

# ARTIFICIAL INTELLIGENCE

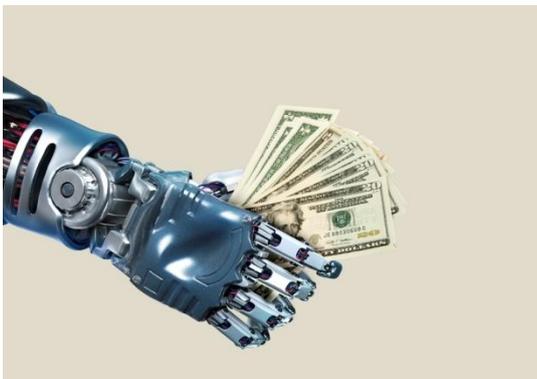
## Battle for a Trading Edge

### Handelsblatt

Investing may be the last frontier for artificial intelligence, which is already busy transforming cars and production. Now, AI is forcing a huge rethink of how people make money, too.



**Christopher Cermak**, Published on 27. March 2017, 19:30



Here's a hypothetical example: Imagine a super computer that could go through all the masses of data available about a particular company – its prospects, its leadership, its rivals, the sector, the economic backdrop – synthesize all that information and make an intelligent decision on whether to invest your money in that company.

Foolproof, right? Then, one week after you've thrown all your money behind that company, the chief executive comes out as a Nazi sympathizer. The stock collapses and you are left holding the bag.

There, in a nutshell, lie the potential and pitfalls of using artificial intelligence in investing. Nonetheless, it is a fast-growing space that is the talk of the hedge fund and asset-management community, and will be the subject of a major conference in Germany's financial capital Frankfurt on Tuesday.

The dilemma above is a classic problem outlined by Matthew Griffin, founder and CEO of the 311 Institute, an innovative consulting firm working on artificial intelligence and its applications. But the example hasn't stopped people from trying. The first fully-automated hedge funds are already starting to pop up.

"They are just at the start of their journey, but they are running headlong into automation," Mr. Griffin said of the asset-management industry. "A lot of people felt the financial services space was going to take the longest to transform...in many respects they're now leading the revolution."

**"You're never really going to get to the point where you have a perfect model."**

**Matthew Griffin, Founder and CEO, 311 Institute**

Yet applying artificial intelligence, or AI, is unique when it comes to the world of investing. Unlike a self-driving car, where the perfect intelligent computer could, at least in theory, end all accidents on the road, or an intelligent robotic industrial machine that can perfect your production process, using computers in investing won't ever be a sure thing.

“You’re never really going to get to the point where you have a perfect model,” Mr. Griffin told Handelsblatt Global. “When you’re trying to predict the future, there are so many variables.”

But then, that’s not the point, said Andrej Rusakov, a partner at Data Capital Management, a New York-based firm that is experimenting with using both “big data” and artificial intelligence in trading. Investing doesn’t have to be a sure thing, nor would any right-minded investor ever place all their chips in one single company. All you really have to do is be right 51 percent of the time and you’re likely to make a decent sum of money.

“The hedge fund game has always been about two things – the first is having better information than the market...and the second is having access to the same information but faster than anybody else,” Mr. Rusakov told Handelsblatt Global. Using computers to evaluate the wealth of data out there, and make intelligent decisions faster, can help with both.

An example: Data Capital Management’s models discovered an e-coli outbreak was turning people away from the fast-food chain Chipotle by analyzing foot traffic from satellite images and mobile phone data. Foot traffic had increased in rival Panera Bread.

“A short of Chipotle and long of Panera Bread really paid off,” he said.

There’s plenty of room for this kind of work to grow. Mr. Rusakov estimates that in the hedge fund space alone — an industry that manages only around \$3 trillion— about 90 percent of funds are still managed by discretionary investors and only 10-15 percent by what he calls “quantitative strategists.” That’s nothing to say of the broader \$7.5-trillion asset-management industry where the practice is even more in its infancy.

## **“If asset managers want to survive, they need to innovate their propositions, and that’s where AI comes in.”**

**Alessandro Di Soccio, Co-founder, A.I. Machines**

Of course, it’s not as if computers aren’t already used on the trading floor. Trading algorithms dominate much of the market these days. The difference is that, while these computers follow simple rules — buy or sell when a stock hits a certain price, or buy a currency if that country’s economic data beats expectations — artificial intelligence could change those rules automatically as new information comes in that promises a better return.

Once shunned, those who have begun experimenting with it for the past decade are suddenly starting to generate some serious interest.

“Many years ago, we were seen as radicals,” said Alessandro Di Soccio, the co-founder of A.I. Machines, which started developing a software engine that proposes investment strategies a decade ago. “Initially it was very hard, but in the last few years there has been a big turnaround in the way we are received,” he added. Now his company is advising about 25 major institutions on the best way to invest.

That doesn’t mean everyone is welcoming. For one thing, much of the work is happening in the United States and New York, and to a lesser extent in London and Israel, Mr. Rusakov said. Continental Europe and Germany have not really caught onto the trend.

While German firms are at the forefront of artificial intelligence applications in industry and cars, they have yet to seriously turn those attentions to investing.

Mr. Rusakov says the Frankfurt conference Tuesday, part of a global series known as “Battle of the Quants,” is more about introducing the concept to a German audience and attracting investors from Europe’s largest economy. The conference comes at a time where, especially in Europe because of record low interest rates, good fund managers that can generate a decent yield are in serious demand.

Like any industry faced with the disruption that has come with automation, there is not only skepticism about whether this stuff actually works, but what it could mean for jobs. Could a computer replace your average investor?

Mr. Di Soccio is fond of saying it's "not about man versus machine, but man with or without machine," and it's a common refrain in this budding industry. For enthusiasts, it's both about managing expectations and easing concerns: Artificial intelligence will never get to a point where it can work completely without human interaction.

"The stereotype that the machines can go crazy overnight doesn't exist," he said.

And Mr. Di Soccio also turns the argument around: Asset managers as an industry are already under threat. He notes that only about 1 percent of active asset managers outperform benchmark indices after costs are taken into account, while 75 percent are in line and 25 percent underperform. It's the main reason that so-called passive exchange traded funds — those that simply follow an index like the Dow Jones or DAX in Germany — are becoming more popular.

"If asset managers want to survive, they need to innovate their propositions, and that's where AI comes in," Mr. Di Soccio told Handelsblatt Global.

But that doesn't mean the nature of jobs won't change. Mr. Griffin of the 311 Institute notes that while Goldman Sachs used to have 9,000 employees, about a third of those are now data scientists. "You end up with a more technical workforce."

**“As long as you have diverse market participants and objectives, you’re still going to be subject to fear and greed and what the results are of those human emotions.”**

**Matthew Sandretto, Founder and portfolio manager, Greyfeather Capital**

So what exactly will the humans do? Mr. Rusakov said it will always be up to a fund manager to set the parameters for any investment — that's also why it's hard to imagine every artificial intelligence-driven investor doing exactly the same thing. Even a computer can't evaluate every company, stock, bond and currency in the world: You have to tell it what you think the priorities are.

And then there's the tricky human element to markets — not every decision made is rational.

Say, for example, that your computer looks deeply into the latest quarterly earnings statement of a company and decides the fundamentals dictate it's a good time to buy the stock, but since other investors fail to pick up on the intricate details and focus on the headline number, the stock drops instead. You and your smart computer may have been right, but you still lost money.

This is probably the trickiest area for computers to get right, said Matthew Sandretto, founder and portfolio manager of Greyfeather Capital, which will be launching an artificial-intelligence-driven hedge fund to outside investors in September. But there are things you can do: Mr. Sandretto says you can program a computer to look at the history of how investors trade after an earnings release — essentially build the market's irrational behavior into your system — but it's definitely a tricky prospect.

The key is to manage expectations. Mr. Sandretto says a computer can look into the masses of past data to find patterns for how people trade — even things like where markets tend to overreact — and make judgments accordingly. But in the end, it's still only making a very educated guess. The idea of an "omnipotent" computer is false.

"It's always probability. There's no certainty," he told Handelsblatt Global. "As long as you have diverse market participants and objectives, you're still going to be subject to fear and greed and what the results are of those human emotions."

In the world of investing, however, the higher probability may be enough: "People think of AI as a sort of magic that can solve everything. That is not the case," Mr. Di Soccio of A.I. Machines said. "Of course we're not going to be 100-percent right — not even close — but usually what happens is we're going to be better than the rest."

*Christopher Cermak is an editor with Handelsblatt Global based in Berlin covering finance, economics and politics.*