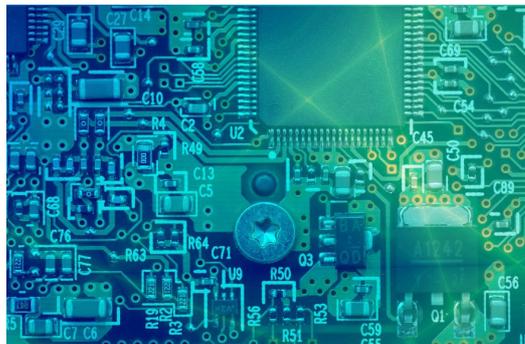By Michael Barker

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Growing role for AI in fresh produce

Experts at World of Fresh Ideas explain how now could be the time for the industry to adopt artificial intelligence

There is a growing role for artificial intelligence within horticulture, experts have claimed – but it is not the silver bullet many people think.

Speaking at World of Fresh Ideas, Anthony Atlas, head of product and growth at agronomic machine-learning specialist ClimateAI, outlined the benefits and pitfalls of AI use on farms.

Describing AI as "systems that generate predictions from past correlations – a giant pattern-identification machine", Atlas said AI is only as good as the training it receives. He stressed that it is not easy to build, and that there isn't one single system that does everything, but instead each task is done by a separate model trained to perform a particular task.

In horticulture, AI is being used as a decision-support system in climate and weather forecasting, imagery interpretation and precision automation of greenhouses.

Benefits of AI include more complexity, nuance and power, the ability to cheaply automate repetitive tasks, and the fact it is more lightweight than a supercomputer.

There's better technology available now too, and the digitisation of the agriculture industry has made AI a more feasible and useful option. "We are in a more mature era of agriculture where we've gathered enough data to feed the models," Atlas said. "There is also more advanced technology out there, it has improved to make it cheaper, and there's better knowledge of how to deploy it most profitably."

AI models are getting easier to understand, Atlas added, with techniques that combine autonomous "neural networks" with simpler methods improving transparency; improved knowhow of matching the right-sized model to the task at hand to reduce computing costs; and AI-focused processors better equipped to deploy AI cost effectively.

But there are challenges too. It takes a huge amount of data to train an AI model to be effective, and then there's the question of which inputs drive the outputs and understanding that the desired outcome does not lead to the ability to influence that outcome. Thirdly, there's a trust issue: as the shiny new technology, Atlas warned there are a lot of "snake oil" salesmen overpromising performance.

Atlas summed up by saying that this is the time to be considering AI. "There's a tech arms race going on – if someone else is using AI to get an advantage then you might have to as well. Even tech sceptics may have to pursue AI as you don't want to get left behind." The technology really shines as a decision-support system in an era in which climate change is causing unpredictable weather patterns, he added.

Solving optimisation problems

Jason Fung, vice president for berries

and greenhouse at Oppy in Canada, said

in general. It's got significant potential

from Fresh Produce Journal and its team

he sees AI as a growing area and a key way of gaining competitive advantage, driving both demand and consumption. "I would classify the produce industry as having a lot of data but not really harnessing it in the same way as banking, healthcare or insurance," he said. "It's not just for predictive analytics, but optimisation problems

going forward."

From an Oppy perspective, AI has value in areas including crop forecasting, driving consumption, supply chain optimisation, labour force optimisation, crop treatment improvement, food safety and traceability, he added.

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