Deep Deep continues winning streak

BY HARRY HUO

Deep Deep's supremacy continues. Over the past month, Deep Deep, our machine learning AI, has risen 5.77%, beating all the human portfolios represented by Tong's Portfolio, Aggregate Value Fund, **Berkshire Hathaway** as well as all the indexes represented by MSCI AC World Index, MSCI AC Asia Pacific Index and DJIA. Since its inception, Deep Deep has spectacularly trumped its competitors and several benchmarks by gaining 21.94%.

Readers should note that Deep Deep's overall portfolio return has beaten Berkshire Hathaway convincingly. For readers who have been following us in this journey, our Deep Deep US picks (**Genworth Financial Inc, Conn's Inc** and **Citi Trends**) have achieved a cumulative return of 46.68% versus Berkshire Hathaway's 12.71% since inception.

This month, we bought **China Merchant Port**, **Jointown Pharmaceutical**, **Asia Cement Corp**, **NTT Corp**, **TTW PCL**, **Central Asia Metal**, **Auto Nation**, and sold **Sinopec**, **Shanghai Yaoji**, **Chicony Electronics**, **NSW Inc**, **Siam City Cement**, **Mears Group** and **Citi Trends**.

Why machine learning works
The sterling results beg the key question — why does machine learning work in the first place? Throughout this series, I have explained how Aggregate Asset Management (AAM) uses machine learning to pick stocks and why we choose to be overly cautious. We never see Deep Deep, our proprietary AI, as an independent robo stock-picker but as a cobot that works collaboratively with our human fund management team. There is no techno Frankenstein scenario. Kudos to our two AAM analysts, Cheen Wee Kiang and Belfort Tan, who work tirelessly as human filters. However, I have yet to explain why machine learning works in the first place and I will do so in this article.

You only need to know three rules of AI which are akin to Isaac Asimov's fictional Three Laws of Robotics:

1. Machine learning is really about pattern recognition.
2. Machines can recognise these patterns faster and more patterns simultaneously than human beings.
3. Machines are not smarter than us but because of their speed and ability to deal with complexity, it appears to be superior.

Pattern recognition is key
We human beings have been doing pattern recognition since the dawn of civilisation. We observe weather patterns and learn when to plant and when to harvest. We look at the stars and planets and deduce how the cosmos work and as an encore, predict when Halley's Comet will return. In schools, we are all taught the scientific method of observation and the importance of the replicability of outcomes. We have been doing pattern recognition all our lives. It is nothing new or earth-shatteringly clever.

When we apply pattern recognition in investing in stock markets, essentially, we are looking for patterns. If the financial markets behave completely in a random manner, the rul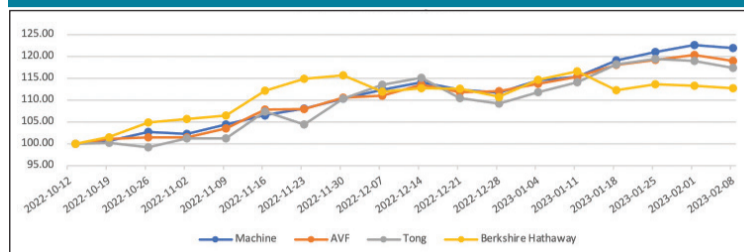es of value investment as espoused by Benjamin Graham and Warren Buffett would not have existed. For example, we know that too much debt dooms a company. We know that improving profit margin with steady revenue growth is a buy signal. In technical analysis, we know that momentum buying can drive a stock price up despite possessing unimpressive fundamentals, at least in the short term.

Stop and think for a moment. Did it occur to you both fundamental and technical analysis are really about pattern recognition? It is like *Star Wars* fans versus *Star Trek* fans arguing which movie franchise is more "authentic sci-fi". In essence, all are talking about the same thing — that certain patterns have a habit of recurrence and if you can identify them, you will have predictive powers superior to mere noise trading or random luck. Perhaps, one can think of patterns as a foundational block for wisdom in this universe and recognising this yields phenomenal advantages.

Like inventing a light bulb
Forbes magazine reported that on average, 85% of all AI projects fail. Due to the noise in financial data, I would surmise that the failure rate applying AI to finance is even higher. In other words, out of 100 AI projects in finance, perhaps only five projects will deliver consistent, verifiable results. As Eric Kong, AAM's executive director and the creator of Deep Deep, explained to me: "It is like Edison inventing the light bulb. It is a brutal, resilient process in which you fail in every attempt until you get it right on the 989th attempt." It takes years of research, testing and coding to make it work. By all measures, Deep Deep is that rare 5% that truly works.

First Asia ML-powered fund with unique indicators
We are the first Asia fund powered by a machine learning algorithm using more than 150 indicators, many of which are our proprietary indicators generated using research from the latest financial journals. Incorporating these indicators is possibly a world-first which makes us unique among our competitors. We dare to publish our actual stock picks in *The Edge Singapore*, unlike many who hide under a barrage of technobabble and unverifiable claims. And Deep Deep has delivered so far. The Force is strong with us. **E**

Harry Huo is head, special projects, at Aggregate Asset Management. This article does not constitute a recommendation. Neither is it a solicitation to invest. This is a "live" portfolio that was incepted on Oct 17, 2022, and takes into account transaction costs

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15 stock picks for February

Stock	Country	Price (US$)	% of portfolio
Helia Group	Australia	1.88	6.10
Canadian Tire Corporation,	Canada	121.24	6.53
Jointown Pharmaceutical Group Co	China	1.90	6.43
Mercedes–Benz Group AG	Germany	76.93	7.46
China Merchants Port	Hong Kong	1.41	6.68
PT Bukit Asam Tbk	Indonesia	0.23	5.23
NTT Corporation	Japan	29.50	6.77
Pantech Group Holdings Berhad	Malaysia	0.20	7.25
DMCI Holdings Inc	Philippines	0.22	6.84
Hutchison Port Holdings Trust	Singapore	0.21	6.11
GABIA Inc	South Korea	10.21	7.45
Asia Cement Corporation	Taiwan	1.41	6.53
TTW Public Company	Thailand	0.29	6.65
Central Asia Metals	United Kingdom	3.45	6.49
AutoNation Inc	United States	133.16	6.37

*Cash level at less than 2%
*Price (US$) as at Feb 8

Performance comparison since inception on Oct 17, 2022

Legend: Machine, AVF, Tong, Berkshire Hathaway

How the portfolios stack up (%)

Portfolio	1-week change	1-month change	Since inception
Machine	-0.56%	5.77%	21.94%
AVF	-1.16%	3.06%	18.91%
Tong's Portfolio	-1.32%	2.92%	17.42%
Berkshire Hathaway	-0.55%	-3.30%	12.71%
Dow Jones	-0.42%	-0.04%	13.47%
MSCI ACWI	-0.48%	3.41%	16.97%
MSCI AC AP	-1.54%	2.90%	23.36%

Top 5 performers of last month's picks (1-month performance)

Stock Name	Country	Performance
GABIA Inc	South Korea	17.78%
Pantech Group Holdings Berhad	Malaysia	15.33%
PT Bukit Asam Tbk	Indonesia	9.37%
Canadian Tire Corporation, Limited	Canada	8.06%
Mercedes–Benz Group AG	Germany	6.39%

Battle of the Portfolios challenge

The table above shows the 15 stocks picked by Aggregate Asset Management to form a concentrated, proprietary AI-picked portfolio. This machine-picked portfolio will challenge human stock pickers via the following competing portfolios and benchmarks:
a. Aggregate Asset Management's diversified fund, Aggregate Value Fund, with nearly 1,000 stocks picked by human inputs but enhanced by AI stock screening.
b. Tong's Portfolio which has been published in *The Edge Singapore* since December 2017.
c. Warren Buffett's investment vehicle Berkshire Hathaway's stock performance.
d. Dow Jones Industrial Index, MSCI All Country World Index (MSCI ACWI) and MSCI AC Asia Pacific (MSCI AC APAC) will be included as reference benchmarks.
Every month, we will publish an updated table showing the relative performance of these portfolios and benchmarks, and we will continue to do so monthly for a year. In October 2023, we will declare the winning portfolio based on the highest portfolio return. For simplicity, all our portfolios' returns and benchmarks will be in US dollars for easy comparison.