UNIMORE UNIVERSITÀ DEGLI STUDI DI MODENA E REGGIO EMILIA

Artificial Intelligence
Research and Innovation Center (AIRI)

AImage Lab

RegioneEmilia-Romagna

Progetto triennale di alta formazione in ambito culturale, economico e tecnologico ai sensi dell'art. 2 della legge regionale n. 25/2018 approvato con deliberazione di Giunta regionale n.1251/2019.

Petter Kolm

Clinical Professor and Director of the Mathematics in Finance Master's Program, Courant Institute of Mathematical Sciences, New York University

Thursday, 26th June 2025 · 10:00 a.m.

AULA P 2.7· Building MO25, Dipartimento di Ingegneria "Enzo Ferrari" ·
Via Vivarelli 10, 411125 (Modena)

AI & ML for Systematic Investing

10:00-11:00 "Deep Dive into AI/ML for Systematic Investing: Methodologies, Applications, and Emerging Trends"

ABSTRACT

Building upon the introductory talk, this session offers a deeper exploration of Artificial Intelligence (AI) and Machine Learning (ML) methods applied to systematic investing. We discuss supervised, unsupervised, and reinforcement learning techniques, emphasizing their use in key investment processes such as forecasting, portfolio construction, and trade execution. Special attention is given to common methodological pitfalls, including overfitting, interpretability challenges, and regime shifts, alongside robust strategies to mitigate these issues. The session concludes by highlighting open challenges and promising future directions, particularly adaptive and real-time learning frameworks

11:00-13:00 "AI/ML in Systematic Investing and Trading: Recent Advances and challenges Ahead"

ABSTRACT

Artificial Intelligence (AI) and Machine Learning (ML) are having a profound impact on systematic investing and trading, fundamentally transforming quantitative strategy development and execution. This talk highlights recent advances in applying AI and ML to systematic investment management, emphasizing their practical roles in generating alpha, optimizing portfolios, and enhancing trading strategies. We argue that maintaining a human-in-the-loop is essential to effectively address challenges and fully realize the benefits of ML-driven automation. The presentation concludes by highlighting promising directions, opportunities, and challenges ahead.

Biography: Petter Kolm is a Clinical Professor at NYU's Courant Institute, where he directs the Mathematics in Finance Master's program. In 2021, he was honored as *"Quant of the Year"* by Portfolio Management Research (PMR) and the Journal of Portfolio Management (JPM) for his significant contributions to quantitative portfolio theory. He has co-authored numerous influential articles and books on quantitative finance and financial data science. Petter serves on several company advisory boards (including Aisot, Axyon AI, and GoQuant), editorial boards for leading academic journals, and boards of directors for professional associations. Previously, he worked in Quantitative Strategies at Goldman Sachs Asset Management. As a consultant and expert witness, Petter provides expertise in financial machine learning, portfolio and risk management, and systematic trading. He earned his Ph.D. in Mathematics from Yale University, an M.Phil. in Applied Mathematics from the Royal Institute of Technology (KTH), and an M.S. in Mathematics from ETH Zurich.

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