EXECUTIVE PROGRAMME IN **ALGO TRADING**

checkmate with knowledge

CONTENTS

01

ABOUT US

QuantInsti is one of Asia's pioneer Algorithmic Trading Research and Training Institute focused on preparing financial market professionals for the contemporary field of Algorithmic and High Frequency Trading. As the financial markets in emerging markets are rapidly evolving like developed markets; we foresee a disruptive change in the emerging markets landscape wherein exchange volumes to the tune of 70% and above will be generated by Algorithmic Trading.

QuantInsti institute developed the curriculum for the Asia's first Executive Programme in Algorithmic Trading (EPAT) in 2009. As an initiative by financial markets professionals with stellar academic and professional credentials, the program aims to fulfil the pressing demands for highly specialized skill sets of a potentially lucrative domain. QuantInsti opened the doors to global participants in 2012 by introducing virtual classrooms for its flagship EPAT course and have seen participation from all inhabited continents since then.

CAREER IN ALGORITHMIC TRADING

LUCRATIVE

One of the most monetarily rewarding career opportunities globally – afterall, profitability of trading strategies get scaled up drastically

IMMENSELY FULFILLING

The challenge of competing against the rest of the market

CONSTANT LEARNING

Adapting to new technology advancements and new quantitative analysis tools

HUGE GROWTH

Expansion of industry can be seen statistically and shortage of skilled manpower in this domain

02

OUR VISION TO THE WORLD

At QuantInsti, it's all about developing the idea for a 'trade', fine tuning of strategies and how you can apply it exercising this process through a rigorously analytical methodology using quantitative tools and algorithms. We describe this as **'the cutting edge of finance'.** You will focus on generating, analyzing, comparing and refining trading strategies and ideas using quantitative and statistical tool-kit and methods. Making the idea better and developing your ability to execute your trades because there are no straight forward answers or simple rules to draw on in trading.

You'll thrive throughout your career because you'll have learned how to:

EXAMINE every trading idea, thought and pattern observed. Whether presented by a classmate or a faculty. You'll voice your support, your dissent, your suggestions. Here, there are no wrong questions except the ones that go unasked.

EVALUATE problems and opportunities in the global and local markets. Through the lenses of econometrics, psychology, and statistics. With a diversity of analytical tools and methods, you'll see things in new ways.

HANDLE, UNCERTAINTY focusing on risk management in trading. You'll learn to feel comfortable when there is no formula to guide you. No path to follow. You'll lead the way with your ability to think critically and act decisively. QuantInsti experience will take you deeper into trading strategies, broaden your perspective and force you to question assumptions –including your own. Instead of accepting the status quo, you'll pursue the best thinking while trading in markets. You'll develop the skills to successfully take on any challenge and the opportunities they generate.

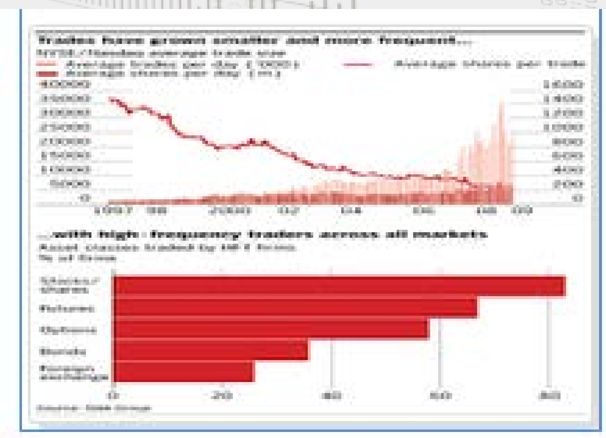
preparing you for all possibilities

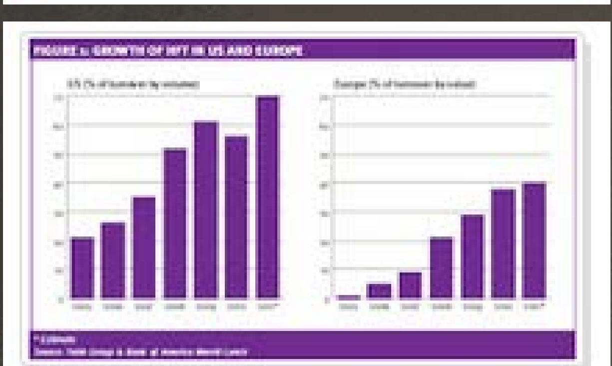
At QuantInsti, the features of the flagship programme will include:

An emphasis on analyzing problems, generating key insights, and implementing creative solutions – We stress the importance of asking questions and examining ideas. Be prepared for all possibilities.

A practical approach of teaching- The focus is on covering all important aspects of Algorithmic Trading with hands-on training using the practical tools. Learn to design, implement and test your strategies on globally renowned applications in a simulated environment.

Virtual classrooms- Executive Program in Algorithmic Trading (EPAT) address both classroom as well as online (virtual classroom) participants with equal rigor. The idea is to enable interaction between faculty and participants for an effective delivery and make it a convenient and enriching experience for the participants.





03

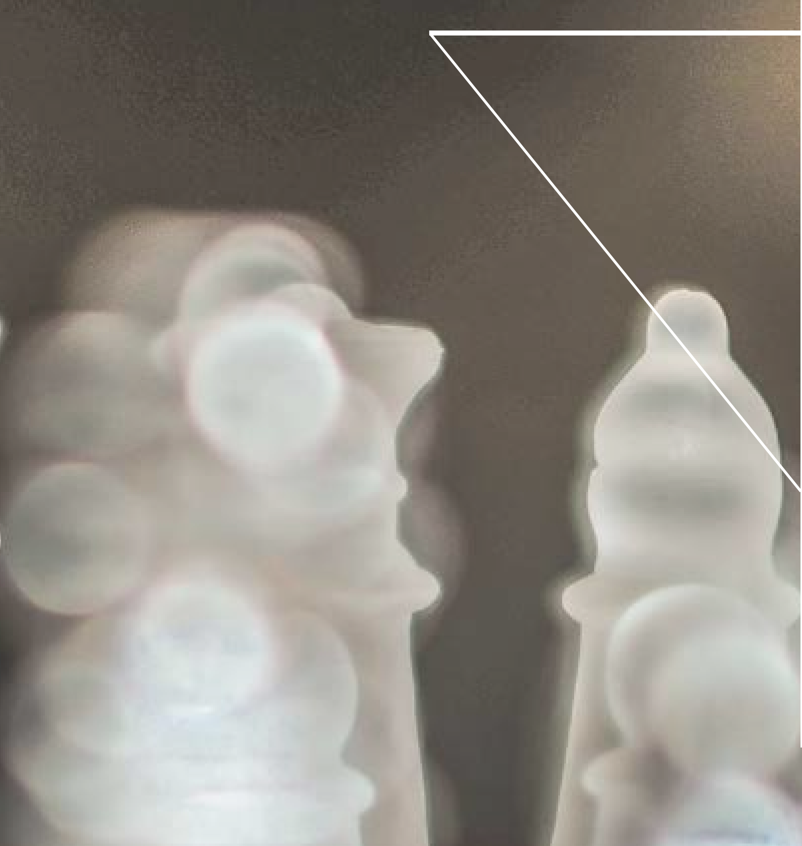
ABOUT THE PROGRAMME

DETAILS OF THE PROGRAMME:

The Executive Programme in Algorithmic trading curriculum is rigorous, comprehensive and demanding. The timetable and the combination of assignments are designed to achieve maximum knowledge using minimal contact sessions (100 hours).

"The course has been very useful. It has helped us build 3 new strategies at our end."

DEVESH MAMTANI,
Algorithmic trading Strategist at Motilal Oswal Financial Services Ltd



OVERVIEW AND DETAILS OF THE PROGRAMME

The Executive Program in Algorithmic Trading at QuantInsti provides high-level training for individuals working in, or intending to move into the buy or sell-side of business focusing on derivatives, quantitative trading, electronic market-making or trading related technology and risk management. The program is built around a fully examined core of three modules: Statistics & Econometrics, Algorithmic & Quantitative Trading, Financial Computing & Technology. The course covers all aspects of the theory and practice of quantitative tools, products and methods.

The course enables the high-achieving capital markets professionals and individuals interested in learning about the markets to attain the benefits and networking power of the Executive Programme in Algorithmic trading. Over past 4 years, the alumni network has grown to include more than 250 successfully placed individuals from all six continents working in this domain.

The faculty members of QuantInsti are experts in the field of Algorithmic & High Frequency Trading, pioneers in Asian markets with experience and knowledge of international exchanges and regulations. The programme provides a unique chance to its participants to work under the mentor ship of the world-class faculty for hands-on training in designing and implementing of advanced algorithmic trading strategies on state-of-the-art tools and platforms.

THE LEARNING ENVIRONMENT:

THE KEY ELEMENTS

- The Executive Programme in Algorithmic Trading runs for a period of 4 months training and 2 months project work.

- The intensive timetable features a total of 6-hours of lectures on Saturday and Sunday.

- You can specialize in a particular asset class and / or trading strategy through the project work.

- The collaborative learning environment means you learn from the experiences of your fellow batchmates, as well as from faculty.

ONLINE DELIVERY

The Executive Programme timetable facilitates a highly-focused learning experience consisting of practical sessions conducted through web-meetings and virtual learning environments.

CONVENIENCE

You just need your laptop/desktop machine along with an internet connection. You can attend the sessions from any location across the globe, and you can attend them on the move.

OPEN SOURCE

Most of the tools and software used for learning in the program are open source. They can be freely downloaded from the internet and are widely used in the industry.

LEARN AND APPLY

Every member of the class takes the tools and skills they have learned in the classroom, tests them out in the real world, applies the methodologies in their trading strategies and brings this experience back to the classroom to share with the rest of the class.

STUDENT PORTAL

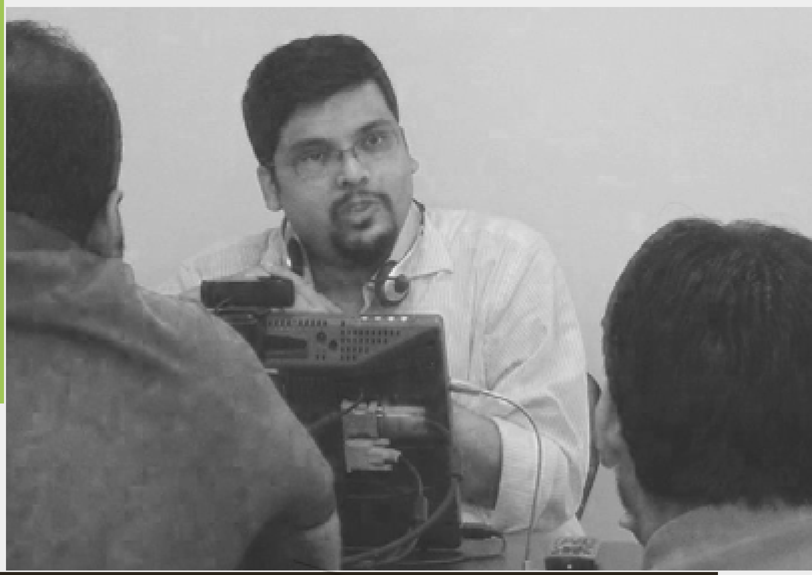
Course participants are provided with login credentials to the student portal that has all the relevant lecture notes, query forms, recorded video of the recent past lectures, assignments and supplementary readings.

ASSESSMENT

Assessment tools comprises of quizzes, assignments, attendance and project work. Successful participants in the Executive Programme in Algorithmic Trading would reeceive a Certificate from QuantInsti Quantitative Learning Pvt. Ltd.

ADMISSION STRUCTURE

Each participant who is accepted in the course has a high level of intellectual curiosity, a strong interest in finance, & strong analytical skills. Although there is no specific degree requirement most participants will have backgrounds in quantitative disciplines such as mathematics, statistics, physical sciences, engineering, operations research, computer science, finance or economics. Participants from other disciplines should have familiarity with calculus, spreadsheets and computational problem solving.



PRE-COURSE COUNSELING AND ENTRANCE TESTS

Counseling Session:

These sessions will extensively be focused on understanding the strengths and weak areas of the participants. These sessions will not decide the participants eligibility for enrolling for the course but will help the counselors concentrate on the informed guidance for them before they enroll.

Qualification test:

A qualification test is taken to benchmark students strong and weak areas to offer them customized learning programme to get the optimum techno-quant knowledge which is necessary to excel in the field of Quantitative and Algorithmic trading. The qualification test comprises of questions ranging from the fields of trading, statistics and programming. The questions require graduation level of knowledge and basic understanding of these domains.

04 COURSE STRUCTURE

MODULE 01

STATISTICS & ECONOMETRICS

BASIC STATISTICS

- Probability & Distribution
- Statistical Inference
- Linear Regression

ADVANCED STATISTICS

- Correlation vs. Cointegration
- ARIMA, ARCH-GARCH Models
- Multiple Regression

TIME SERIES ANALYSIS

- Stochastic Math
- Causality
- Forecasting

MODULE 02

FINANCIAL COMPUTING & TECHNOLOGY

PROGRAMMING

- Intro to Programming Language(s)
- Programming on Algorithmic Trading Platforms
- Low Latency Programming

TECHNOLOGY FOR ALGORITHMIC TRADING

- System Architecture
- Understanding an Algo Trading Platform
- Handling HFT Data

STATISTICAL TOOLS

- Excel & VBA
- Financial Modeling using R
- Using R & Excel for Back-testing

Workshop on Algorithmic and Automated Trading" with Stock Exchange of Thailand

MODULE 03

ALGORITHMIC & QUANTITATIVE TRADING

TRADING STRATEGIES	· Statistical Arbitrage · Market Making Strategies · Execution Strategies · Forecasting & Artificial Intelligence Based Strategies · Machine readable News based Strategies · Trend following Strategies
DERIVATIVES & MARKET MICROSTRUCTURE	· Option Pricing Models · Time Structure of Volatility · Dispersion Trading · Volatility Forecasting & Interpretations · Managing Risk using Greeks · Position Analysis · Order Book Dynamics · Market Microstructure
DESK OPERATIONS	· Hardware & Network · Regulatory Framework · Exchange Infrastructure & Financial Planning (Costing)

05

THE ALUMNI

QuantInsti alumni come from very rich and inter-disciplinary backgrounds both in terms of their academic background and their industry experience.

ARIS SKILROS

Current Position: Associate at Morgan Stanley, UK

Previous Qualification : Masters in Financial Engineering, University of California, USA

"At QuantInsti, I learnt to develop quantitative strategies which can be used in Algorithmic & High Frequency trading. The faculty at QuantInsti is highly knowledgeable. The insights which they bring into classroom from their experience as consultants are very valuable and make each lesson very effective. The online learning experience was quite good give me the flexibility for viewing the recordings of missed lectures. The team at QuantInsti is quite dedicated to learning and keeps in touch with you long after the course is over to update you with new learning sessions and additions in the program. All the lectures were amazing and I would recommend the program to anyone who wishes to build a career in this domain."

RAVI BHOSKAR

Current Position: Algorithmic Trader at Velox Advisory, India

Previous Qualification : Masters in Computer Science, Nagpur University, India

"I truly appreciate your initiative of placement cell. It gives clear idea about what is required in market to a naive candidate like me. Speaking about EPAT, the first thing it has given me is the confidence to trade and a feeling that, algorithmic trading is a possible thing to do. Secondly, as I was new to trading, every lecture in EPAT told me what to study for better trading. The lectures were very informative and interactive. The lectures also include all the areas of subject and focuses on each of those. All in all I think the course is worth of its fees. I wish all the success to team QuantInsti."

ALUMNI SPEAKS

BALAKRISHNAN ILANGO

Current Position: Senior Sales Manager - Business Intelligence & Exalytics at Oracle, India

Previous Qualification : Certificate in Quantitative Finance, Wilmott- Fitch 7City Learning, London, UK

"It was wonderful experience; we learned a lot of new concepts in the system. I knew some of Algo but now it is quite good. It was very good to have excellent fellow mates and poking lots of questions on different dimensions and it was a wonderful journey"

DR.PANASHE CHIURUNGE

Current Position: Founder at Chartered Systems Integration, Zimbabwe

Previous Qualifications: Quantitative Finance, London University, UK

"I am starting an Algorithmic and High-Frequency desk, so for me the best part was to get the actual experience and the knowledge on how to implement the strategies that would be useful on my own desks. In this program, you learn from the basics to advanced statistics. It is an amazing experience because you learn to work on the advanced trading platform which is used by many trading desks. The faculty is very helpful and interactive and quite fast in replying to your doubts. The course is value for money keeping in mind the practical side of the course - you become a highly effective Algo trader. (I) would recommend (this course) to anyone who wants to be an Algorithmic trader."

DHRUV RASTOGI

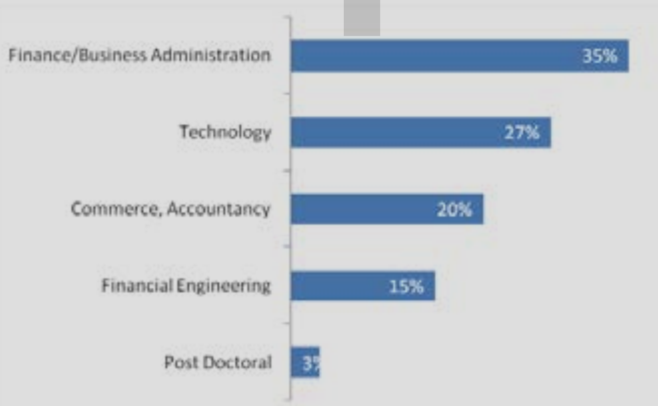
Current Position: Quantitative trading and Research at D. E. Shaw, India

Previous Qualifications :Masters in Electrical Engg, Indian Institute of Technology Chennai, India

"The Executive course in Algorithmic Trading' at QuantInsti gave me a solid understanding of the theory as well the standard industry practices today in this field. QI has an excellent faculty with a rich and diversified industry experience. Besides in-depth course content, the friendly attitude, support and guidance from the QI team makes it a wonderful place to be a part of. Small batch sizes ensure in-depth discussions and hands on lab sessions on world class algorithmic trading platforms gives a thorough grip in this exciting field."

ALUMNI AROUND THE WORLD

ACADEMIC BACKGROUND



INDUSTRY BACKGROUND

GLOBAL PRESENCE

>> 1 / Multiple 2-days Management Development Programs (MDP) by Quantinsti

Mr. Rajib Ranjan Borah at the "4th Annual Conference: Behavioural Models & Sentiment Analysis Applied to Finance", in London

>>2 / Suneeth Reddy, one of the speakers at FIX Conference in Mumbai

>>3 / Shaurya Chandra speaking at Algorithmic Trading Seminar conducted with Thomson Reuters in Mumbai

>>5 / Mr. Rajib Ranjan Borah at the 4th Princeton-UChicago Quant Trading Conference

06

OUR TEAM, MENTORING & GUIDANCE

ANIL KUMAR YADAV

Anil is the **head of the algorithm strategy advisory team at iRageCapital** and is responsible for building and benchmarking strategies for the clients across various asset classes. At QuantInsti, he covers various statistical methodologies involved in quantitative strategies development. Prior to iRage, Anil has worked as an independent commodities trader managing a portfolio of metals and energy products. He has also worked as a Senior Analyst at The Chatterjee Group's (TCG) Private Equity fund and as Convertible Analyst at Lehman Brothers.

Anil holds a Post-graduate diploma in Management from IIM- Lucknow and B.Tech in Mechanical Engineering from IIT, Kanpur.

SAMEER KUMAR

Sameer has graduated from BITS Pilani with Masters in Economics and Information Systems. He started his career with Yahoo! where he gained expertise in technical architecture, design and development of highly scalable systems.

A C++ evangelist and Perl poet with broad understanding of economics and market dynamics, he now designs and builds financial strategies with built-in intelligence. He **leads the infrastructure development team** along with the **low latency programming division** at **iRageCapital Advisory Private Ltd.** At QuantInsti, he shares his experience on low latency systems as well as strategies involving artificial intelligence.

NITESH KHANDELWAL

NITESH has a rich experience in financial markets spanning across various asset classes in different roles. He **co-founded iRageCapital Advisory Private Limited**, which is a trusted name in the space of providing Algorithmic Trading technology and strategy services in India. He led the business side for iRageCapital and QuantInsti. At QuantInsti, he was also the head of department for training in derivatives & inter-market studies. He's currently the Director at iRage Global Advisory Services Pte Ltd based in Singapore. He had prior experience in bank treasury (FX & Interest rate domain) and in proprietary trading desk. He did his Bachelors in Technology in Electrical Engineering from IIT Kanpur before doing his Post graduation in Management from IIM Lucknow.

GAURAV RAIZADA

GAURAV is a **Director at iRageCapital Advisory Private Limited** and leads the firm's advisory practice in India on the Systems, Performance and Strategies. He has consulted extensively with core focus on strategy development and execution including trading systems development, latency reduction, optimization and transaction cost analysis. Prior to iRageCapital, Gaurav worked with Axis Bank as a Forex-Interest Rates Derivatives Trader. He also worked as a Performance Engineer at Veritas Symantec, where he picked up the feel for Optimization.Gaurav has a post graduate degree in management from IIM- Lucknow and a B.Tech in Chemical Engineering from IIT- Kanpur.

SHAURYA CHANDRA

SHAURYA is a **Director at iRageCapital Advisory Private Ltd.**, leading the firm's advisory practice in India on the Research, Strategies Development and Risk Management. He has advised extensively with core focus on the statistical research strategy development backed by rigorous back testing and setting up systems & processes for risk management.Prior to iRageCapital, Shaurya was working with Bank of America, Edelweiss Securities Ltd. and Systematix Stock & Shares Ltd., where he worked as Derivative and Quantitative Analyst focused on Indian Equity markets.

Shaurya has a post graduate degree in management from IIM, Ahmedabad and a B.Tech in Electrical Engineering from IIT Roorkee.

SUNEETH REDDY

Suneeth is an expert in the fields of evolutionary algorithms and unconventional models of computing. During his B.Tech in Computer Science at IIT Madras, Suneeth was involved with some path breaking research in protein computing and DNA computing. His work has been presented at 'Symposium of Unconventional Models of Computing'.

He then went on to work with Yahoo R&D division, where he was involved in designing scalable platforms. Prior to iRageCapital, he was with Lime group and played a key role in developing Lime's core infrastructure and platforms.Suneeth **heads the technology division at iRageCapital** and brings with him a very high quality of technical expertise especially in the fields of algorithms and high performance architectures.

RAJIB RANJAN BORAH

RAJIB is the **co-Founder & Director of iRageCapital Advisory Pvt Ltd**, &QuantInsti Quantitative Learning Pvt Ltd.At iRage, **he leads the derivatives practice**. At QI, Rajib manages the course segment on option derivatives; and also works with exchanges, financial & educational institutions to design educational programs. He has conducted workshops and conferences in America, Europe and Asia.Prior to iRage, Rajib worked with leading HFT firm Optiver in Amsterdam; working on options derivatives market making, and high frequency equity arbitrage strategies across all major European and US exchanges.

A national Olympiad finalist, Rajib has twice represented India at the World Puzzle Championships. He has a post-graduate management degree from IIM- Calcutta, a bachelor's degree in Computer Engineering from NIT-Surathkal.

07 ADVANTAGE QUANTINSTI

High frequency and Algorithmic trading domain is one of the most lucrative career choices in the contemporary financial markets. QuantInsti aims to provide critical competitive edge to its participants through its optimally designed programs, which not just help them understand the basics but also lays the foundation to become the domain expert. **After successful completion of the course, participants should be conceptually comfortable with the following:**

- Managing High Frequency Data and building econometric models

- Learn how to back-test, implement and trade advance quantitative strategies

- Furnish your programming skills to build low latency trading strategies

- Using statistical packages and integrating them to your trading system

- Using Option pricing models for running volatility books and making markets

- Hands on experience with advance trading platforms

To ensure that you get the most out of Executive Programme in Algorithmic Trading, we support you through a range of services. As a student on the Executive Programme, you are fully supported by our centralized programme support team.

Career Management and Career Development Resources

QuantInsti's Career Management and Career Development Resources offers support that is specifically designed for working professionals and students seeking new opportunities as well as to add immediate value to their employers. Our Career Services and Job Resources become available to you the moment you begin the program and last throughout your professional career.

OUR RESOURCES INCLUDE:

· Placement support

· Career enhancing skills such as personal interviews and resume preparation

· Customized career counselling

QUANTINSTI'S PARTICIPATION IN CONFERENCES GLOBALLY

QuantInsti with its unique mix of faculty members from both industry and academic backgrounds bridges the gap between the recent and cutting edge research and its application in the industry. Consequently, QuantInsti faculty are frequently invited at various conferences and workshops globally and are highly appreciated. Following are some of the recent events where QuantInsti Faculty shared their knowledge with audience from various domains in the industry:

"Workshop on Algorithmic and Automated Trading", October 2014 in Bangkok. QuantInsti faculty members conducted a workshop for professional traders and exchange members. The workshop was organized by Stock Exchange of Thailand (SET), Thailand Futures Exchange (TFEX) and Thailand Securities Institute (TSI).

"4th Annual Conference: Behavioural Models & Sentiment Analysis Applied to Finance", June 2014 in London. QuantInsti faculty shared the dais in the panel discussion on "Use of News and Social Media Data for Market Surveillance & Operational Risk Control"

Pre-conference workshop on ***"Market Microstructure, Liquidity and Automated Trading Workshop"*** organized by Fitch Learning at London in June 2014.

Speaker at ***"4th Princeton-UChicago Quant Trading Conference",*** November 2013 in Chicago. QuantInsti faculty shared his valuable insights on "Quantitative News Trading: is it the next big thing in algorithmic trading?"

Speaker at ***"HFT Panel discussion at India FIX Conference"*** in Mumbai, India

"Management Development Programs (MDP) in Algorithmic Trading", spanning over multiple days, for National Stock Exchange in various cities in India.

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