**QUANT INSTI**
GO ALGO

# EXECUTIVE PROGRAMME
# IN ALGORITHMIC TRADING

## Checkmate With Knowledge
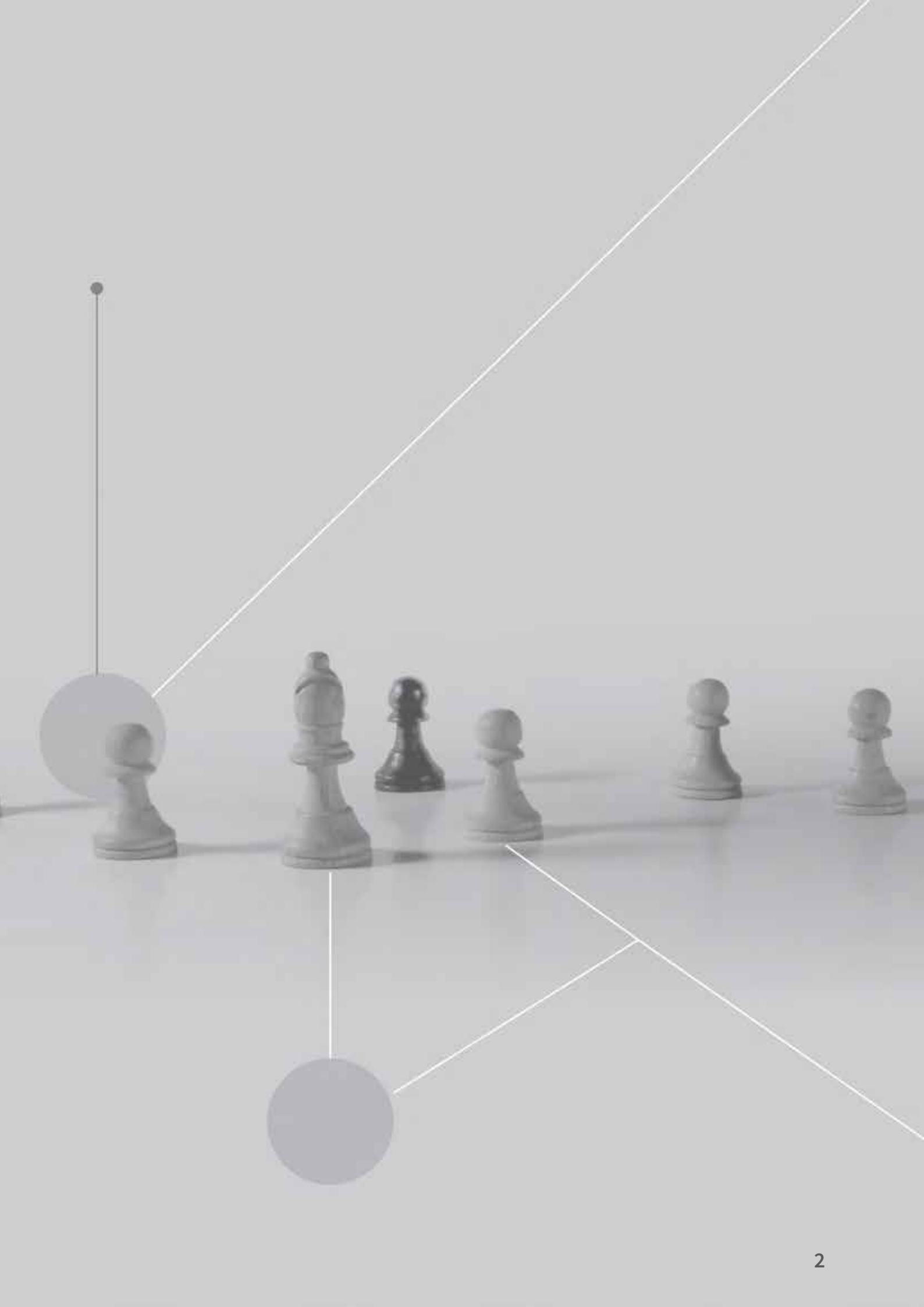
## CONTENTS

## INTRODUCTION

QuantInsti® was started in 2010, by the founders from iRage – a leading quant and algo trading firm in India. From its early days focused on bridging the industry knowledge gap in the field of high-frequency trading, we have come a long way in the last decade. Today, we have a user base from 200+ countries and territories with a growth rate much over 50% year-on-year.

At QuantInsti, we are motivated by our goal of revolutionizing the way people approach the financial markets by empowering individuals and institutions with bleeding-edge education and technologies. We offer high-quality learning experience and best-in-class courses geared towards a global audience in quantitative trading and investing. Our in-house developed technology aims to bring institutional-grade tools and platforms to democratize systematic and quantitative trading.

QuantInsti is also a proud member of CPD certification service, the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies.

QuantInsti's flagship programme 'Executive Programme in Algorithmic Trading' (EPAT®) is world's first verified certification, offered to professionals looking to enter or grow in the algorithmic and quantitative trading industry and has benefited participants from 70+ countries.

Quantra® is an e-learning portal by QuantInsti that hosts short and modular self-paced courses on Algorithmic and Quantitative Trading in a highly interactive fashion through machine enabled learning.

Blueshift was launched in 2018. With Blueshift, you can research your systematic trading investment strategies in Python, ideate, backtest them, and take them live with a broker of your choice. It provides minute-level high-quality data, free-of-cost, across US and Indian equities markets and global FX.

The Certificate In Sentiment Analysis And Alternative Data For Finance (CSAF) is an instructor-led advanced course designed for finance professionals to develop a career in modern methods in finance, investment decisions & applications using News Analytics, Sentiment Analysis and Alternative Data.

QuantInsti has also designed education modules and conducted knowledge sessions for/with various exchanges in South and South-East Asia and for leading educational and financial institutions. Apart from imparting knowledge on advanced concepts through its various courses, QuantInsti contributes to the industry through various initiatives including participating in & hosting webinars, conferences, meetups and workshops in different parts of the world.

QuantInsti is headquartered in Mumbai.

## Dr. Ernest P. Chan

Managing Member, QTS Capital Management, LLC
Founder and CEO, PredictNow.ai.

MS & PhD in Theoretical Physics from Cornell University, B.Sc. from the University of Toronto.

Ernest Chan (Ernie) is the founder and CEO of Predictnow.ai, a machine learning SaaS. He started his career as a machine learning researcher at IBM's T.J. Watson Research Center's Human Language Technologies group, which produced some of the best-known quant fund managers. He later joined Morgan Stanley's Data Mining and Artificial Intelligence group. He is the founder and non-executive chairman of QTS Capital Management, a quantitative CPO/CTA. He obtained his PhD in Physics from Cornell University and his B.Sc. in Physics from the University of Toronto.

> *Audience participation is as important to the learning experience as the instructor. I find the participants at QuantInsti's courses highly motivated and many came prepared with insightful questions. This made for a great experience for all.*
>
> **- Dr. Ernest P. Chan**

## ABOUT EPAT®

The Executive Programme in Algorithmic Trading (EPAT®) by QuantInsti® provides the most comprehensive training for professionals looking to grow or planning to start their careers in the field of algorithmic and quantitative trading.

It focuses on aspiring traders towards a successful trading career, by focusing on derivatives, quantitative trading, electronic market making, trading related technology and risk management.

EPAT provides a unique chance to its participants, to work under the mentorship of renowned practicing domain experts. Other opportunities include practical training in designing and implementing advanced algorithmic trading strategies using popular and effective tools and platforms.

The programme is built around a fully examined core of three modules:

• Quantitative Techniques
• Programmatic Tools
• Financial Markets

We at QuantInsti partner with organizations to enhance the skill set of their workforce and help them develop quantitative trading skills.

**Features**

**Practical Exposure:** Acquire the knowledge and learn tools & techniques used by traders in the real world

**Verified Certification:** Verified certification with Prometric for EPATians provides an edge to your profession

**Support:** Dedicated Support Managers for each EPATian, a standalone 7-days support team for all your queries and guidance to ensure you gain the best from EPAT

**Career Services:** Our lifelong career services, job resources and guidance from market experts become available to you the moment the course starts and lasts throughout your professional career

**Life long learning:** Access to an updated content (as per industry changes) for future reference for the participants

**Alumni chapters:** EPAT comes with access to the global community of Algo traders

## ADDITIONAL BENEFITS

The perks of joining EPAT® is not just limited to access to our course material. Our associates offer exclusive discounts on a range of services that help you on your path to becoming a successful algorithmic trader.

- Quantra®: Special discount on self-paced learning courses offered by Quantra

- Quantpedia: Subscription-based access to high quality trading strategies at 40% discount
- Better benefits from Brokers and Vendors

## KEY ELEMENTS

**Duration –** 6 months

**Specialization –** Particular asset class and/or trading strategy through the project work under expert mentorship

**Online Delivery –** A focused learning experience consisting of practical sessions conducted through web-meetings and virtual learning environment

**Expert Faculty –** The EPAT® faculty is an acclaimed team of subject matter experts(academicians and practitioners) like Dr. Ernest P. Chan, Dr. Euan Sinclair to name a few

**Student Portal –** All relevant lecture notes, query forms, recorded lecture videos, assignments and supplementary readings are easily accessible through a personal account on the learning management system.

2 preparatory lectures have been introduced to EPAT: Lecture 1 - Python and Lecture 2 - Statistics. These are optional lectures and would be conducted 2 weeks prior to the beginning of EPAT lectures and would be extremely beneficial in establishing your base in Python and Statistics.

**Certification –** Assessment comprises of the assignments, quiz, and attendance during the course in addition to the final exam at the nearest available centre. On successful completion, participants will receive a certificate from QuantInsti Quantitative Learning Pvt. Ltd.

**Specialized EPAT environment –** Set up your very own customized yet comprehensive virtual environment in just one go. It helps you overcome the challenges usually faced by individuals while learning to code in a hassle-free and seamless manner.

**Bonus study material for increasing fluency in Python –** Exclusive practice materials are provided to participants who complete the assigned activities diligently and timely. This gives you an edge during the selection, job assignment and interview processes.

**New Assignments –** Topics ranging from Machine Learning, Natural Language Processing, to High Latency Trading, Market Microstructure and more, a variety of assignments equip you with the latest techniques used in the industry.

**Cloud infra for Trading –** A dedicated session on one of the most sought-after topics, it dives into the whats, hows, whys, applications, setting up and deploying strategies on cloud infrastructure, challenges, and much more.

**EPAT guided mini-projects –** Tackle everyday real-world problems with two 10-day, optional, highly recommended guided projects that consist of Python-based coding. These are in addition to the main project in EPAT.

**Career building –** One of its kind EPAT-exclusive online sessions to assist participants. Get guidance in decoding job descriptions and prepare you for quant roles for opportunities with 350+ placement partners across 20 countries.

## EPAT is accredited/recognised by the following institutions

### IBF, Singapore

**This programme has been accredited by The Institute of Banking and Finance (IBF) under the IBF Standards.**

**What is IBF?**
The Institute of Banking and Finance Singapore (IBF) is the national accreditation and certification agency for financial industry competency in Singapore under the IBF Standards. Find out more on www.ibf.org.sg

**What is IBF-STS?**
This programme has been accredited under the IBF Standards, and is eligible for funding under the IBF Standards Training Scheme (IBF-STS), subject to all eligibility criteria being met. A participant must successfully complete the EPAT programme (including passing all relevant assessments and examinations) in order to be eligible. Prospective participants are advised to assess the suitability of the programme and its relevance to participants' business activities or job roles.

IBF-STS provides upto 50% funding for direct training costs subject to a cap of S$3,000 per candidate per programme subject to all eligibility criteria being met. This is applicable to Singapore Citizens or Singapore Permanent Residents, physically based in Singapore. Find out more on www.ibf.org.sg

### CPD, United Kingdom

EPAT is accredited by CPD, United Kingdom (Continuing Professional Development).

**What is CPD?**
The CPD Certification Service is the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies. The CPD Certification Service is the leading independent CPD accreditation institution operating across industry sectors to complement the Continuing Professional Development policies of professional institutes and academic bodies.

## THE CURRICULUM

### Module 1 — Primer [Prior to start of lectures]

- Introduction to Financial markets: Know and understand the basics of market, stocks and indices.
- Excel: Basics of MS Excel, available functions and many examples to give you a good introduction to the basics
- Basics of Python: Installation, basic functions, interactive exercises, and Python Notebook
- Options: Terminology, options pricing basic, Greeks and simple option trading strategies
- Basic Statistics including Probability Distributions: Standard Normal Distribution; Related parameters like Z-score, confidence interval and their use, and Hypothesis Testing, Covariance, Correlation and Regression and their physical significance
- MATLAB Tutorial: Hands on experience on MATLAB
- Introduction to Machine Learning: This primer will introduce you to machine learning concepts required for trading.
- Two preparatory sessions will be conducted to answer queries and resolve doubts on Statistics Primer and Python Primer

### Module 2 — Statistics for Financial Markets [Lecture]

- Data Visualization: Statistics and probability concepts (Bayesian and Frequentist methodologies), moments of data and Central Limit Theorem
- Applications of statistics: Random Walk Model for predicting future stock prices using simulations and inferring outcomes, Capital Asset Pricing Model
- Modern Portfolio Theory - statistical approximations of risk/reward

### Module 3 — Advanced Statistics for Quant Strategies [Lecture]

- Time series analysis and statistical functions including autocorrelation function, partial autocorrelation function, Akaike Information Criterion
- Stationarity of time series, Autoregressive Process, Forecasting using ARIMA
- Difference between ARCH and GARCH and Understanding volatility

### Module 4 — Python: Basics & Its Quant Ecosystem [Lecture]

- Data types, variables, Python in-built data structures, inbuilt functions, logical operators, and control structures
- Introduction to some key libraries NumPy, pandas, and matplotlib
- Python concepts for writing functions and implementing strategies
- Writing and backtesting trading strategies
- Two Python tutorials will be conducted to answer queries and resolve doubts on Python

### Module 5 — Market Microstructure for Trading [Lecture]

- Overview of Electronic and Algorithmic Trading.
- Various order types, order book dynamics, Spoofing, Price Time Priority Algorithm and Guerilla Algorithm.
- Execution strategy to trade large volumes.
- The algorithmic trading process from a market microstructure perspective.

### Module 6 — Equity, FX, & Futures Strategies [Lecture]

- Understanding of Equities Derivative market
- VWAP strategy: Implementation, effect of VWAP, maintaining log journal
- Different types of Momentum (Time series & Cross-sectional)
- Trend following strategies and Statistical Arbitrage Trading strategy modeling with Python
- Arbitrage, market making and asset allocation strategies using ETFs

| Module 7 | Data Analysis & Modeling in Python | [Lecture] |
|---|---|---|

- Implement various OOP concepts in python program
- Back-testing methodologies & techniques and using Random Walk Hypothesis
- Quantitative analysis using Python: Compute statistical parameters, perform regression analysis and PCA, understanding VaR
- Visualizing Correlation between Financial Time Series
- Work on sample strategies, trade using modified Faber as well as options trading startegies in Python
- Walkthrough the trading lifecycle & steps to generate alphas
- Two tutorials will be conducted after the initial two lectures to answer queries and resolve doubts about Data Analysis and Modeling in Python

| Module 8 | Machine Learning for Trading | [Lecture] |
|---|---|---|

- Decision Trees, Support Vector Machine, Neural Networks, Forward propagation, Backward propagation, Various neural network architectures.
- Building a "Principal Component Analysis" manually, conducting a pairs-trading back-test using PCA, Simulation of multiple co-integrated assets, and Sector statistical arbitrage using PCA.
- Using Python and Jupyter notebooks to create features, evaluate models, use feature selection and test raw performance.
- Overview of Alternate Data: Sources, data formats, storage and retrieval choices, Understanding RDF and Knowledge Graph, Tagging Unstructured Data with relevant metadata.
- Using spaCy for common Text processing tasks, Understanding Topic Modeling and Topic Classification.
- Understanding Machine Readable News Programmatic consumption of news.
- Machine Readable News in the Financial Industry: Sample in Production use cases, Sentiment Data in the Financial Industry: Sample in Production use cases.
- Basic ideas of deep reinforcement learning such as reward, explore/exploit, Bellman equation and memory replay.
- Challenges and problems with RL in trading, Implementation of RL in a simple strategy using "gamification".

| Module 9 | Trading Tech, Infra, & Operations | [Lecture] |
|---|---|---|

- System Architecture of an automated trading system
- Infrastructure (hardware, physical, network, etc.) requirements
- Understanding the business environment (including regulatory environment, financials, business insights, etc.) for setting up an Algorithmic Trading desk
- Comprehensive practical understanding to setup an algorithmic trading desk

| Module 10 | Trading & Back-testing Platforms | [Lecture] |
|---|---|---|

- Introduction to Interactive Brokers platform & other platforms
- Code and back-test different strategies on various backtesting & research/trading platforms
- Using IBridgePy API to automate your trading strategies on Interactive Brokers platform
- Interactive Brokers Python API

| Module 11 | Portfolio Optimization & Risk Management | [Lecture] |
|---|---|---|

- Different methodologies of evaluating portfolio & strategy performance
- Risk Management structures & policies, sources of risk, risk limits & risk components evaluation, risk control systems
- Conceptualize and Build a portfolio with multiple stocks, Profitability analysis of a portfolio and strategy

| Module 12 | Options Trading & Strategies | [Lecture] |
|---|---|---|

- Options Pricing Models: Conceptual understanding and application to different strategies & asset classes
- Option Greeks: Characteristics & Greeks based trading strategies
- General Trading Principles, Volatility Measurement & Forecasting
- The Variance Premium, Hedging, Expiration trading
- Risk management & Options Trade evaluation

| EPAT Project (OPTIONAL) | [Post Lectures] |
|---|---|

- Write your own working strategy starting from ideation, literature survey, data analysis, strategy formulation, back testing, implementation code
- Mentorship under a domain expert, practitioner
- Project topics include, but not limited to, Statistical Arbitrage, Dispersion Trading, Machine Learning based Trading Strategies, Skew Trading, Volatility Smile, Forward Volatility (You can check some of the past project works at https://www.quantinsti.com/category/project-work-epat )

| EPAT Final Exam | [Post Lectures] |
|---|---|

- EPAT Certification of Excellence requires you to successfully clear the Final Examination
- EPAT exam is conducted at proctored centers in 80+ countries. The exam can also be attempted in remotely proctored online format.

"

*EPAT gives thorough understanding of equities and derivatives. The math behind valuation of derivatives and related behaviour of Greeks is clearly explained. Even for non-technological background students, it gives a good introduction of the systems part of Trades. This course is for anyone who is interested in benefiting from trading in stock market. It gives a direction and it is up to us to follow and find a profitable opportunity.*

*I am very glad I attempted this course and look forward to continuing support from QuantInsti in my journey in finance and Stock Market Trading. The knowledge acquired while doing EPAT at QuantInsti helped trade short term equity and index options. The practical sessions gave an insight into designing and managing derivative strategies.*

*Prashant Bisht | Director, Aashvik Capital Management | India*

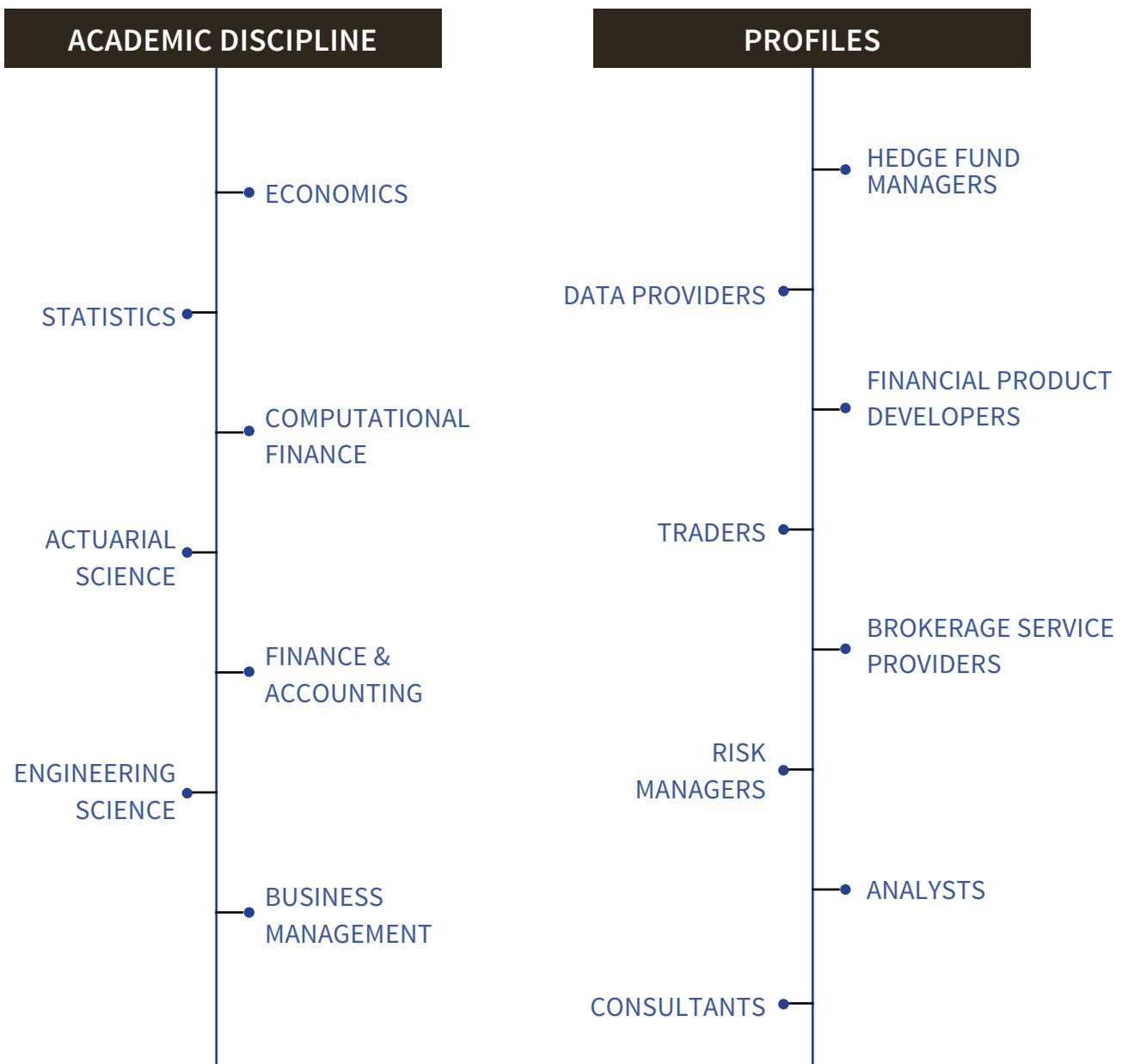## GEOGRAPHIC LOCATIONS OF EPAT® PARTICIPANTS AROUND THE WORLD

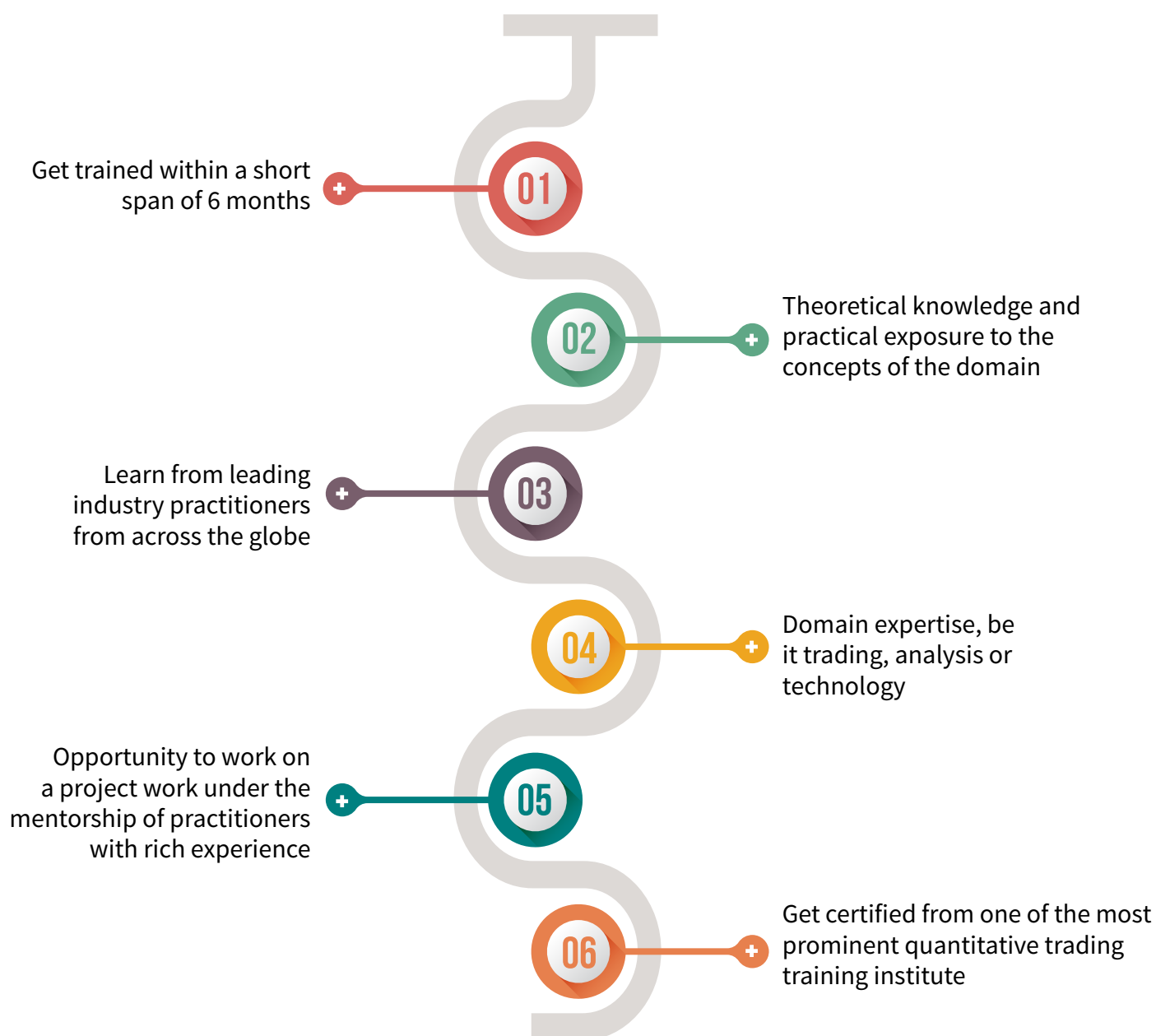**90+ COUNTRIES**

## CROSS SECTION OF EPAT® PARTICIPANTS EMPLOYERS

1. Amazon
2. Apple Inc
3. Bank of America, Merrill Lynch
4. Barclays
5. BCS Global Markets
6. Boeing
7. Capgemini
8. Citibank
9. Credit Suisse
10. Equinix
11. Goldman Sachs
12. Google Inc.
13. Harvard University
14. HSBC
15. IBM
16. Infosys
17. JP Morgan
18. Marriott International
19. McKinsey & Company
20. Microsoft
21. Morgan Stanley
22. Olam
23. Qualcomm
24. Reliance Industries Limited
25. WorldQuant

And many more...

## ACADEMIC DISCIPLINE

- ECONOMICS
- STATISTICS
- COMPUTATIONAL FINANCE
- ACTUARIAL SCIENCE
- FINANCE & ACCOUNTING
- ENGINEERING SCIENCE
- BUSINESS MANAGEMENT

## PROFILES

- HEDGE FUND MANAGERS
- DATA PROVIDERS
- FINANCIAL PRODUCT DEVELOPERS
- TRADERS
- BROKERAGE SERVICE PROVIDERS
- RISK MANAGERS
- ANALYSTS
- CONSULTANTS

**01** Get trained within a short span of 6 months

**02** Theoretical knowledge and practical exposure to the concepts of the domain

**03** Learn from leading industry practitioners from across the globe

**04** Domain expertise, be it trading, analysis or technology

**05** Opportunity to work on a project work under the mentorship of practitioners with rich experience

**06** Get certified from one of the most prominent quantitative trading training institute

**#200+**
Countries and territories have professionals trained by QuantInsti®'s educational initiatives

**#57**
Successful batches of EPAT® programme

EPAT comprises of a comprehensive curriculum covered by industry experts, eminent personalities from the domain of Algorithmic Trading and Quantitative Trading. Besides mentorship, EPATians also avail the exclusive benefit of interacting and learning from them.

### ANIL YADAV

*B.Tech in Mechanical Engineering (IIT Kanpur); PGDM from IIM Lucknow.*

Partner & Strategy Infrastructure Head, iRage - At iRage, Anil managed multiple trading strategies and then also designed firm-wide risk and compliance practices. Currently, he is building the infrastructure to evaluate alpha signals (both individually and in combinations). Before iRage, Anil worked as an independent commodities trader, managing a portfolio of metals and energy products and as a senior Analyst at TCG's Private Equity fund and as a Convertible Analyst at Lehman Brothers.

### DR. ANKUR SINHA

*PhD in Business Technology, Aalto University School of Business, Helsinki, Finland.*
*B. Tech. in Mechanical Engineering, IIT Kanpur, India.*

Dr Ankur Sinha carries a rich professional experience being associated with the prestigious IIM Ahmedabad, India, as a faculty member and also heading various departments at IIM Ahmedabad. He has taught at Aalto University School of Business, Finland & Michigan State University, United States. He is a renowned expert in the domain of Big Data and Business Intelligence. He holds a PhD in Business Technology from Aalto University School of Business, Helsinki, Finland, and has done Mechanical Engineering at one of India's finest institutions, IIT Kanpur.

### ASHUTOSH DAVE

*Master's in Statistics with distinction from the London School of Economics (LSE) and is a Certified FRM (GARP).*

Senior Associate, Content & Research at QuantInsti - Ashutosh Dave has more than a decade of experience in the area of financial derivatives trading and quant finance. His key areas of interest include applying advanced data science and machine learning techniques to financial data. Ashutosh worked as a derivatives trader specialising in trading interest rates and commodities with a proprietary trading firm in London for several years before joining QuantInsti.

### BRIAN CHRISTOPHER

*Chartered Financial Analyst (CFA), B.Sc. in Economics, Northeastern University, Boston, Massachusetts.*

Brian is a Quantitative researcher, Python developer, CFA charter holder, and the founder of Blackarbs LLC, a quantitative research firm. He started coding using Python to create algo trading strategies and has self-published his research which focused on trading algorithm research and development. He attained a BSc in Economics from Northeastern University in Boston, MA and received the Chartered Financial Analyst (CFA) designation in 2016.

## DR. ERNEST P. CHAN

*MS & PhD in Theoretical Physics from Cornell University, B.Sc. from the University of Toronto .*

Ernest Chan (Ernie) is the founder and CEO of Predictnow.ai, a machine learning SaaS. He started his career as a machine learning researcher at IBM's T.J. Watson Research Center's Human Language Technologies group, which produced some of the best-known quant fund managers. He later joined Morgan Stanley's Data Mining and Artificial Intelligence group. He is the founder and non-executive chairman of QTS Capital Management, a quantitative CPO/CTA. He obtained his PhD in Physics from Cornell University and his B.Sc. in Physics from the University of Toronto.

## DR. EUAN SINCLAIR

*Doctor of Philosophy in Quantum Chaos from the University of Bristol .*

Dr Euan Sinclair holds a PhD in theoretical physics from the University of Bristol. Dr Euan has more than 2 decades of Options trading experience and has written three books, "Volatility Trading", "Options Trading" and "Positional Options Trading", all published by Wiley, as well as numerous papers and articles.

## DR. GAURAV RAIZADA

*Doctor of Philosophy in Financial Econometrics at IIT Bombay - Shailesh J. Mehta School of Management, PGDM from IIM Lucknow, B.Tech in Chemical Engineering from IIT Kanpur.*

Gaurav is an experienced professional who leads the client business at iRage. He focuses on developing and optimizing trading systems, and transaction cost analysis. He is the Chief Investment Officer for iRage Master Trust Investment Managers LLP and a Designated Partner for iRage. His educational background includes a Doctor of Philosophy in Financial Econometrics from IIT Bombay, an MBA from IIM Lucknow, and a B.Tech from IIT Kanpur.

## DR. HUI LIU

*PhD from the University of Virginia, MS from Tsinghua University, MBA from Indiana University.*

Dr Liu is the author of IBridgePy and founder of Running River Investment LLC. His major trading interests are US equities and the Forex market. Running River Investment LLC is a private hedge fund specialising in the development of automated trading strategies using Python.

## ISHAN SHAH

*Post Graduate from Sydenham Institute of Management, B.E in Information Technology from D J Sanghvi College of Engineering.*

Ishan leads Quantra's Research and Content team and has prior experience at Barclays and Bank of America Merrill Lynch. Ishan has a rich experience in financial markets spanning various asset classes in different roles. He has co-authored a book on Machine Learning for Trading.

## JAY PARMAR

*Bachelor's in Computer Science.*

Associate, Content & Research at QuantInsti - Jay Parmar works as an Associate, Content & Research at QuantInsti and comes with several years of experience in the BFSI industry. He is actively engaged in content development for quant finance courses and mentors EPAT participants across the globe. His research interests are in applying machine learning models to various facets of trading.

## NITESH KHANDELWAL

*B.Tech in Electrical Engineering from IIT Kanpur, PGDM from IIM Lucknow.*

CEO, QuantInsti. Partner, iRage - Nitesh Khandelwal is presently the CEO of QuantInsti, an institute co-founded in 2010 as part of iRage, a leading algorithmic trading player in India. Before co-founding iRage, he had worked in bank treasury (FX & Interest rate domain) and on a proprietary trading desk.

## NITIN AGGARWAL

*PGDM from IIM Calcutta, Master of Science (MS) in Chemical Engineering from New Jersey Institute of Technology, B.Tech in Chemical Engineering from IIT Roorkee.*

Nitin is the Founder and CEO of Alphom Advisory Pvt. Ltd. (a trading firm). His gamut of experience ranges from developing novel breakthrough chemical technologies to creating proprietary trading strategies. Before leading the Alphom Advisory, he led the Operations team in Pentagon Advisory, has been a quant at iRage and a Leadership Associate with the Aditya Birla Group.

## PRODIPTA GHOSH

*PGDM from IIM Lucknow, B.E. in Mechanical Engineering from Jadavpur University.*

Prodipta leads the Fin-tech products and platforms development at QuantInsti. Before joining QuantInsti, Prodipta spent more than a decade in the banking industry – in various roles across trading and structuring desks for Deutsche Bank in Mumbai & London, and as a corporate banker with Standard Chartered Bank. Before that, Prodipta worked as a scientist in India's Defence Research & Development Organization (DRDO).

## RADHA KRISHNA PENDYALA

*Master's in Financial Engineering from the City University of New York.*

Radha works as a Data Scientist at Thomson Reuters. His work involves applying machine learning and quantitative financial modelling techniques to large datasets to solve specific problems in the financial sector. He obtained his Master's in Financial Engineering from the City University of New York.

## RAJIB RANJAN BORAH

*B.E. Computer Engineering (NIT Surathkal); PGDM – IIM Calcutta.*

Partner & CEO, iRage Rajib focuses on business strategy, trading strategies, risk management & internal processes. He is a regular speaker at algorithmic trading conferences across Asia, America & Europe Prior experiences – quant research (Bloomberg, NY); high-frequency trading (Optiver, Amsterdam); data analytics technology (Oracle); business strategy for an investment firm & derivatives exchanges Represented India at the World Puzzle Championship 4 times. Top 24 finalists at the Indian National Biology Olympiad. Rajib is also a visiting faculty in finance at IIM Ahmedabad.

## DR. ROBERT KISSELL

*PhD in Economics, a Master's in Applied Math and a Masters in Business Management and Policy and a Bachelor's in Applied Math and Statistics.*

Dr Robert Kissell is the President of the Kissell Research Group and has a rich professional experience of 25 years. Specializing in financial and quantitative analysis, statistical modelling, and risk management, Dr Kissell is the global leader and industry expert in the electronic and algorithmic trading space, a well-known speaker, renowned author, professor at multiple educational institutions, and an expert having published numerous financial research papers. Dr Kissell is an Adjunct Professor at Fordham University and an Assistant Professor at the Molloy College.

## DR. THOMAS STARKE

*PhD in Physics at Nottingham University, UK.*

Dr Thomas Starke is the CEO of the financial consultancy firm AAAQuants. With a remarkable career spanning working with Boronia Capital, Vivienne Court Trading and Rolls-Royce, he has conducted workshops and presentations on algorithmic trading around the world. As an academic, he was a senior research fellow and lecturer at Oxford University. A tech aficionado, he takes a keen interest in new technologies such as AI, quantum computing and blockchain.

## VARUN POTHULA

*Master of Science in Financial Engineering, WorldQuant University (WQU), Bachelor's in Mechanical Engineering, Vellore Institute of Technology.*

Varun Pothula possesses an extensive experience in the field of quantitative finance. With a Master's degree in Financial Engineering, he has excelled as a trader, global macro analyst, and algo trading strategist. Currently, Varun holds the position of Quantitative Analyst in the Content & Research Team at QuantInsti, where his valuable contributions aid in the development of comprehensive educational offerings tailored to the algorithmic and quantitative trading domain.

## VIVEK KRISHNAMOORTHY

*MBA in Finance from Nanyang Technological University (NTU) in Singapore, B.E. in Electronics and Telecom at VESIT, Mumbai University, Graduate Certificate in Public Policy (GCPP) from The Takshashila Institution.*

Vivek leads the Research & Content team for EPAT at QuantInsti. He teaches participants data analysis, building quant strategies and time series analysis using Python. He has over 15 years of experience across India, Singapore, and Canada in industry, academia, and research. He is the co-author of the books, "Python Basics: With illustrations from the financial markets (2019)" and "A rough-and-ready guide to algorithmic trading (2020)".

## DR. YVES J. HILPISCH

*Graduate in Business Administration and a Dr.rer.pol. in Mathematical Finance from Universität des Saarlandes.*

Dr Yves Hilpisch is an expert in Python & Mathematical Finance and covers topics related to Python coding & strategy backtesting. He also covers Object-Oriented Programming concepts in Python. Yves is the founder and the CEO of The Python Quants as well as The AI Machine. He is also an Adjunct Professor of Computational Finance at the University of Miami Business School, USA.

"I loved how EPAT® covers a wide range of topics. When I started the course I had plans to go back to university to pursue math further, but just before finishing the course I got hired by a coveted quantitative hedge fund as a quantitative analyst. A special thanks to the faculty!

*Jacques Joubert | Systematic Trader at Shell | London, UK*

Classes were concise & to the point & varied example from real life has been illustrated in commendable manner. I got good insight into Algo-trading stuff & would like to get back to respective mentors for consultation as & when required."

*Aman Kumar Saxena | Manager Quants, HSBC Global Banking and Markets | Bangalore*

"EPAT® helped me to interact with a growing community of alumni. If you are looking for a professional overview of the space, or already an expert looking at some new topics EPAT® can help you learn something new. I look forward to seeing a continued growth in QuantInsti® as well as the network of clever people coming out of the programme.

*Derek Wong | Portfolio Manager at SingAlliance Pte Ltd | Singapore*

The insights that the faculty bring to the classroom from their own experiences as consultants, are very valuable and make each lesson very effective. The QuantInsti® team too, always keeps in touch to update your knowledge with new learning sessions and additions to the programme, which is a great thing."

*Aris Skliros | Markets Risk Manager at Lloyds Banking Group | London, UK*

"The way the EPAT® course has been designed and the vastly experienced faculty they have on board makes EPAT® one of the best in the world. Also, the LMS (online learning platform) is super user-friendly and allows you to connect to your batchmates from across the globe. EPAT® has added a lot of value to my career as it has added a new quantitative dimension to my existing skill-set which was mostly fundamental.

*Rohit Gupta | Senior Associate, ARC Capital | Shanghai, China*

The EPAT® participants are equipped with high intellectual curiosity, possess strong interest in finance and have analytical skills. Although there is no specific degree requirement, but most participants joining the programme come from various quantitative disciplines such as mathematics, statistics, physical sciences, engineering, operational research, computer science, finance or economics. Participants from other disciplines should be familiar with basic financial markets understanding, spreadsheets and computational problem solving, if they wish to pursue EPAT®.

### COUNSELLING

Prior to admission, a counselling session is conducted that focuses on understanding the strengths and weaknesses of participants, wherever applicable. These sessions do not decide the participants' eligibility, however they do help the counsellors to assist them with informed guidance prior to enrolment.

Duration - 6 months

Standard Programme Fees - $ 7999

Learn more about scholarships, payment options & discount plans on *https://www.quantinsti.com/admissions*

## What are the benefits of EPAT®?

Benefits of this programme include:

- 360 degree guidance for career development
- Vast Faculty pool of industry experts and successful practitioners
- Most comprehensive programme in this domain across the globe with highest visibility and industry recognition
- This programme has been accredited by The Institute of Banking and Finance (IBF, Singapore) under the IBF Standards.
- Dedicated support team, lifelong access to updated content & guidance
- Single point 24*7 access with state of the art Learning Management System (LMS) in addition to the live lectures
- Lifelong career support including placements and guidance in setting up business/finding the right partners/vendors/capital/etc.
- Industry benefits: Access to exclusive offers from top brokers, vendors, global events, cutting-edge tools, etc.

## How many people have benefited from this course in the past?

Hundreds of course participants from over 70+ countries working across different sectors such as financial markets, technology, and quantitative finance have benefited from the programme in various ways.

## What will I be able to do after successful completion of the course?

On successful completion of the course, participants would be conceptually comfortable with:

- Managing and analysing data for algorithmic trading and building econometric models
- Learn how to back-test, implement and trade advanced quantitative trading strategies
- Using programming skills to work on algorithmic trading systems
- Using statistical packages and integrating them to your trading system
- Understanding of market making, spread optimization, transaction cost analytics and advanced risk management
- Using Option pricing models for running volatility books and making markets
- Electric blend of practical and theoretical knowledge

## What are the course requirements?

A personal machine with good internet connection is all that is required to get started immediately. As soon as you enrol, you will be provided with learning material that will assist you through the entire duration of the programme. Successful students have given 15-20 hours per week to review and complete the course work within a period of 6 months before proceeding to the final exam.

## What does EPAT® Practical Project include?

The project work provides an opportunity to specialize in a specific asset class or strategy paradigm under the mentorship of a trader/practitioner with rich experience in a similar domain. EPAT® participants have successfully implemented their project work in live markets and availed benefits in their respective workplaces.

## How does EPAT® compare with Masters in Financial Engineering?

EPAT® is a specialization programme for market professionals interested in Algorithmic, Quantitative and High-Frequency Trading. There is some overlap between the curriculum covered in EPAT® and MFE or Quantitative Finance courses. EPAT® focuses on practical and hands-on knowledge with theoretical understanding of the tools and strategies that are applied in practice.

## Will QuantInsti® help me get a job?

QuantInsti®'s Career Management & Career Development Resources, offer support that is specifically designed for students and working professionals seeking new opportunities, as well as to add immediate value to their employers or their own trading business. You can avail our placement services once you join the programme; and you will be eligible for lifetime placement assistance. Log on to www.quantinsti.com/quant-jobs/ for more information.

## What are the prerequisites for IBF-STS subsidy?

1. You need to be a Singapore Citizen or Permanent Resident, physically based in Singapore
2. You must successfully complete the EPAT programme (including passing all relevant assessments and examinations) in order to be eligible
3. You must attend at least 75% of the training
For more details, please book a call with a counsellor.