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impact
Sanlam Personal Finance

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our game plan
Bold vision takes
SPF Distribution
to new frontiers

people
Why it's good
to give yourself
a break at work

focus
Five medical advisers
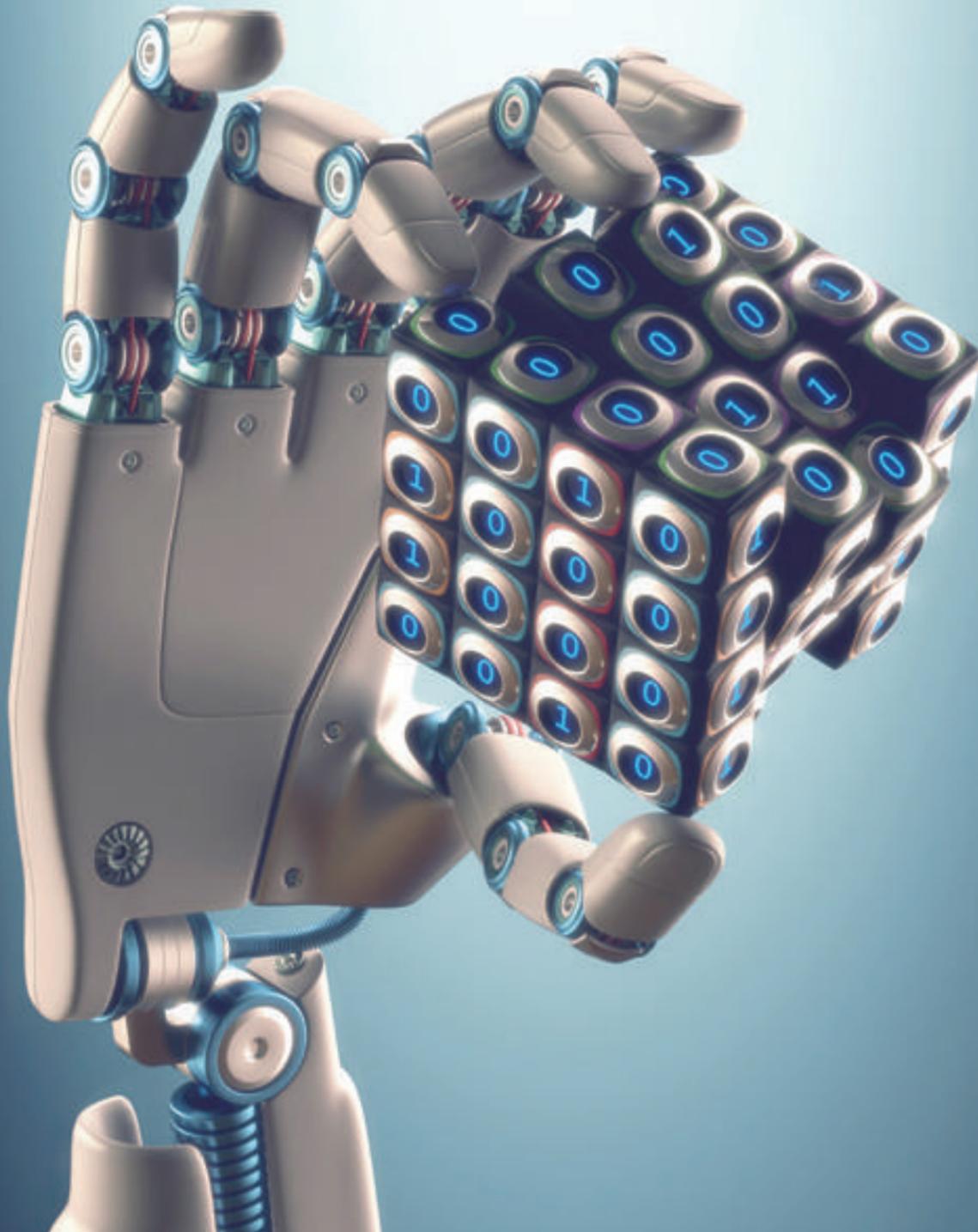who look after
Wealthsmiths'™ health

perspective
Machines are the
new investment
portfolio managers

news
Go Cover rewards first
claimant after broken
arm in rugby game

Investing gets with the program

Investment portfolios managed by machines? Yes, indeed!
And their predictions are pretty accurate …

Sanlam Global Investment Solutions (SGIS) is challenging the status quo in the world of investing with the launch of its first investment capability wholly managed by artificial intelligence (AI) and machine learning (ML).

The fully automated investment process uses multiple ML techniques to learn from large sets of data, deduce evolving relationships and predict expected prices with a consistent degree of accuracy, **Cobus Kruger**, CEO: SGIS, explains.

'The investment engine also contains an AI risk manager that attributes weights intelligently across asset classes. Its goal is to achieve a certain minimum level of return while minimising expected portfolio capital loss.'

Cobus says SGIS has been on a quest to supply investors with a truly differentiated investment solution designed to:
• eliminate human emotions
• actively adapt to changing markets
• help to consistently achieve investment goals with significantly reduced downside risk.

To this end, SGIS has appointed London-based A.I. Machines, a financial technology specialist, to manage a number of investment mandates utilising its advanced AI and ML investment engine.

What exactly are artificial intelligence and machine learning?

AI is a subfield of computer science that enables computers to do things normally done by people – in particular, things associated with people acting intelligently. ML is one of the enablers behind AI. ML gives machines the ability to learn by themselves and improve their own performance – hence to act intelligently.

There are two facets of AI – general and specialised (also known as narrow) intelligence.

The majority of industries are embracing AI and ML to ensure their clients' experience is the best it can be.

General AI
General AI is the theory and development of intelligence comparable to that of a human (and perhaps ultimately well beyond a human's general intelligence). However, the technology for general AI simply does not exist yet.

Specialised or narrow AI
Specialised or narrow AI is the stage we're at now. These are systems or machines that only perform specific tasks, but do them better or quicker than a human. Some of the applications are:
• **Self-driving cars**
• **Translation**
• **Intelligent personal assistants (Siri)**
• **Facial recognition**
• **Game playing (chess, Go, etc)**
• **News generation**
• **Oncology, diagnosis and treatment recommendations**
• **Fraud detection**
• **Data analysis.**

Machine learning

In the past, the only way to get a computer to do anything at all was to pre-program it with specific rules and commands. ML turns that methodology on its head – it's the ability of machines to learn by themselves and improve their own performance.

This ability doesn't rely on rule-based programming, but instead on algorithms that identify patterns in data and then predict similar patterns in new data. Importantly, the software can continually improve the quality of the predictions the machines make as time goes on.

While that sounds impressive, what does it mean and why was it developed?

The simplest computer can run rings around the brightest person when it comes to something like a complicated mathematical equation. Yet even the most powerful computers have, in the past, struggled with things that people take for granted, such as recognising faces and understanding speech.

For humans to do things they find difficult, such as solving complex equations, they can write a set of explicit rules. Turning those rules into a program is then pretty simple.

For things that for humans are easy or intuitive though, there's no similar need for explicit rules as we've learnt to do them over time. So trying to create rules (and ultimately programs) can be extremely hard. Imagine trying to write rules to identify a domestic dog in a photo among cats, tigers, wolves, dingos, and so forth. Where would you start?

ML could be viewed as a way of getting computers to 'know things when they see them' by producing for themselves the rules their programmers can't specify. The machines do this with heavy-duty statistical analysis of a huge amount of data.

AI and ML in asset management

The majority of industries are embracing AI and ML to ensure their clients' experience is the best it can be. However, the mainstream asset management industry is way behind the curve in implementing AI.

The financial markets have been through significant change in recent years. With bond yields at all-time lows and equity markets at all-time highs, an investment strategy that worked in the past may not work in future.

Now is the time to challenge the status quo of investing. In order to succeed, you need an investment strategy that adapts to deal with the new paradigm in markets. As Albert Einstein famously observed, 'We can't solve the problems of the future with the solutions of the past.' ∎