



AI AT WORK IS GREAT, UNTIL IT BECOMES YOUR BOSS

HFM Technology examines how artificial intelligence could disrupt the hedge fund workplace

BY WILLIAM FREEDMAN

Artificial intelligence (AI) isn't just helping separate out unicorn opportunities from flea-bitten leads. It's also aiding compliance departments to separate sketchy traders from ones that scrupulously comply with regulatory guidance. But where AI's applicability to the hedge fund industry truly becomes something out of *Person of Interest* is that it can also tell hot fund managers from cold ones. How good it is at doing that, though, is not settled science.

AI vendors rely on a number of behavioural cues to determine if an employee is feeling anxious or frustrated, frames of mind that purportedly suggest that they might act in a manner that would not be within regulatory guidelines. The most frequently cited example is the use of expletives in phone conversations, texts and emails.

"These behaviours can be linked to breaches of compliance rules but can also be valuable in understanding investment biases," says Erkin Adylov, the CEO of Behavox, a one-stop AI shop that counts leading hedge funds and tier-one banks as clients.

"People analytics can benefit not just from the compliance department, but also HR and even individual traders. For example, traders can get access to their phone calls and use our AI to transcribe useful calls they had with sell-side instead of taking notes. They can also get notifications when the system detects a behavioural bias that is correlated to losing money."

Nearly one-third of hedge funds are using artificial intelligence to support their investment process, EY's latest global alternative fund survey found. Meanwhile, 11% of hedge funds have made an investment in AI to support middle- and back-office operations, while 30% of respondents said they anticipated making one.

Adylov reckons there is "very little alpha left" in deploying AIs to sort through external data sets to provide inputs for investment decisions. The next frontier is predicting a propensity for regulatory violations based on natural language processing and voice recognition.

According to a 2018 Gartner report: "AI agents have a first-mover advantage that will last only until 2019, when decision support/augmentation will overtake and remain the largest type of AI by business value-add."

Using AI in HR

Extending the human resources use case beyond hedge fund managers, anticipating the performance of any employees in any field using AI might not be the wisest course at present. A number of machine-learning experts share a scepticism that there might not be enough data, and that the technology might not yet be mature enough for AI to be an effective employee performance measurement tool. "It might be a dumb thing to do at this point, but [HR departments] are going to do it," says Robert Wald, an AI thought leader who works as CTO for disease management firm Cecelia Health.

HR technology, including AI, attracted over \$3bn in investment last year, according to HR AI developer Edge Networks, more than triple the previous year. Whether funders will get what they paid for remains to be seen. If they do, the most likely use case would be in job candidate screening, experts say. When an AI instance scans through résumés or online profiles, it "looks beyond buzzwords," says Peter Tannenbaum, principal at Ramax Search, which specialises in screening prospects in financial services.

While conventional recruitment practice has been to filter for specific terms, candidates have long since gamed that by incorporating the most popular terms in their bios. Sometimes it's out-and-out fraud but, according to Tannenbaum, it's more likely that the individual has some tangential connection to 'distressed debt' for example but might not bring enough expertise to be seriously considered. Multiply by the sheer volume of jobseekers, and it amounts to an excessive waste of time.

"AI separates perfunctory from real users," Tannenbaum says. "It looks at the companies they worked at and [the candidates'] pedigrees," thus determining if an individual

actually reported to an expert in the field or if they just worked at a firm where someone else was actually elbow-deep in the subject matter. In the 'distressed debt' example, an AI might look beyond the search term for someone who worked in southeast Asia in the late 1990s.

Tannenbaum says that AI-augmented screening helps such firms as Ramax to "go from a thousand résumés to ten". Still, that is not the only use case, and others have yet to prove their value or even their viability.

Tools such as Untapt, for instance, are being used to analyse candidates' actions and responses in live situations. Think Harrison Ford interviewing replicants in *Blade Runner*. Using sentiment analysis tools to measure deviation of voice patterns during video interviews to detect authenticity and probity is being "used as part of interview screening within Apac and Northern Europe," says Gavin Megnaught, digital development director at executive search firm GQR.

"In addition, we have seen early-stage trials in Denmark of tracking eye movements during a candidate's responses to questions, again within video interviews, with machine learning predicting the creativity, honesty and stress of a candidate in a pre-screening scenario."

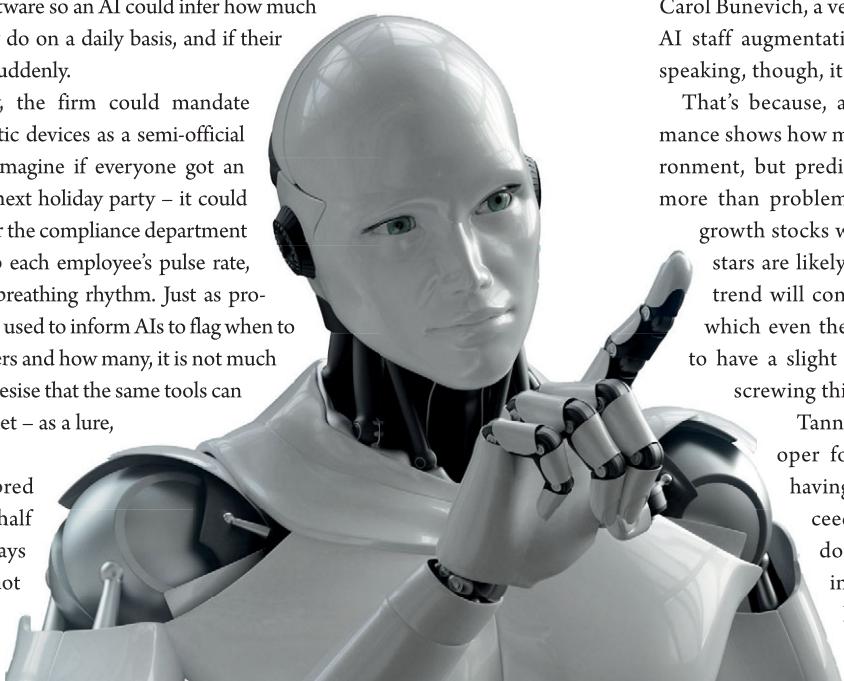
The view from next year

From there, AI for HR is limited only by the quantity and quality of data sources, the sophistication of the algorithms, the growing number of use cases and the human talent to synthesise it all. Machine learning is rising hand-in-hand with the internet of things. Already, an AI can discern what a trader or fund manager might do based on emails, texts, voice calls and social media posts.

But even the most stressed-out hedge fund employees can watch their language and post nothing but cat memes. They might not be able to stop hitting the coffee machine a dozen times a day, and that machine can be fitted with facial recognition software so an AI could infer how much caffeine-loading they do on a daily basis, and if their intake should spike suddenly.

More obtrusively, the firm could mandate wearable bioinformatic devices as a semi-official company uniform. Imagine if everyone got an Apple Watch at the next holiday party – it could be that easy for HR or the compliance department to have full access to each employee's pulse rate, blood pressure and breathing rhythm. Just as productivity KPIs can be used to inform AIs to flag when to hire new staff members and how many, it is not much of a stretch to hypothesise that the same tools can be used as a fishing net – as a lure, and a hatchet.

"People get bored every three-and-a-half to four years," says Tannenbaum, but not everyone. AI can use



behavioural cues to help determine who is likely to move on in a given timeframe. This information can then be used to set bonuses, without wasting money on those who are not planning to leave. "Those who were going to stay for ten years will stay anyway."

It is this predictive nature of AI that might be ill-fitting for HR functions supporting current employees. "AI can help determine [an employee's] personal situation based on behavioural changes," according to Elven Riley, a Wall Street IT veteran who teaches a course in technology of finance at Seton Hall University. "If their kid's going away to school or their spouse gets sick, they might be tempted to cross the line a little" when it comes to insider trading or front-running or similar prohibited practices.

This is exacerbated in the hedge fund industry, he says, "because of the excessive amount of money on the table." By checking employees' credit scores, credit card statements, social media posts or other information which an employer might have access, an AI could determine that this individual might have a personal issue that could lead them to errant behaviour, Riley explains.

HFMTechnology put the hypothetical to him: if a firm determined that, based on an AI prediction, an employee was 51% likely to commit a regulatory violation, could the firm dismiss that employee? "Nobody I know is already doing that proactively," he responded, and stressed that the AI ought not be the sole determinant, other behaviour modifications short of firing are available and human judgment needs to be applied in a case such as that.

Predicting future performance

Compliance aside, could a fund manager be peremptorily rewarded or passed over because of what an AI predicts will be their returns through the following year?

"AI could give you some predictive insights into a fund manager's success – or lack [of it]," according to Carol Bunevich, a venture capitalist who now works with AI staff augmentation firm Fusemachines. "Practically speaking, though, it would be hard."

That's because, according to Bunevich, past performance shows how managers do in a given investing environment, but predicting which one is coming next, is more than problematic. Forecasting whether value or growth stocks will be on the ascendant, when those stars are likely to start their rise and how long the trend will continue, is another field altogether, in which even the best quant firms would only claim to have a slight predictive edge. "People have been screwing this up for years," she says.

Tannenbaum, whose firm hires AI developer for HR purposes, could be seen as having a vested interest in seeing it succeed, but he shares many of Bunevich's doubts. "Of all the ways you can use AI in hedge funds," he says, "HR is the least likely to have success." ■