chief investment officer

Acadian Starts Experimenting with Bing on Predictive Investing

"Research project" uses large data sets to make objective investment decisions.

The future of predictive investing may have taken a step forward based on a new partnership between Acadian XX and Bing Predicts, the search software developed by Microsoft, to make connections between macroeconomic events and market behavior.

In an interview, John Chisholm, chief investment officer of Acadian, said the current effort is "a research project for now, rather than any definite enhancement to our investment process." Historically, Acadian "has used data to make objective investment decisions…we are excited about the ways that new technology can help draw insight from large information sets."

Acadian chose Bing Predicts because it uses machine learning from data that is trending on social media topics, supplemented by sentiment toward those topics plus other trending searches on Bing. This combination may be useful to investment managers looking for various factors, including building sentiment, determining sentiment, and gathering information about an industry, company or macroeconomic event.

Among its possible applications is "to define some reliable, persistent predictive measures from the Bing search data. There are promising areas of focus, including sentiment and industry level signals," Chisholm said.

He also said "our first step is to explore the data, and then we will formulate some test measures, and then go through a series of experiments to see if adding these predictive measures to our investment model would have improved our results. We will actually employ the Bing signals only if we see a robust outcome from this research."

The Hope for Predicting Positive Sentiment

This developing area of taking user-generated content from social media outlets is ripe for analysis and data mining. Already, it has been used to predict elections, monitoring brands and in disaster management.

Cliff Moyce, Global Head of DataArt's Finance Practice in London, said "searching for non-intuitive insights, especially those with weak but real correlations to performance outcomes, is a well-known (but not that well-practiced) investment management strategy. Firms like Winton Capital do it very well."

Moyce, who has worked on projects involving the automation of trading at Europe's largest derivatives exchange and building London's first automated equity index arbitrage system for equities, added that "what machine learning does is increase massively the amount of data, especially unstructured data that it can handle efficiently and effectively. Bing Predicts brings that capability to firms in a ready-made form, thus reducing the amount of in-house investment needed. The decision by Acadian is a significant step to machine learning becoming a standard investment management tool."

In a 2017 paper discussing social media analysis, the authors used software that analyzed sentences to determine the writer's sentiment (pro or con), polarity (degree of favorability) and targets (whether they are a person, product or service). Their study includes Tweets, but those pose problems because they are created almost immediately, and are often in slang "so their form is less standard and they contain many more spelling errors, slang and other out-of-vocabulary words" that make analysis more difficult.

In one area that may be most related to the Bing project, the authors found that sentiment analysis using social media "can capture large-scale trends using the large amount of data generated by people." In one research paper, the researchers used consumer opinions from microblogs concerning various brands and found that 19% of microblog messages contain the mention of a brand and 20% of these contain sentiments related to the brand. "Monitoring these sentiments allows companies to gain insights into the positive and negative aspects of their products."

In practice, Bing Predicts has been used to predict the weather and even who would win the American Idol talent contest. It does this by using a prediction engine combined with machine learning models "to infer outcomes on several events, starting with television shows," Sun recalled. "We tried multiple features in our models and the best performing

algorithms on the features we used ended up being similar to our Bing search ranking models. In particular, for voting shows, our search machine learning models did a good job in predicting the ranks of show participants," according to Walter Sun, Development Manager for the Core Ranking team at Bing.

While this works for game shows and elections, Acadian is applying it to macroeconomic events. This may help explain why Chisolm said Acadian is "excited about the ways that new technology can help draw insight from large information sets. Watch this space!"

More AI Applications Being Developed

Other major search engines, such as Google, Bing, Yahoo, and Yandex have various search features, but Bing is more customizable and better suited to handle social media inputs. Like other search engines, search engine optimization (SEO) is not only about keywords, links, and content, but has other key features.

In the past decade, Artificial Intelligence (AI) has moved from algorithms using the limited inputs of "if-and" statements to algorithms that can learn using larges data sets ,and applications for the emerging world of neuro-finance. This evolution can be summed up as moving from algorithms built on decision tree, "if-then" logic to neural networks already trained on historical data to networks that are time adjusted. The next breakthrough should be algorithms that allow neural networks to be retrained in real time.

In addition to Bing Predicts in the investment management industry, AI applications are being deployed in industries such as marketing, retail and entertainment. IBM's Watson, for example, is being used to help customers chose diamond rings; pay their taxes; help environmentalists find the best technologies to treat contaminated sites; help children under age 13 communicate and develop their speaking and writing abilities; and is helping TV writers develop characters based on finding common denominators in people's individual Twitter profiles.

By Chuck Epstein

Original article can be found here:
https://www.ai-cio.com/news/acadian-starts-experimenting-with-bing-on-predictive-investing/