JOIM
www.joim.com

Journal Of Investment Management (2025), pp. 1–3

SPRING JOIM CONFERENCE
APRIL 21–23, 2025
AI in Finance II
Santa Clara University, Leavey School of Business

CONFERENCE SUMMARIES

This conference focused on the latest developments in AI in finance. More generally, talks covered important issues currently under debate in the AI ecosystem that are relevant for investment management. Topics such as the role of closed and open AI, responsible AI, and the future of the workplace was discussed.

Brian Granger
Jupyter open source team (founder)
CalPoly San Luis Obispo and AWS
Open Source and AI

Discussant: Deep Srivastav, Franklin Templeton

Open and open-source foundation models have emerged as important components of generative AI (GenAI). In parallel, open source interfaces are keeping pace with large language models (LLMs). In this talk we present the historical evolution of ideas and paradigms in open source and related open source GenAI tools, such as the Jupyter ecosystem. In particular, we will present two recent extensions, Jupyter AI and Jupyter Scheduler, and showcase their usefulness in GenAI, with simple financial applications.

Roger G. Ibbotson
Yale School of Management
The CAPM, APT, and PAPM

The Popularity Asset Pricing Model (PAPM) generalizes the Capital Asset Pricing Model (CAPM) with popularity as the basis for multiple priced characteristics. The CAPM along with the Arbitrage Pricing Theory (APT) are the dominant textbook asset pricing models. Both require restrictive and unrealistic assumptions. The former suffers empirical short comings, and the latter is largely unused. Fama and French (2007) identify "tastes" and "disagreement" as impacting asset prices. In the PAPM, investors have a variety of risk and non-risk preferences (tastes) and divergent beliefs about expected returns and risk (disagreement), in which aggregate tastes and disagreement impact equilibrium prices.

Jose, Menchero, Bloomberg
Why Traditional Risk Models Overstate Factor Risk

Discussant: Weijian Liang, PGIM

We show that traditional equity factor risk models tend to overstate factor risk for two basic reasons. First, the standard industry practice of using regression weights proportional to the square root of market capitalization leads to excessively noisy estimates of factor returns, which in turn inflates the factor variance estimates. Second, traditional techniques fail to remove the idiosyncratic component from the variance estimates of the pure factor portfolios, which further inflates factor risk. In this paper, we describe solutions to both problems. In addition to yielding more accurate risk forecasts and better decomposition of portfolio risk, we show that our approach produces more efficient optimized portfolios and mitigates spurious correlations between factor returns and idiosyncratic returns.

Markus Pelger
Stanford University
Do AI-Algorithmic Traders Lead to Market Instability? A Multi-Agent Reinforcement Learning Approach

Discussant: Iro Tasitsiomi, T.Rowe Price

We show that AI-powered algorithmic trading can lead to inefficient and unstable markets. We investigate the impact of algorithmic traders on market equilibrium using a multi-agent deep reinforcement learning framework. We develop a conceptual simulation framework to study the market equilibrium among informed speculators with asymmetric information under different market conditions. Our findings reveal that more informed algorithmic traders engage in manipulative behavior, leading to local market price bubbles and deviations from the fundamental price. The informed AI-traders exploit and actively distort the learning process of less informed AI-traders. These results are robust across different number of agents and buying power scenarios. Unlike existing studies on algorithmic collusion, our research highlights the novel finding of the emergence of local price bubbles. Given the rapid growth in AI-powered algorithmic trading, our results identify a new form of systematic risk.

Gustavo Schwenkler
Santa Clara University
The Different Networks Of Firms Implied By The News

Discussant: Alex "Sandy" Pentland, Stanford Digital Economy Lab and MIT

The interconnectedness of firms through various networks, such as production, credit, and competition, plays a critical role in determining firm-level and aggregate outcomes. However, data on these connections are often limited. This paper introduces a novel artificial intelligence methodology that extracts explicit firm relationship networks from financial news articles, providing comprehensive and interpretable data across multiple dimensions. Applying this methodology to New York Times articles since 1981, we generate extensive networks that predict key macroeconomic indicators. Our publicly accessible dataset offers valuable insights for future research on firm networks and aggregate fluctuations.

Mihail Velikov
Penn State University
AI-Powered (Finance) Scholarship

Discussant: Seoyoung Kim
Santa Clara University

This paper describes a process for automatically generating academic finance papers using large language models (LLMs). It demonstrates

the process' efficacy by producing hundreds of complete papers on stock return predictability, a topic particularly well-suited for our illustration. We first mine over 30,000 potential stock return predictor signals from accounting data, and apply the Novy-Marx and Velikov (2024) "Assaying Anomalies" protocol to generate standardized "template reports" for 96 signals that pass the protocol's rigorous criteria. Each report details a signal's performance predicting stock returns using a wide array of tests and benchmarks it to more than 200 other known anomalies. Finally, we use state-of-the-art LLMs to generate three distinct complete versions of academic papers for each signal. The different versions include creative names for the signals, contain custom introductions providing different theoretical justifications for the observed predictability patterns, and incorporate citations to existing (and, on occasion, imagined) literature supporting their respective claims. This experiment illustrates AI's potential for enhancing financial research efficiency, but also serves as a cautionary tale, illustrating how it can be abused to industrialize HARKing (Hypothesizing After Results are Known).

Panel Discussion: Kevin Pemberton and Jason Kappel, Microsoft

Moderator, Deep Srivastav Franklin Templeton

Explore how artificial intelligence is transforming decision-making, risk management, and operational efficiencies across the financial industry. Moderated by Deep Srivastav, an expert in AI-driven innovation, this panel will bring together Kevin Pemberton Americas COO, Investment Management, Capital Markets and Jason Kappel CPO/CTO Capital Markets from Microsoft to discuss the opportunities and challenges of integrating AI into the investment value chain.

We will dive into key topics such as how AI enhances portfolio optimization, improves market predictions, and streamlines due diligence while addressing critical considerations around trust, transparency, and ethical AI deployment in finance. As AI continues to reshape the investment landscape, this discussion will provide valuable insights into how firms can leverage AI-driven tools to create competitive advantages while maintaining a human-centered approach to decision-making.