati. His research areas include **Stochastic Modeling, Operations Research, and Data Science**. He is now working for the proposed international collaborations with **France** and the **BRICS** countries. He has taught Business Statistics, Probability Theory, Quantitative Analysis for Management, Financial Statistics, Programming in R and Advanced Analytics for graduates, post graduates and practitioners.



Dr. Manish Sarkhel

Dr. Manish Sarkhel is working as an **Assistant Professor** in the Area of **Operations and Supply Chain Management** at IIM Sirmaur. Prior to this, he has worked as an Assistant Professor at **Xavier Institute of Management**, Bhubaneswar (XIMB), **T.A. Pai Institute of Management (TAPMI) & Woxsen University**, Hyderabad. He has also been a visiting professor at **IIM Amritsar & XIMB**.

Dr. Manish Sarkhel has completed his **Ph.D** from **IIM Indore**. He has taught subjects such as Modelling with Spreadsheets, Project Management, Python Programming, Artificial Intelligence Using Python, Data Analytics Using Python & R, Financial Analytics Using Python, Excel, and Visual Analytics Using Tableau & Power BI. His research interests lie at the intersection of **Financial Market Interlinkages, Artificial Intelligence, Non-linear Programming and Networks**.



Dr. P. Sanjay

Dr. P. Sanjay is working as an **Associate Professor** in the Area of **Finance and Accounting** at IIM Sirmaur. Prior to joining academia, Dr. P. Sanjay has worked for companies and academic institutions in India, UK, USA and Japan in various capacities including up to the role of **Chief Financial Officer (CFO)**.

He holds a **Ph.D.** degree in Finance and an **M.Phil** from **London Business School** and is an alumnus of **London School of Economics and Political Science**. He has done his MBA from **University of Hawaii** as an **Asian Development Bank Fellow** and completed his **JMP** from **JAIMS (Japan)**. In addition, he is a qualified **CA, CS, Management (Cost) Accountant** and a **Lawyer**. His research and teaching interests lie in Financial Management, Mergers and Acquisitions, Valuation, Corporate Governance, Financial Accounting, Management Accounting and Spirituality and Management. He has presented his **research work** in conferences both **Nationally** and **Internationally**. He has done financial analysis for research works published in **Harvard Business Review**.



PROGRAM DESCRIPTION & OBJECTIVE

The Certificate Program in Machine Learning for Quantitative Finance is a program for aspiring finance executives, enthusiasts, working professionals & students to provide them with practical exposure to Machine Learning. The course has been designed in a way to provide & ensure that conceptual knowledge is imparted with the perfect blend of industry practices.

The curriculum emphasises the development of knowledge, and execution abilities. Knowledge of Probability, Statistics, and Machine Learning are essential for anyone who want to understand and take a dive into Quantitative Finance.

You will explore best practices alongside the instructor(s) from IIM Sirmaur. Upon completion, you will be ready to tackle complex modeling cases in practice.

PROGRAM OBJECTIVE

- Explore probability theory, probability distributions, descriptive and inferential statistics.
- Learn about Machine Learning, Supervised Learning, Regression Model, Time Series Models, Volatility Forecasting and Unsupervised Learning.

PROGRAM USP's & BENEFITS

Forward-looking Curriculum

Participants will learn the elements of Machine Learning, Supervised Learning, Regression Model, Time Series Models, Probability Theory, Probability Distributions, Descriptive and Inferential Statistics.

Pedagogy

A highly engaging mix of learning methodologies such as self-paced introductory modules, live lectures and simulations that will help you accelerate your learning journey.

Peer Learning and Networking

Participants will get an opportunity to meet and interact with peers as part of this program, network and build meaningful relationships by sharing your experiences.

Prestigious Certificate form IIM

Joint Certificate of Completion from IIM Sirmaur and NSE Academy on fulfilling the certification criteria.

PROGRAM CONTENTS

» Introduction Module - Self Paced

- Introduction to Programming in R
- Introduction to Programming in Python

» Introduction to Probability & Statistics

- Probability Theory
- Probability Distributions
- Descriptive and Inferential Statistics NPV and IRR

» Machine Learning for Quantitative Finance

- Introduction to Machine Learning
- Supervised Learning
- Regression Model
- Time Series Models
- Volatility Forecasting
- Unsupervised Learning

» Stochastic Processes

- Basic Stochastic Processes for Derivatives and Option Pricing



CERTIFICATION

Certificate of Completion

To qualify for the Certificate of completion the following criteria needs to be fulfilled:

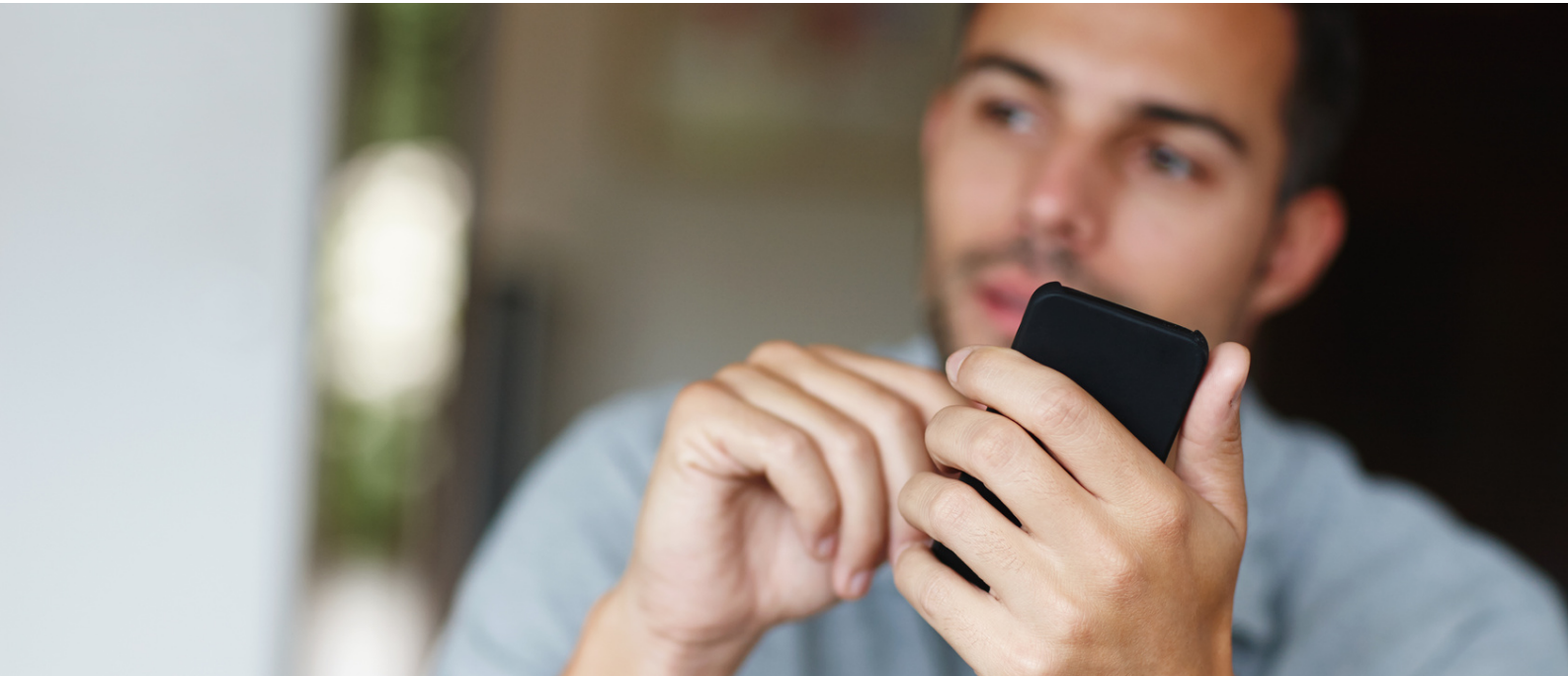
- (a) Each participant is expected to have an attendance of 60% & above
- (b) The Participant should clear all the courses/modules assignment(s)/assessment(s)

Participants who are unable to clear the evaluation criteria but have the requisite attendance will be awarded a 'Certificate of Participation'



Certificate Issued By : Indian Institute of Management Sirmaur (IIM Sirmaur)

**This program does not confer any Degree/Diploma/Post-Graduate Certificate on the participant by IIM Sirmaur. It is a Management/Executive Development Program where a certificate is issued on successfully meeting the academic/performance requirements.*



ELIGIBILITY CRITERIA

Graduates/Diploma (10+2+3) from a recognised university (UGC/ AICTE/ DEC/ AIU/ State Government/ Recognised international Universities) in any discipline.

WHO SHOULD ATTEND

- **Finance and Banking Professionals** – Those who aspire to grow into advanced analytical roles in Quantitative Analytics, Derivative Pricing and Valuation, Model Validation, Treasury, Financial Risk Management, Compliance, Risk Consulting etc.
- **IT Professionals** – Those who aspire to work in International Banks, Hedge Funds and other leading Financial Institutions in Quantitative Analytics or Financial Risk Management domains or aspiring to lead projects in IT companies for the above-mentioned domains.
- **Risk Management and Consulting Professionals** – Those who aspire to grow into senior roles by gaining deeper and wholesome knowledge in these fields particularly in the area of quantitative risk management.
- **Students** – Students from Engineering, Mathematics, Statistics, Economics, Finance, Commerce etc. backgrounds who aspire to work in International Banks, Hedge Funds, Consulting firms etc. in advanced analytical roles in Quantitative Analytics, Derivative Pricing and Valuation, Model Validation, Treasury, Financial Risk Management, Compliance, Risk Consulting etc.

Program Duration & Schedule

Online Live | 2 Months

Saturdays - 02:00 PM to 05:00 PM

Program Fees

INR 40,000/- plus GST, as applicable

No Cost EMI Option Available*

*Subject to approval by loan partner

For further information & corporate price, contact

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ABOUT NSE ACADEMY

NSE Academy Ltd. is a wholly-owned subsidiary of the National Stock Exchange of India Ltd. (NSEIL). NSE Academy enables the next generation of BFSI and FinTech professionals with industry-aligned skills through capacity building programs and certification courses, powered by an online examination and certification system. The courses are well-researched and carefully crafted with inputs from the industry professionals. NSE Academy works closely with reputed universities and institutions across India in building a competent workforce for the future of BFSI and FinTech. NSE Academy also promotes financial literacy as an essential life skill among youngsters - a contribution towards financial inclusion and wellbeing.

