



ARTIFICIAL INTELLIGENCE
FINANCE INSTITUTE

SUMMER BOOTCAMP
AUGUST 07th – AUGUST 12th 2023

IN PERSON NEW YORK
NYU TANDON CAMPUS AND ONLINE



ABOUT

The Artificial Intelligence Finance Institute's (AIFI) mission is to be the world's leading educator in the application of artificial intelligence to investment management, capital markets and risk. We offer one of the industry's most comprehensive and in-depth educational programs, geared towards investment professionals seeking to understand and implement cutting edge AI techniques.

Taught by a diverse staff of world leading academics and practitioners, the AIFI courses teach both the theory and practical implementation of artificial intelligence and machine learning tools in investment management. As part of the program, students will learn the mathematical and statistical theories behind modern quantitative artificial intelligence modeling. Our goal is to train investment professionals in how to use the new wave of computer driven tools and techniques that are rapidly transforming investment management, risk management and capital markets.

COURSE LOGISTICS

Online program:

August 07th – August 12th 2023

40 Hours: Lectures + Practice + Speakers

Course Fee: \$3,495

SUPER EARLY BIRD DISCOUNT:

30% until 2nd June 2023

EARLY BIRD DISCOUNT:

25% until 23rd June 2023

EARLY BIRD DISCOUNT:

15% until 14th July 2023

This course is for

- Quantitative Analysts
- Computer Scientists
- Risk Managers
- Traders
- Investment Managers
- Data scientists

We will give a Python Refresher and Mathematics

Refresher/Primer at the beginning of the course.

THE FACULTY



Miquel Noguer Alonso PhD – *Co-Founder & Chief Executive Officer*

Miquel Noguer i Alonso is a financial markets practitioner with more than 20 years of experience in asset management, he is the Founder of Artificial Intelligence Finance Institute. Head of Development at Global AI and co-Editor of the Journal of Machine Learning in Finance. He serves in the advisory board of Financial Data Professional Institute FDPI and the CFA New York Quant Investing Group.

He worked for UBS AG (Switzerland) as Executive Director. He is member of European Investment Committee for the last 10 years. He worked as a Chief Investment Office and CIO for Andbank from 2000 to 2006. He started his career at KPMG.

He is Visiting Professor at NYU Courant Institute of Mathematical Sciences and the CQF institute and Tandon. He has been Adjunct Professor at Columbia University teaching Asset Allocation, Big Data in Finance and Fintech. He is also Professor at ESADE teaching Hedge Fund, Big Data in Finance and Fintech. He taught the first Fintech and Big Data course at the London Business School in 2017.

He received an MBA and a Degree in business administration and economics in ESADE in 1993. In 2010 he earned a PhD in quantitative finance with a Summa Cum Laude distinction (UNED – Madrid Spain). He completed a Postdoc in Columbia Business School in 2012. He collaborated with the Mathematics department of Fribourg during his PhD. He also holds the Certified European Financial Analyst (CEFA) 2000. He also holds the ARPM certificate.



Petter Kolm – *Scientific Advisor & Professor*

Petter Kolm is a Clinical Professor and the Director of the Mathematics in Finance Master's Program at Courant Institute of Mathematical Sciences, NYU. Previously, Petter worked in the Quantitative Strategies Group at Goldman Sachs Asset Management. Petter has coauthored numerous academic articles and four books. He holds a Ph.D. in Mathematics from Yale, an M.Phil. in Applied Mathematics from the Royal Institute of Technology, and an M.S. in Mathematics from ETH Zurich. Petter is also on various Board of Directors, editorial and advisory boards.



Matthew Dixon – *Professor*

Matthew Dixon is a British Applied Mathematician, Assistant Professor of Applied Math at Illinois Tech. He has taught machine learning, computational finance, Bayesian econometrics and financial econometrics, and held visiting research appointments in CS/Math at Stanford University and UC Davis.

Matthew is the co-founder of the Thalesians, a quant educational company which is a member of Level39, Europe's biggest financial technology Incubator. Prior to joining academia, he has held industry appointments as a quant at banks such as Lehman Brothers, the Bank for International Settlements and Barclays Capital. From 2010- 2015, He holds a MSc in Parallel and Scientific Computation (with distinction) from the University of Reading, and a PhD in Applied Math from Imperial College London.



Gordon Ritter – *Scientific Advisor*

Gordon Ritter completed his Ph.D. in mathematical physics at Harvard University in 2007, where he published in top international journals. Prior to that he earned his Bachelor's degree from the University of Chicago. Gordon is currently a senior portfolio manager at GSA. Prior to joining GSA, Gordon was a Vice President of Highbridge Capital Management and a core member of the firm's statistical arbitrage group. Concurrently with his positions in industry, Gordon teaches at three of the nation's leading MFE programs, including Baruch College and NYU. He has published articles, and is a speaker at the top industry conferences.



Stefan Jansen – *Professor*

Stefan is the founder and Lead Data Scientist at Applied AI. He advises Fortune 500 companies, investment firms and startups across industries on data & AI strategy, building data science teams, and developing machine learning solutions. Before his current venture, he was a partner and managing director at an international investment firm where he built the predictive analytics and investment research practice. He also was a senior executive at a global fintech company with operations in 15 markets. Earlier, he advised Central Banks in emerging markets, consulted for the World Bank, and has worked in six languages across Asia, Africa, and Latin America. Stefan holds Master degrees in Computer Science from Georgia Tech and in Economics from Harvard and Free University Berlin and is a CFA Charterholder. He has also been teaching data science at Datacamp and General Assembly.



Tim Leung – *Professor*

Tim Leung is the Boeing Full Professor in the Department of Applied Mathematics and the Director of the Computational Finance & Risk Management (CFRM) program at University of Washington in Seattle. Previously, he was a tenure-track Assistant Professor in the Department of Applied Mathematics & Statistics at Johns Hopkins University and in the Department of Industrial Engineering & Operations Research at Columbia University in New York City. He obtained his BS from Cornell University and PhD from Princeton University. His research in Quantitative Finance has been funded by the National Science Foundation (NSF). He has published over 60 peer-reviewed articles and two books respectively, on the topics of Mean Reversion Trading, and ETFs. Professor Leung served as the Chair for the INFORMS Finance Section and Vice Chair for the SIAM Activity Group on Financial Mathematics & Engineering. He is the founding editor of the book series, Modern Trends in Financial Engineering, and is also on the editorial board of multiple journals, including Applied Mathematical Finance, SIAM Journal on Financial Math, IEEE Intelligent Systems, and Stochastic Models.

BOOTCAMP programme

Day 1 Monday, August 07 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
1	Artificial Intelligence in Finance	09.00 am - 12.00 pm	Dr. Miquel Noguer
2	Big Data in Finance Modeling I		
	a. Supervised learning		
	b. Unsupervised		
	c. NLP and RL		
Lunch		12.00 pm - 01.00 pm	
Speaker	Quantitative Finance	01.00 pm - 02.00 pm	Petter Kolm
Speaker	RL in Finance	02.00 pm - 03.00 pm	William Kelly
1	Python and coding - Primer	03.30 pm - 05.00 pm	Nicole Koenigstein
	a. Python basics		
	b. Supervised Learning Algorithms		

Day 2 Tuesday, August 08 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
4	Supervised Learning	09.00 am - 12.00 pm	Dr. Noguer / Vanegas
	a. Supervised Learning Framework		
	b. NN, SVM, CART, XgBoost		
Lunch		12.00 pm - 01.00 pm	
Speaker	Machine Learning and Market Microstructure	01.00 pm - 02.00 pm	Sasha Stoikov
7	Unsupervised Learning	02.00 pm - 04.00 pm	Stefan Jansen
	a. Unsupervised Learning Rationale		
	b. Clustering		
	c. Auto-Encoders		
	d. Dimension reduction: PCA		
2	Python and coding - Machine Learning	04.00 pm - 05.30 pm	Nicole Koenigstein
	a. Python Sci kit Learn		

Day 3 Wednesday, August 09 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
6	Generative Models	09.00 am - 11.00 pm	David Pacheco
7	RL Basics	11.00 pm - 12.00 pm	David Pacheco
Lunch		12.00 pm - 01.00 pm	
Speaker	ML In Finance	01.00 pm - 02.00 pm	Dhagash Mehta
8	NLP Basics	02.00 pm - 03.00 pm	Asier Gutierrez
6	ML and Factor Models	03.00 pm - 04.00 pm	Vincent Zoonekynd
3	Python and coding - Machine Learning	04.00 pm - 05.30 pm	Nicole Königstein

Day 4 Thursday, August 10 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
8	Deep Learning Applications	09.00 am - 12.00 pm	Stefan Jansen
	a. DL computational aspects		
	b. Factor Models		
Lunch		12.00 pm - 01.00 pm	
Speaker	RL in Finance	01.00 pm - 02.00 pm	Gordon Ritter
9	Deep Learning	02.00 pm - 05.00 pm	Dr. Matthew Dixon
	b. Neural Networks Architectures		
	II. Recurrent Neural Networks		
	III. Long Short Term Memory Networks		
	IV. Convolutional Neural Networks		
	V. Generative Adversarial Networks		

Day 5 Friday, August 11 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
9	Reinforcement Learning	09.00 am - 12.00 pm	Dr. Matthew Dixon
	a. Reinforcement Learning in Finance		
	b. RL in Dynamic Rep and Hedging		
	c. Markov Decision processes		
	d. Taxonomy of RL		
	e. Tabular Learning and Bellman Equation		
	f. Deep Q-Networks		
Lunch		12.00 pm - 01.00 pm	
Speaker	Machine Learning in Finance	01.00 pm - 02.00 pm	Nicholas Westray
9	Reinforcement Learning II	02.00 pm - 04.00 pm	Amine Aboussalah
	a. Reinforcement Learning Definitions		
	b. Trading Example		
Speaker	Mathworks	04.00 pm - 05.00 pm	Marshall Alphonso

Day 6 Saturday, August 12 2023			
MODULE	CONTENTS	HOUR	PROFESSOR
10	Natural Language Processing	09.00 am - 11.00 pm	Dr. Miquel Noguer
	a. NLP Pipeline		
	b. Text Pre-Processing		
	c. Word Tokenization		
	d. Deep Learning NLP		
	NLP Deep Learning	11.00 am - 12.00 pm	Tinghao Li
	a. Transformers		
	b. BERT		
Lunch		12.00 pm - 01.00 pm	
Speaker	NLP applied to ESG and SDG	01.00 pm - 02.00 pm	Richard Rothenberg
Speaker	RL in Finance	02.00 pm - 03.00 pm	Igor halperin

REGISTRATION FORM

Start date: Monday, August 07 2023

Regular Course Fee

Full Course Fee \$3,495

Super Early Bird Discounts

30% discount until 2nd June 2023

Early Bird Discounts

25% discount until 23rd June 2023

15% discount until 14th July 2023

Discount code

VOLUME DISCOUNT: If 2 or more people from your institution wish to take the course please contact us.

DELEGATE DETAILS

NAME:

ORGANISATION:

JOB TITLE:

DEPARTMENT:

ADDRESS:

ZIPCODE:

TELEPHONE:

E-MAIL:

NATIONALITY:

DATE:

SIGNATURE:

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E-mail: info@aifinanceinstitute.com

Apply online:

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By completing and submitting this form, you accept AIFI Data protection and use policies and agree to communication from time to time with relevant details and information on AIFI events and services.



