

The Impact of Artificial Intelligence on Investment Management Practices**Abstract**

In this paper, we investigate the disruptive implication of artificial intelligence (AI) on investment management. The research delves into AI impact in key portfolios at the heart of investment management practice functions of portfolio optimization, risk management analyses predictive algorithms. The analysis proceeds with an expository description of AI boom and its expansion in different fields followed by the reason for study how AI affects investment management. Finally, the paper summarizes the review of academic literature about AI and machine learning applications in finance. Wealth-front (the top robo-advisor platform) forms the case study under a qualitative research methodology, which we will be highlighting in the main study.

Various types of data analysis were done through thematic and comparative to identify the key recurring themes as well as assessing how Wealth-front performs compared to forthcoming AI-driven approaches like the language model ChatGPT. Results show that AI contributes to portfolio management when the algorithms automate the construction, trade and re-localization by optimizing models such as the Modern Portfolio Theory. In risk analysis, AI improves scenario modeling and factor analysis as well sentiment analysis which improves micro-prudential and macro level risk management. Beyond this, the study also tries to understand the role of predictive analytics enabled AI in forecasting returns, anomaly detection and delivering customized reports to the investment clients.

The paper also discusses the limitations of AI in investment management, including challenges related to data quality, model interpretability, and ethical considerations. Finally, it provides suggestions for future research, emphasizing the need to address explain-ability, integrate alternative data sources, mitigate biases, and explore cross-industry applications of AI in the financial sector. This study offers a comprehensive analysis of AI's transformative potential in investment management, underscoring the importance of responsible innovation and the balanced integration of human expertise and technological advancements.

KEYWORDS: Artificial Intelligence (AI), Investment Management, Portfolio Optimization, Risk Analysis, Predictive Analytics, Machine Learning in Finance, Robo-Advisors