Artificial intelligence in asset management: why human and computer collaboration is so powerful

In today's digital age, artificial intelligence opens up completely new possibilities for asset managers to gain information advantages through systematic data analysis. Coupled with human expertise, it helps to give investors early access to the trends of tomorrow.

We live in the age of big data and in a digital society. Not only have the volume and variety of data increased enormously, but also the frequency with which data is produced and the multitude of possible data sources. With conventional methods of data processing, the global mountain of unsorted information can no longer be meaningfully evaluated. The flood of digital data is changing many industries, including the asset management industry.

The analysis of this - so-called alternative - information opens up new possibilities to analyze not only classic capital market-relevant indicators such as balance sheet figures, exchange rate data or economic figures, but also, for example, flows of goods, motion data, analyst discussions or news as well as information from search engines and social networks.

With the help of artificial intelligence, the flood of digital information can be structured, processed and evaluated. Natural language processing and text mining, for example, make opinions and moods from public and social media quantifiable.

Sophisticated calculations instead of intuition

If you want to use the new flood of data from countless data sources, you need intelligent tools to get results in a reasonable time. This is the only way to draw conclusions from the multitude of data that help align portfolios more intelligently to promising market areas and thus participate in new developments earlier.

This is where Natural Language Processing (NLP) algorithms can help. As a sub-area of artificial intelligence (AI), Natural Language Processing algorithms make it possible to record, process, understand and interpret human language and written texts with the help of computers in just seconds.

The advantage of the computer in this case is obvious: it is fast, works flawlessly, can process large amounts of data according to given rules and provide fund managers with specific results. However, humans make the machine run, develop the ideas and research behind the computer programs. Humans in this case have to make sure that sensible outputs are generated with sensible inputs.

Gone are the days when company visits could give you a meaningful advantage. Much more important than what management says is letting the data speak for itself. What is really happening in the company? What activities are being tracked? Instead of human intuition, calculations based on alternative data can be a useful addition to traditional market data. From this, in turn, humans develop and validate the investment decisions that are based on the results of the algorithms.

Textual data analysis of news data can be used, for example, to identify relationships between companies and innovative topics such as 3D printing, blockchain or digital health. Since innovations are an essential part of economic growth, the companies that drive these developments should benefit most from these topics' rising importance. Identifying the companies and determining the relevance of a certain topic for a company is one key output that can be determined from textual data analysis. It is also worthwhile to point out, that these relevance-weighted portfolios are an innovative alternative to traditional weighting methods based on market capitalization or risk data.

Quants have an advantage

In the face of ever new data sources with ever greater information density, fund managers alone will no longer be able to draw conclusions from this wealth of data in a reasonable time. In a world in which speed and the evaluation of large amounts of data are decisive for profitable forecasts, the increasingly powerful computers are an essential support for portfolio managers in the asset management industry. Quantitative managers who have been working with large amounts of data, databases and computers for years have a clear advantage here. Essentially this is because the knowledge and skills that are necessary for the operation of these systems cannot be learned within a short period of time.

Nevertheless, we believe artificial intelligence cannot and will not replace human experience, expertise and creativity, at least for the moment. Will that be the case at some point? Scientists argue about this.

However, the fact is: The creativity of humans paired with the speed of the computer provides advantages in today's digital world. It is only with the help of computers that humans can structure and evaluate the diverse information of our digital society.

Artificial intelligence as a tool must, however, always be developed by people, fed with information and operated. So clearly, investment decisions will continue to require more than the results of algorithms also in the future.