



EPAT (NS&A)

EPAT Specialization: News, Sentiment & Alternative Data

Brought to you by QuantInsti®

In collaboration with UNICOM & OptiRisk

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ABOUT QUANTINSTI

QuantInsti is one of the world's biggest algorithmic & quantitative trading institutes. From its early days, QuantInsti focused on bridging the industry knowledge gap in the field of high-frequency trading and has come a long way in the last decade. Today, it has learners from 200+ countries and territories.

It was founded by a group of technocrats and traders in 2010 with the goal of democratizing Algorithmic & Quantitative Trading for everyone through educational and technological solutions. QuantInsti is a venture by iRage, one of the leading HFT and Algorithmic trading firms in India.

QuantInsti has primarily three solutions that are popular & highly beneficial for serious investors & traders across the paradigms & geographies: Executive Programme in Algorithmic Trading ([EPAT®](#)), [Quantra](#), and [Blueshift](#).

ABOUT UNICOM AND OPTIRISK

Established in 1984, UNICOM is an events and training company specialising in the areas of business, IT and Quantitative Finance. The company's products include conferences, public and in-house training courses (including certified training) and networking events.

In the domain of Quantitative Finance it draws upon the specialist knowledge of OptiRisk Systems. OptiRisk is a leading Financial Analytics Company. UNICOM and OptiRisk have a long association and have the same founder and shared ownership. [UNICOM](#) and [OptiRisk](#) operate both from UK and India.

ABOUT THE PROGRAMME

The EPAT (NS&A) Specialization programme is designed for finance professionals who are looking to develop their careers in modern methods of Algorithmic and Quantitative Trading.

The programme covers various aspects of trading and investment decisions using News Analytics, Sentiment Analysis and Alternative Data from the perspective of their application in the competitive world of Financial Markets.

This instructor-led course is comprehensive and offers unparalleled insights into the world of Algorithms and the latest thinking in financial technology.

This course is designed by leading Algorithmic Traders, Sentiment Pundits, Quantitative Modelling experts and HFT thought leaders.

KEY TAKEAWAYS

- Understand various types of sentiments and how these affect the financial market
- Be able to distinguish between the motivations and perspectives of different market participants and parties who influence the financial market
- Learn different sources of sentiment data
- Understand how different sentiment works: Investor Sentiment, Media Sentiment, Market Sentiment, Crowd Sentiment
- Learn to work on quantified sentiment scores that are extracted from the qualitative contents of News, Newswires, Social Media, Microblogs (Twitter) and Search engines
- Learn Asset Allocation Strategies: Enhanced by News and Micro-Blog
- Learn Forecasting crude oil futures prices using global macroeconomic news sentiment
- Know how Equity portfolio risk estimation works using market information and sentiment
- Models to Exploit Sentiment Analysis and Trading Strategies
- Learn to logically analyze the distinction between Opinions and Sentiment Data (facts)

MODULES

Module 1 Sentiment... What and Whose

- Understanding investor sentiment and the pendulum of investors' emotions
- The role of "Noise Traders" in driving the asset prices in the financial markets
- Media sentiment and how it affects asset prices
- Market sentiment and its measurement
- Determining crowd sentiment and its impact on financial markets

Module 2 Sentiment Data

- Classical newswires and macroeconomic announcements
- Various Sources of sentiment data such as news, social media, and search engines
- The impact of Micro-blogging platforms on stock markets
- Converting qualitative information to the sentiment score
- Using bag-of-words, natural language processing and lexicon-based methods in sentiment analysis

Module 3 Structure and Coverage

- News analytics (Meta) data structure
- The exact polarity of sentiment in the news
- News characteristics such as relevance, novelty, and sentiment scores
- Leading data providers for sentiment data analysis in finance
- Description of the data provided by major sentiment vendors

Module 4 Other Sources: Alternative Data

- Scheduled (expected) and Unscheduled (unexpected) financial news
- Macroeconomic news and their usage in automated trading
- Relevance and use of alternative data in sentiment analysis
- Major types of alternative data
- Different categories of alternative data such as satellite data, geolocation data, etc.
- Providers of alternative data

MODULES

Module 5 Models to Exploit Sentiment Analysis (I)

- Taxonomy of models
- Descriptive, normative, prescriptive and decision models explained
- Modelling and information architecture
- Examples of modelling in the domain of finance
- The key role of time and uncertainty in decision making

Module 6 Models to Exploit Sentiment Analysis (II)

- Financial applications of sentiment data and their properties
- Risk management through risk quantification: risk computed for exposures of varying time spans, namely, weekly, monthly, or annualized
- Fund rebalancing on calendar dates: weekly, monthly, yearly
- Automated trading daily or intraday
- Retail application (creditworthiness, loan, and savings advice)

Module 7 Opinion and Biases

- Various challenges in the area of sentiment analysis
- Distinction between opinions and facts
- Role of behavioural finance in investor decision making
- Different types of biases that affect investor behaviour in financial markets
- Revisiting the pendulum of fear and greed

EPAT (NS&A) Specialization Exam

- EPAT (NS&A) Specialization certification requires you to successfully clear the Examination
- The exam is conducted at proctored centers in 80+ countries

Asset Allocation Strategies: Enhanced by News *(Sentiment Source: Alexandria Technologies)*

- Trading Strategy and Sentiment Analysis
- Market Data and News Meta Data Analysis
- Asset Allocation Strategy
- Construction of Filters and its applications
- Empirical Investigation

Forecasting crude oil futures prices using global macroeconomic news sentiment *(Sentiment Source: RavenPack)*

- Impact of crude oil price variation
- Forecasting arbitrage-free (futures) prices
- Macroeconomic news analytic data
- Models for spot prices and futures prices
- Kalman filter and removal of noise
- Analysis, estimation, and forecasting results

Asset Allocation Strategies: Enhanced by Micro-Blog *(Sentiment Source: StockTwits)*

- Trading Strategy & Sentiment Analysis
- Market Data and Micro-blog Sentiment Data
- Asset Allocation Strategy
- Construction of Filters
- Application of Filters
- Empirical Investigation and Back-testing Results

Improved Volatility Prediction and Trading using StockTwits Sentiment (Sentiment Source: StockTwits)

- Volatility prediction
- Market Data and Micro-blog Sentiment Data
- Impact Scores from Sentiment
- GARCH & ARCH Model
- Metrics for Evaluation
- Evaluation of model performance

Equity portfolio risk estimation using market information and sentiment (Sentiment Source: RavenPack)

- Understanding equity price uncertainty
- Update a traditional factor model
- Types of multifactor models
- Updating model volatility using quantified news
- Computational experiments

An Impact Measure for News: Its Use in (Daily) Trading Strategies (Sentiment Source: Refinitiv/Thomson Reuters)

- Impact of News & Sentiment
- Designing equity trading strategies
- Return, Volatility and Liquidity Measures
- Sentiment Measure & Impact score
- Autoregressive and GARCH Models
- Experimental trading results



Christina Erlwein-Sayer

Christina Erlwein-Sayer is Professor of Statistics and Financial Mathematics at Hochschule für Technik und Wirtschaft (HTW) Berlin.

Previous to this, she worked at OptiRisk Systems as a quantitative analyst and senior researcher working on the topic of financial analytics and modelling for portfolio construction and credit risk assessment. Christina completed her PhD in Mathematics at Brunel University, London in 2008.

She then worked as a researcher and consultant in the Financial Mathematics Department at Fraunhofer ITWM, Kaiserslautern, Germany. Christina has extensive experience in research and has worked on several R&D projects, the most recent of which was a multi-million-pound project funded by EU. She has also led training workshops on the topics of financial modelling, scenario generation and regime detection.



Cristiano Arbex Valle

Dr Valle has a bachelor's degree in Computer Science and an MSc in Operations Research from Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Brazil. In 2011, Dr Valle joined OptiRisk as a software engineer and a researcher.

In the year 2014 Dr Valle obtained his PhD in the Department of Mathematical Sciences at Brunel University (UK) on the topic of optimization techniques and financial modelling.

Dr Valle is fluent in Portuguese (his native language) as well as in English; he also has advanced knowledge in Spanish and French.



Dan Joldzic

Dan Joldzic, CFA, FRM is CEO of Alexandria Technology, Inc, which develops artificial intelligence to analyse financial news. Alexandria Technology uses machine learning to analyze and classify unstructured text.

The classification systems are trained by research analysts who work in the investment industry, allowing users to apply domain expertise and contextual understanding to large volumes of text.

Prior to joining Alexandria, Dan served dual roles as an equity portfolio manager and quantitative research analyst at Alliance Bernstein where he performed factor research to enhance the performance of equity portfolios.



Hitesh Menghwani

Hitesh is a research analyst and software engineer at OptiRisk Systems. Previous to this, he has also worked as a quantitative risk analyst in Credit Suisse for two years.

He has bachelor's and master's degree in Economics from Indian Institute of Technology, Kanpur. Throughout his academic journey, school, undergraduate and graduate studies Hitesh has always been among the top 5% in his class. He is proficient in programming languages such as R and Python.



Shradha Berry

Shradha is a Data Scientist and Research Analyst at OptiRisk Systems. She has over 5 years' experience in software development with TCS, India.

Shradha has a bachelor's degree in Information Technology from Meghnad Saha Institute of Technology, Kolkata, India, and a Master's degree in Data Science and Analytics from Brunel University, London.

She holds certifications in Java, Oracle SQL and SAS; she is also competent in R and Python and analytical tools like Tableau and Power BI. Her research is focused on AI & ML applied to quant finance models for the BFSI sector. Shradha is fluent in English and Hindi (Native).



Zryan Sadik

Dr Sadik has a bachelor's degree in Mathematics from Salahaddin University – Erbil in the Kurdistan region of Iraq. He has an MSc Degree in Computational Mathematics with Modelling, Brunel University, London (2012). Dr Sadik completed his PhD in Applied Mathematics with a thesis on the 'Asset Price and Volatility Forecasting Using News Sentiment' at Brunel University, London (2018).

His research interests include news sentiment analysis, filtering in linear and nonlinear time series applying Kalman filters, volatility forecasting, optimization, risk assessment, and the role of news sentiment in financial markets.

His prior studies include the impact of macroeconomic news on the spot and futures prices of crude oil, and the impact of firm-specific news sentiment on the volatility of asset price returns. Dr Sadik is fluent in Kurdish (his native language), as well as in English and Arabic.



Gautam Mitra

Prof Mitra is an internationally renowned research scientist in the field of Operational Research in general and computational optimization and modelling in particular.

He has developed a world-class research group in his area of specialisation with researchers from Europe, UK, USA and India. He has published five books and over a hundred and fifty research articles. He is an alumnus of UCL and currently a Visiting Professor of UCL.

In 2004 he was awarded the title of 'distinguished professor' by Brunel University in recognition of his contributions in the domain of computational optimization, risk analytics and modelling.

Professor Mitra is the founder and chairman of OptiRisk Systems and UNICOM seminars. OptiRisk systems and UNICOM Seminars also have subsidiaries in India. In India and Southeast Asia both the companies are going through a period of organic growth.

A full list of his publications and academic activities can be viewed [here](#).

This is an exclusive programme available for participants of the Executive Programme in Algorithmic Trading (EPAT).

The EPAT participants are equipped with high intellectual curiosity, possess strong interest in finance and have analytical skills. EPAT participants come from various quantitative disciplines such as mathematics, statistics, physical sciences, engineering, operational research, computer science, finance or economics. They are adept at building trading strategies, creating their own algorithms and even establishing their own trading desk.

It is desirable that aspirants of the EPAT (NS&A) Specialization are EPAT alumni. New batch participants of the EPAT programme of QuantInsti may simultaneously register for EPAT (NS&A).

DURATION

21 hours for foundation modules + 15 hours for case studies

TIME

3 hours each day on Saturday and Sunday

STANDARD PROGRAMME FEES

- Indian participants: INR 119,999 + GST
- Developed Market participants: USD 2899

[LEARN MORE](#)

Who is it open for?

This specialization programme is open for participants of the Executive Programme in Algorithmic Trading (EPAT).

What are the prerequisites necessary to join the programme?

Participants of the present and previous batches of the Executive Programme in Algorithmic Trading (EPAT) can join the programme.

What are the fees for this specialization?

The fees are as follows:

- Indian participants: INR 119,999 + GST
- Developed Market participants: USD 2899

Would I get support for learning?

Yes. You would benefit from the continued support through the EPAT Support Team.

What are the benefits of being an EPAT alumnus?

You would be receiving the following benefits of being an EPAT alumnus:

- Financial assistance through zero interest EMI for Indian participants
- Fee to be revised after first/second cohort

Would the recordings of the lectures be provided?

Yes. Recordings of all the lectures would be made available to you on the LMS, once they are Live.

Will I get a certificate for this specialization?

Yes, you would be getting a certificate from QuantInsti and Unicom, post completion of the specialization.

What are the modules covered in this specialization?

7 modules are covered in total. You can check out pages 6 and 7 of this brochure for complete details of these modules.

What are the timings of the sessions?

The sessions would be conducted from 8 pm IST - 11 pm IST, that is, 3 hours each day on Saturday and Sunday.

How will the exam be conducted?

The exams would be conducted similar to the EPAT Exams, online and at Prometric centres globally.

What is the duration of the specialization?

The duration is 3 months. It is as follows:

- 21 hours of foundation modules
- 15 hours of case studies

Would I get a refund if I change my mind after enrolling for the Specialization?

In case for any reason, if you decide to discontinue within the first two weeks from the start of the course, you'll be eligible to get a full refund.

Can I register for EPAT and EPAT (NS&A) at the same time?

Yes you may register for both at the same time, provided you are confident that you can keep up with the additional training hours.

How will the lectures be conducted?

The lectures would be completely online.

Who are the faculty for this course?

You can check the complete details on pages 11 & 12 of this brochure.

Are there any case studies explained in this course?

Yes, there are 6 case studies covered. You can check pages 5 & 6 for complete details.

Is it for a particular batch?

This specialization programme is not limited to any particular batch and is open to all participants of EPAT past and present.

How to attend the sessions?

You can attend the sessions the same way as the EPAT lectures from across the globe.

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