

An investment perspective:

# AUGMENTING, NOT REPLACING, HUMAN INVESTMENT INTELLIGENCE

While AI is a powerful data analysis tool, it lacks the ‘general intelligence’ to be anything more. Interview with James Waters, Senior Data Scientist.

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## QUICK READ

- ▶ Huge increases in the volume of data and computing power make it possible to gain an investment edge through swifter and better interpretation of information.
- ▶ Columbia Threadneedle Investments puts computing power into the hands of portfolio managers, enabling them to analyse unstructured data to gain a better understanding of a business’s fortunes.
- ▶ AI is just one tool in the data analysis armoury, although a powerful one.
- ▶ In the field of investment analysis, the possibility of machine intelligence replacing rather than augmenting human intelligence remains remote.





**James Waters**  
Senior Data Scientist

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When managing money, knowledge is everything. In an age of instant information and regulated company disclosures, it's rare to gain an investment edge from discovering facts about a business or the economy ahead of the market. Yet today's huge increase in volumes of data and computing power have made it possible to do so through swifter and better interpretation of information.

With human activity generating vast amounts of data, mining this for nuggets and patterns of information can provide insight into trends such as changing sentiment towards a stock or consumer behaviour. This is achieved through different forms of data analysis, the most advanced of which are the cognitive learning and problem-solving abilities of machine or artificial intelligence.

Columbia Threadneedle Investments takes a specific approach to this in line with its DNA as an active asset manager. It puts computing power in the hands of its portfolio managers, enabling them to analyse unstructured data and gain a better understanding of a business's fortunes. Almost three years ago, it set up a data science team dedicated not only to gathering data more efficiently, but also to finding fresh insights. AI is just one tool in its armoury, but a powerful one for spotting patterns and anomalies.

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The information we gather, including through the use of AI, provides investment insights that help the team produce investment ideas. Our approach to investing remains the same. However, data analysis enables our investment teams to gain more insight in a more efficient manner. ”



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We have used natural language processing (NLP) for sentiment analysis, looking at how we can infer consumer sentiment changes towards brands from social media data. This provides our analysts with more information on the industries and companies they cover. This, in turn, may or may not provide insights that affect their recommendations. It is another source of information that analysts can use. ”

How an asset management company chooses to harness AI depends on its investment style. At Columbia Threadneedle Investments, AI is dubbed “augmented intelligence”, depicting its use as an extra source of information that helps portfolio managers to make investment decisions. While AI – especially machine learning – has developed quickly in fields such as natural language processing and image recognition, it lacks a human’s “general intelligence” which is needed to understand the broad nature of a company.

Explaining the approach, James Waters, Senior Data Scientist at Columbia Threadneedle Investments, says: “We have a data science team in our investments group that helps to extract information from data sources, particularly those that analysts themselves have difficulty manipulating, for example, unstructured data sets or large data sets. We also develop processes to extract information in a far more efficient manner, freeing up time for analysts to focus on analysis rather than data gathering.

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This way of using AI – as part of a broader data analysis tool kit – reflects Columbia Threadneedle Investments’ nature as an active asset management company, where portfolio managers use fundamental analysis to identify high-quality growth companies. In an asset management company specialising more in quantitative analysis, it’s likely that AI would be more central to investment decision making.

Waters gives several examples of how he has used AI to assist portfolio managers. For instance, natural language processing (NLP), a branch of machine learning, has been deployed to help identify changes in sentiment towards companies from social media feeds or financial statement filings.

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Beyond investment analysis, Columbia Threadneedle Investments harnesses AI to enhance portfolio construction, using optimisation algorithms.

But in the field of investment analysis, the possibility of machine intelligence replacing rather than augmenting human intelligence remains remote. AI remains just one tool in the data science armoury.

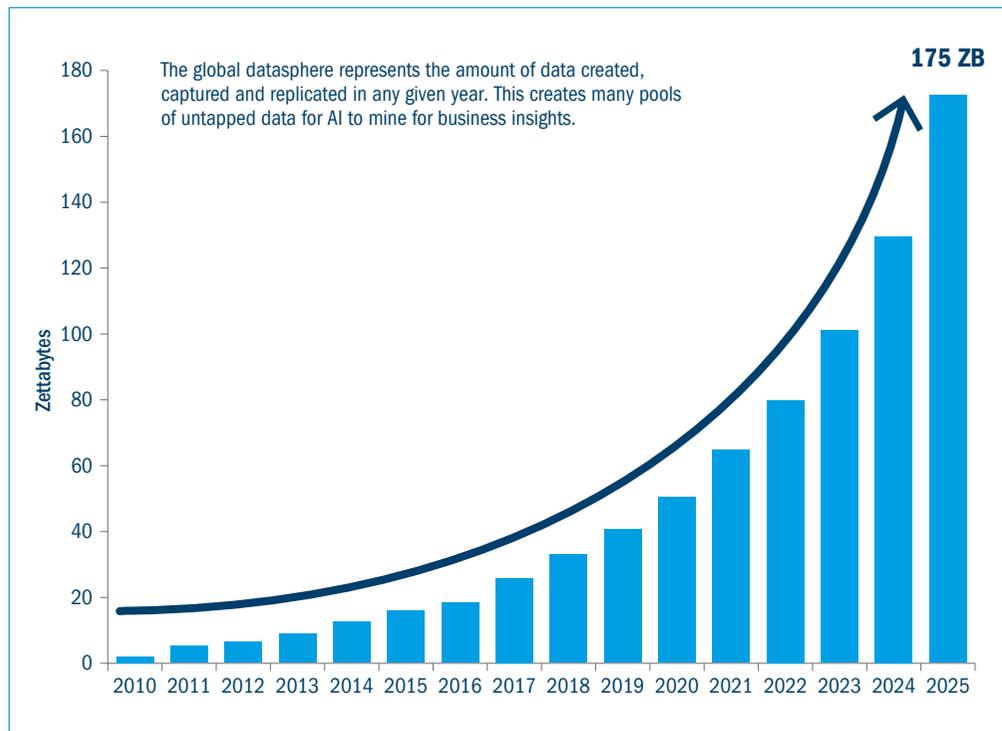
Indeed, at Columbia Threadneedle Investments, it is portfolio managers and investment analysts who drive the use of AI, using it to help them judge a company's competitive advantage, as well as any switches in sentiment towards the stock or its products.

As computers get substantially more powerful and the amount of data grows exponentially, so the importance of data science in investment seems only likely to grow. Does that mean portfolio management teams will increasingly turn to AI's talent for analysing patterns?

“As analysts become more and more comfortable with some of these tools, techniques and their efficiencies, it will become more important to take them into consideration,” says Waters. “But it's not just the techniques, it's the volume of data that is more awesome. Everyone gets carried away with machine learning and AI, but the quantity and quality of data makes the greatest difference.”



### Annual growth of the global datasphere



Source: Data Age 2025, sponsored by Seagate with data from IDC Global DataSphere, Nov 2018.

### James Waters biography

James Waters joined Columbia Threadneedle Investments in October 2012 as a member of the fixed income team.

In 2018, he formally moved to the newly established data science team as a senior data scientist.

Before joining the company, Waters worked at Goldman Sachs Asset Management, initially in the technology team and then within the fixed income group.

He has both a master's in mathematics and a master's in computing, along with a degree in actuarial science.



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