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Cloud wars target local agriculture space

How is the South African agricultural sector leveraging technologies like artificial intelligence (AI) and machine learning (ML) to create digitally integrated farming, asks Chief Digital Officer at Datacentrix, Rudie Raath.

“As the local agricultural industry, we need to understand that the excuse of 'this is only happening globally, and in South Africa our data cannot leave the country', no longer stands,” he states. “The so-called cloud wars have reached our shores, with hyperscalers such as Amazon Web Services (AWS) and Microsoft physically breaking ground in South Africa, providing the type of technology locally that was previously somewhat of a pipedream.

“It's a veritable race to the finish for these public cloud suppliers to gain as much footprint as they can locally, and they're doing this as competitively as possible. And, with the biggest cost within these enormous datacentres being electricity, once they harness the power of wind and solar into these grids, there will be even greater opportunity available to South African customers.”

Organisations still using legacy model ICT infrastructure in South Africa, are under serious threat, believes Raath, as it's simply not possible to compete with the offerings from these hyperscalers at the same level.

“It has been said that many local players within the traditional space suffer from a 'mainframe mentality', with fixed fees and a requirement for internal management at the customer. A consumption-based model beats this hands down, as hyperscalers can provide what you need, when you need it, flexibly scaling up and down, and even charging per second of use.

“So, whether you're a smaller farmer, a larger co-op, or a company supplying the agricultural industry, you are

now able to make use of the latest infrastructure that can be paid for as it is used without the upfront Capex investment requirements. The clincher is that you can easily dabble in new technologies, regardless of your size, with access to the best in cognitive learning, AI engines, predictive forecasting, weather apps, and so on, right at your fingertips.”

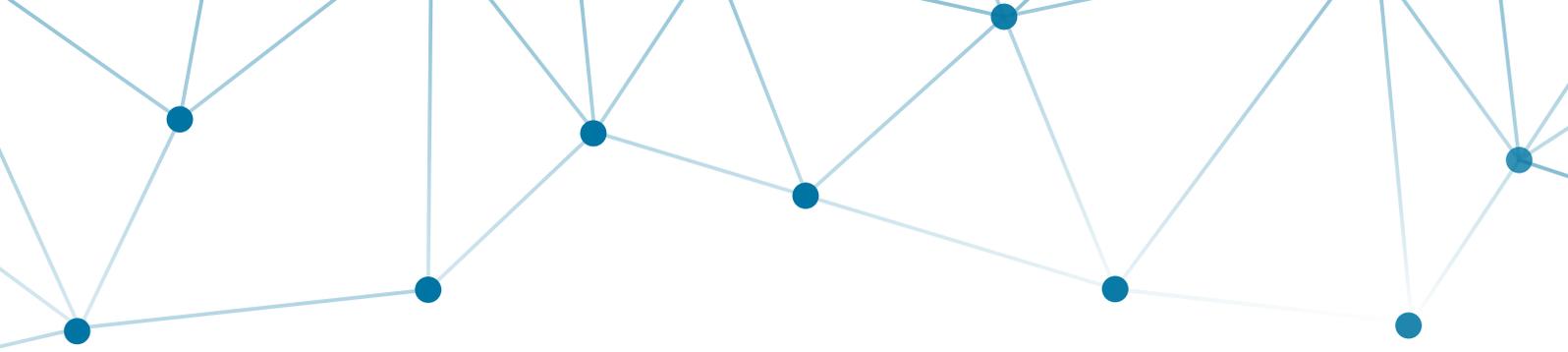
And the time to use AI to help us solve massive problems is now, he adds. “Today, it's all about the data – data from farms, from transactions and from customers – and how AI can be applied to this data to help us make the right decisions around areas like irrigation, planting, livestock, ensuring the best yield and more, by learning from technology.”

Raath explains that AI can be described as 'computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages'.

He says that ML takes core AI ideas and directs them at real-world problems, with neural networks designed to mimic human decision-making. Deep learning focuses even more narrowly on a subset of ML tools, and applies them to solving any problem that requires 'thought' – be it human or artificial.

“We've seen many examples of AI being used in everyday life,” he says, “as well as good examples of ML, such as Pepper, the first humanoid robot in South Africa, launched in 2018 by Nedbank, which has the ability to recognise principal human emotions, voice, and chats with customers and answers questions.

“As we begin to move into deep learning, and the recognition of patterns, the intelligence is starting to mature. Deep learning will become entrenched within our



lives within the next 10 years, say analysts, followed by 'artificial general intelligence', where the machine itself starts to act like a human, learning from data to make its own decisions and rewriting its own code to enhance itself. Realistically, we'll see the birth of artificial general intelligence around 2035."

It is here that we need to address the so-called elephant in the room, Raath adds, one of humanity's greatest fears is how we will measure up to robots. Will they take our jobs? Are they replacing us? Is humanity at risk?

"Datacentrix believes we need to bring both worlds together, getting humanity and technology to work together as a single solution. We need to look beyond the 'Industrial Revolution 4.0', and instead aspire towards 'Humanity 4.0', a place where technology is embraced as an integral part of our everyday lives; where it helps us to move forward.

"By creating an entire ecosystem, interconnecting all of these devices, sharing data outcomes onto an AI platform and actually engaging with it, we'll be able to make more informed decisions, instead of acting purely on gut feeling."

The missing link is education at root level, he says. "We've seen many successful programmes in South Africa, but our children must be exposed to understanding code and taught how to access technology. Once we start opening up, we'll see how AI is aiding so many sectors – medicine, finance, construction, architecture, contact centres and more – and how it has a critical place within agriculture too. It is time to start the cloud journey."



Rudie Raath, Chief Digital Officer at Datacentrix



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