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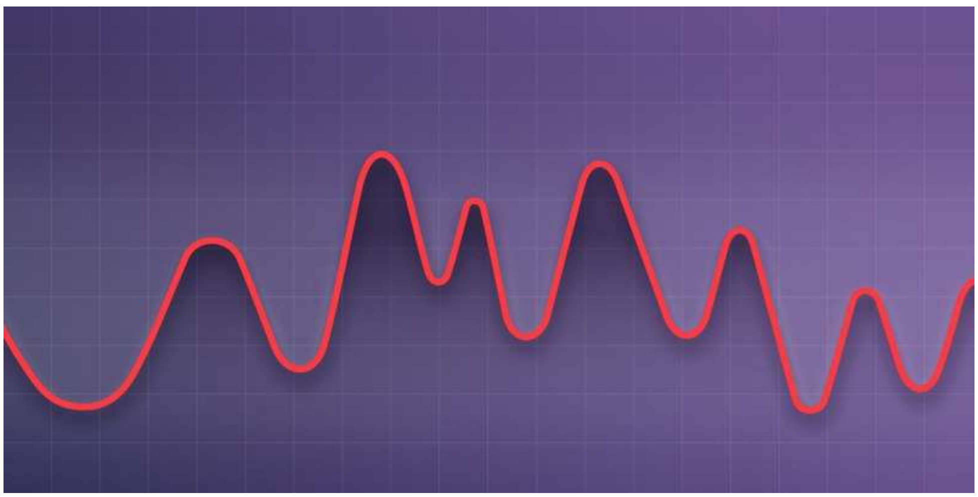
THE RISE OF THE ARTIFICIALLY INTELLIGENT HEDGE FUND



THEN ONE/WIRED

LAST WEEK, BEN Goertzel and his company, Aidyia, turned on a hedge fund that makes all stock trades using artificial intelligence—no human intervention required. "If we all die," says Goertzel, a longtime AI guru and the company's chief scientist, "it would keep trading."

He means this literally. Goertzel and other humans built the system, of course, and they'll continue to modify it as needed. But their creation identifies and executes trades entirely on its own, drawing on multiple forms of AI, including one inspired by genetic evolution and another based on probabilistic logic. Each day, after analyzing everything from market prices and volumes to macroeconomic data and corporate

"vote" on the best course of action.

Though Aidyia is based in Hong Kong, this automated system trades in US equities, and on its first day, according to Goertzel, it generated a 2 percent return on an undisclosed pool of money. That's not exactly impressive, or statistically relevant.

funding, San Francisco startup Sentient Technologies has been quietly trading with a similar system since last year. Data-centric hedge funds like Two Sigma and Renaissance Technologies have said they rely on AI. And according to reports, two others—Bridgewater Associates and Point72 Asset Management, run by big Wall Street names Ray Dalio and Steven A. Cohen—are moving in the same direction.

Automatic Improvement

Hedge funds have long relied on computers to help make trades. According to market research firm Preqin, some 1,360 hedge funds make a majority of their trades with help from computer models—roughly 9 percent of all funds—and they manage about $197 billion in total. But this typically involves data scientists—or "quants," in Wall Street lingo—using machines to build large statistical models. These models are complex, but they're also somewhat static. As the market changes, they may not work as well as they worked in the past. And according to Preqin's research, the typical systematic fund doesn't always perform as well as funds operated by human managers (see chart below)

PREQIN/WIRED

In recent years, however, funds have moved toward true machine learning, where artificially intelligent systems can analyze large amounts of data at speed *and* improve themselves through such analysis. The New York company Rebellion Research, founded by the grandson of baseball Hall of Famer Hank Greenberg, among others, relies upon a form of machine learning called Bayesian networks, using a handful of machines to predict market trends and pinpoint particular trades. Meanwhile, outfits such as Aidyia and Sentient are leaning on AI that runs across hundreds or even thousands of machines. This includes techniques such as evolutionary computation, which is inspired by genetics, and deep learning, a technology now used to recognize images, identify spoken words, and perform other tasks inside Internet companies like Google and Microsoft.

The hope is that such systems can automatically recognize changes in the market and adapt in ways that quant models can't. "They're trying to see things before they develop," says Ben Carlson, the author of *A Wealth of Common Sense: Why*