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Robots Are |

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Traders prepare to adapt.

Wall Street is entering a new era. The fraternity of bond pickers, derivatives mavens and stock pickers who've long personified the industry are giving way to algorithms, and soon, artificial intelligence.

Banks and investment funds have been tinkering for years, prompting layoffs and revamping how they do business. Now, advances in machine software to trigger bets, set prices and craft hedges. The tools are nothing short of routine tasks and offer an edge to those who stay. But one day, machines may not need much help. It's no wonder most of the elite Goldman Sachs Group Inc.'s securities business posted online in recent months were for tech talent. Billionaire trader Steven Cohen is reportedly among the hedge-fund titans who've invested. Others are capitalizing on the trend. Bots with $50,000 financial workers aren't needed to keep money flowing.

This map of trading activities is based on interviews with about a dozen senior banking and investing executives on Wall Street, many of whom focus on adopting new tech. It offers a sense of their projects -- some of them just starting -- that will affect traders within big firms.

Current areas | Potential uses | Possible | We'll get there

Machine learning | Natural language processing
Robotic process automation | Predictive analytics

SELL SIDE / CREDIT

The art of dealing in bonds and more bespoke types of credit has proven far more challenging for machines than equities, which have seen waves of stock exchanges, Infrequent or opaque trading left humans to negotiate prices. That's why it's taken longer for banks to build systems that can balance ebooks, futures-related to natural-language processing. Data collection and machine learning are helping to overcome hurdles.

SELL SIDE / RATES AND FX

The long-running shift to electronic currency trading is getting an upgrade. Firms are tapping big data and machine learning to anticipate client demand and recommend trades. Banks are also using the technology to automate the inventory of many complex rate swaps and currency derivatives.

SELL SIDE / COMMODITIES AND SECURITIZATION

From lights-out oil refinery trades to the assets-like gold and oil to the physical commodities they're based on, some corners of commodities haven't always lend itself to automation. So banks are working on cataloging trader and salesperson conversations to create profiles of clients to help better anticipate their desires.

SELL SIDE / EQUITIES

Equities trading, which shifted decades ago to electronic platforms, is one of the first looming growth for using artificial intelligence to execute orders.

BUY SIDE / EQUITIES

Hedge funds and asset managers are using predictive analytics for tasks such as timing stock purchases and assessing risk based on market liquidity. Computers are also digesting vast data sets -- everything from car registrations to oil drilling concessions -- to help predict how stocks will perform.

BUY SIDE / CREDIT

Vast spreadsheets, such as breakdowns of mortgages packed into bonds, are nothing new for credit funds. But some are teaching computers to scan and understand a much larger universe of bond covenants, legal documents and credit ratings. Still, fully automating the analysis of contract and illiquid assets underpinning securities in opaque markets remains a challenge, for now.

BUY SIDE / MACRO

Firms are trying to build economists. They're toying with natural-language processing to sift central bank commentary for clues on future monetary policy. They're also experimenting with algorithms that scour for forty-bins, like oil-tanker shipments from the Middle East or satellite images of Chinese industrial sites, to forecast growth.

Source: Bloomberg
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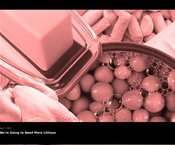

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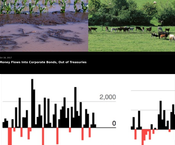

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