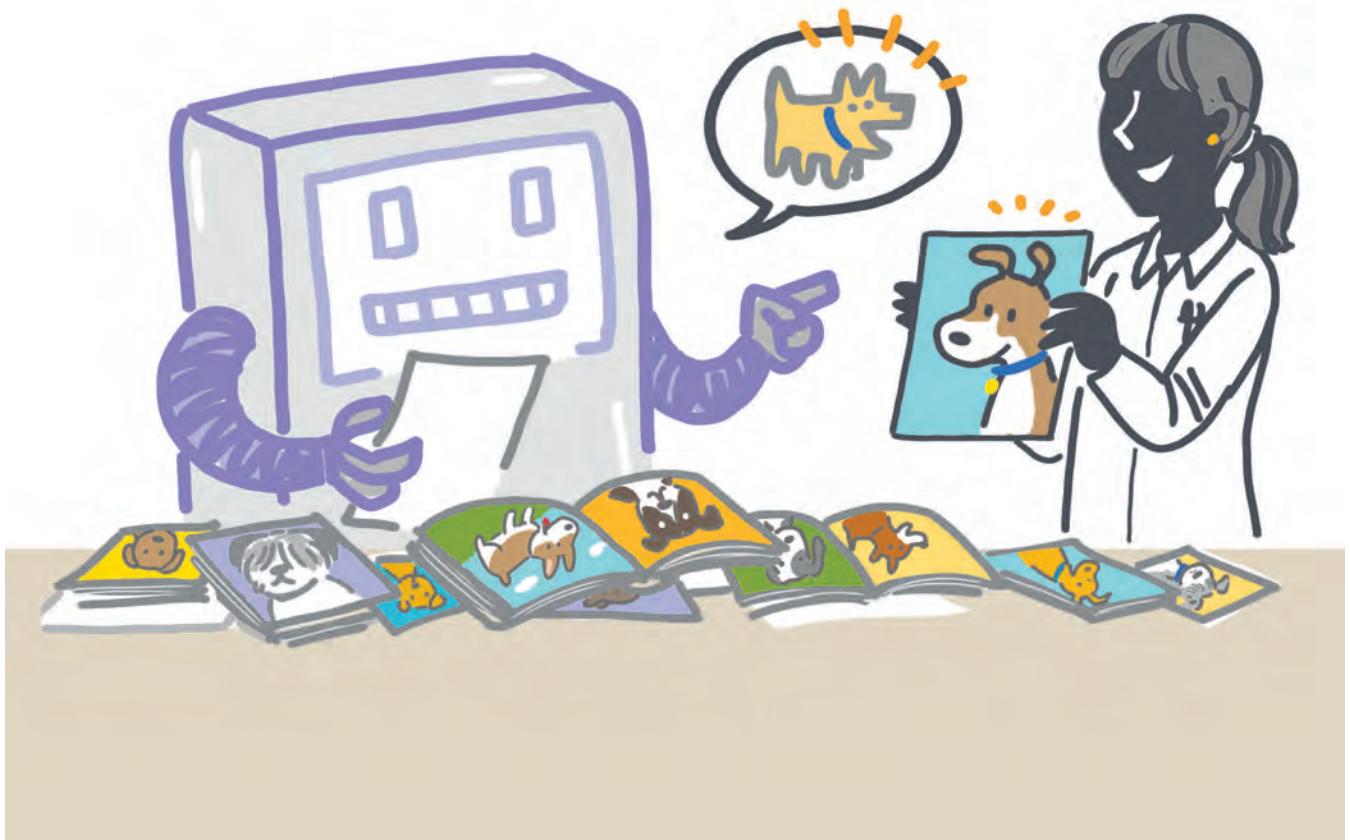


SIMPLIFIED: ARTIFICIAL INTELLIGENCE FOR IT



Everywhere around us there are signs of artificial intelligence (AI).



Whether it's identifying objects or navigating a self-driving vehicle...



...or beating
the best
players at
strategic
games...

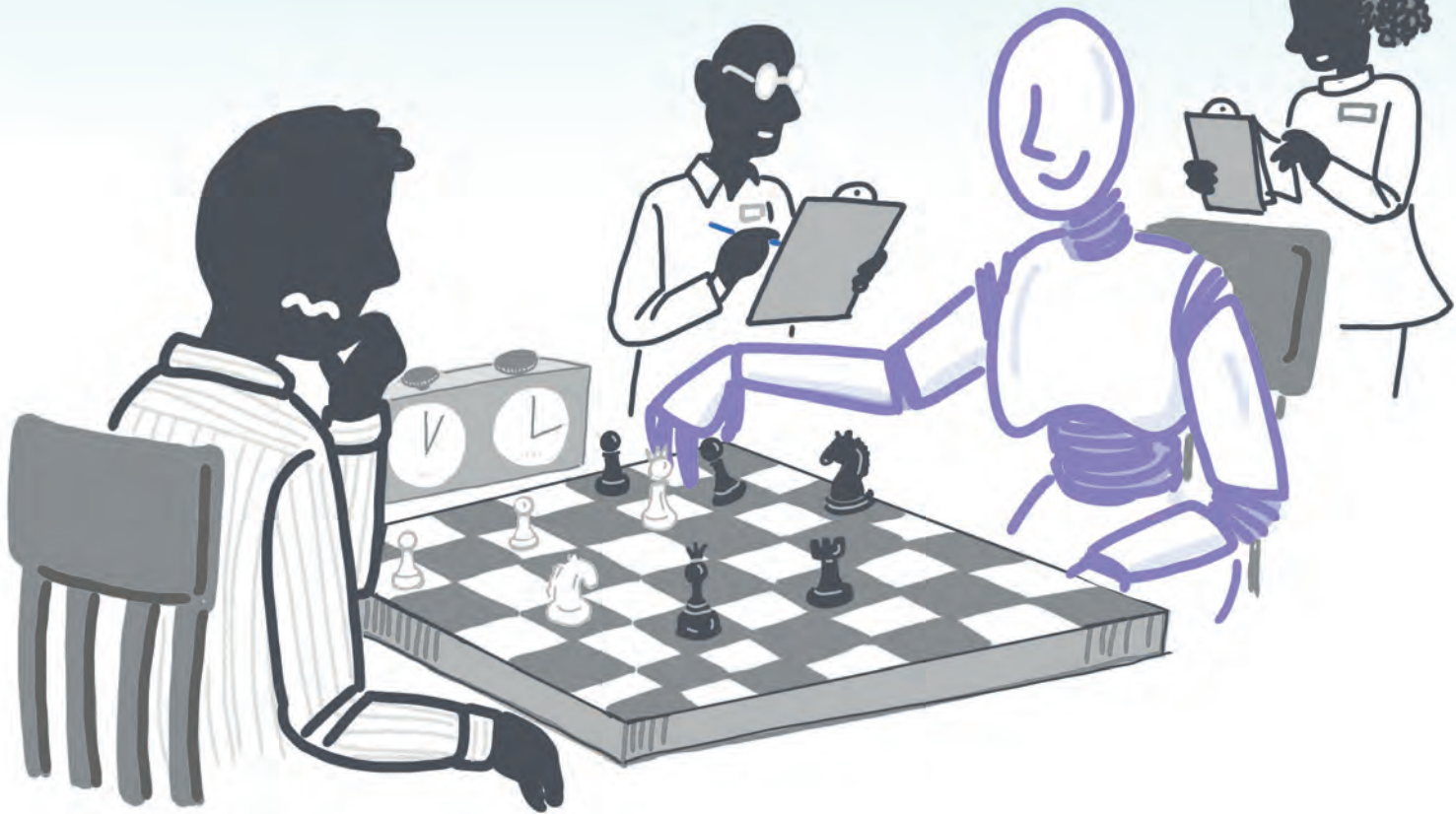
... AI is poised to change
how we interact with machines
and how machines interact with us.



But what is artificial intelligence?
And how will it be used within IT?



At its most basic, AI is the science
of intelligent machines,
teaching them to do things
that previously only humans could do...



...and often doing them even better.

In the case of autonomous cars, AI is processing information from sensors...



...and making real-time driving decisions the way a human might.

While humans are prone to error,
machines are precise.



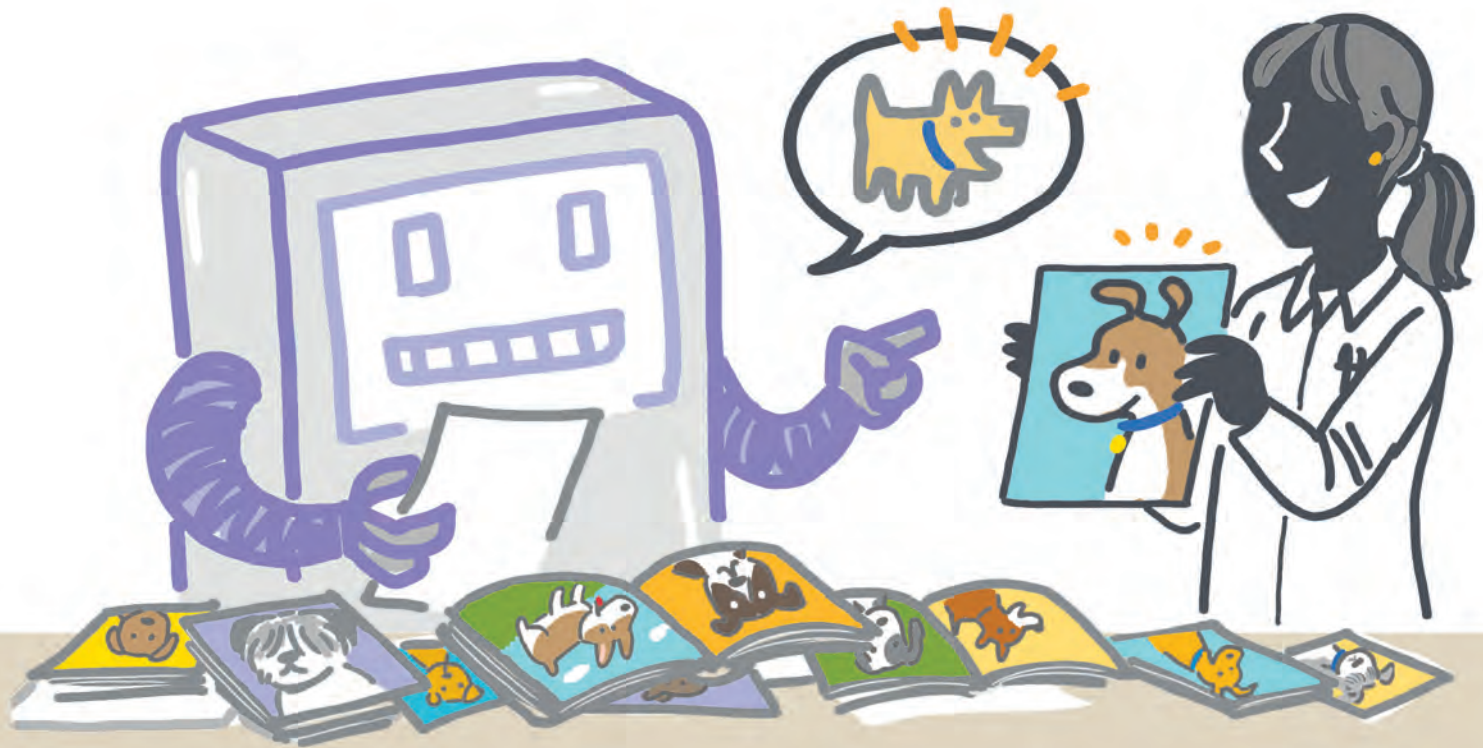
And when trained to identify patterns,
machines can make decisions faster
and more reliably than humans.

So how do you train machines?

You use a process called
machine learning.



In *supervised learning*, machines are taught by showing them the answers. Once a machine knows what a dog looks like, it can find one on its own.



Supervised learning is helpful when historical data predicts future outcomes.

When there is no set of right answers to learn from, you use *unsupervised learning*.



It's about finding patterns, like the buying behavior of diverse customers.

The machine begins blind
and there is no right answer...

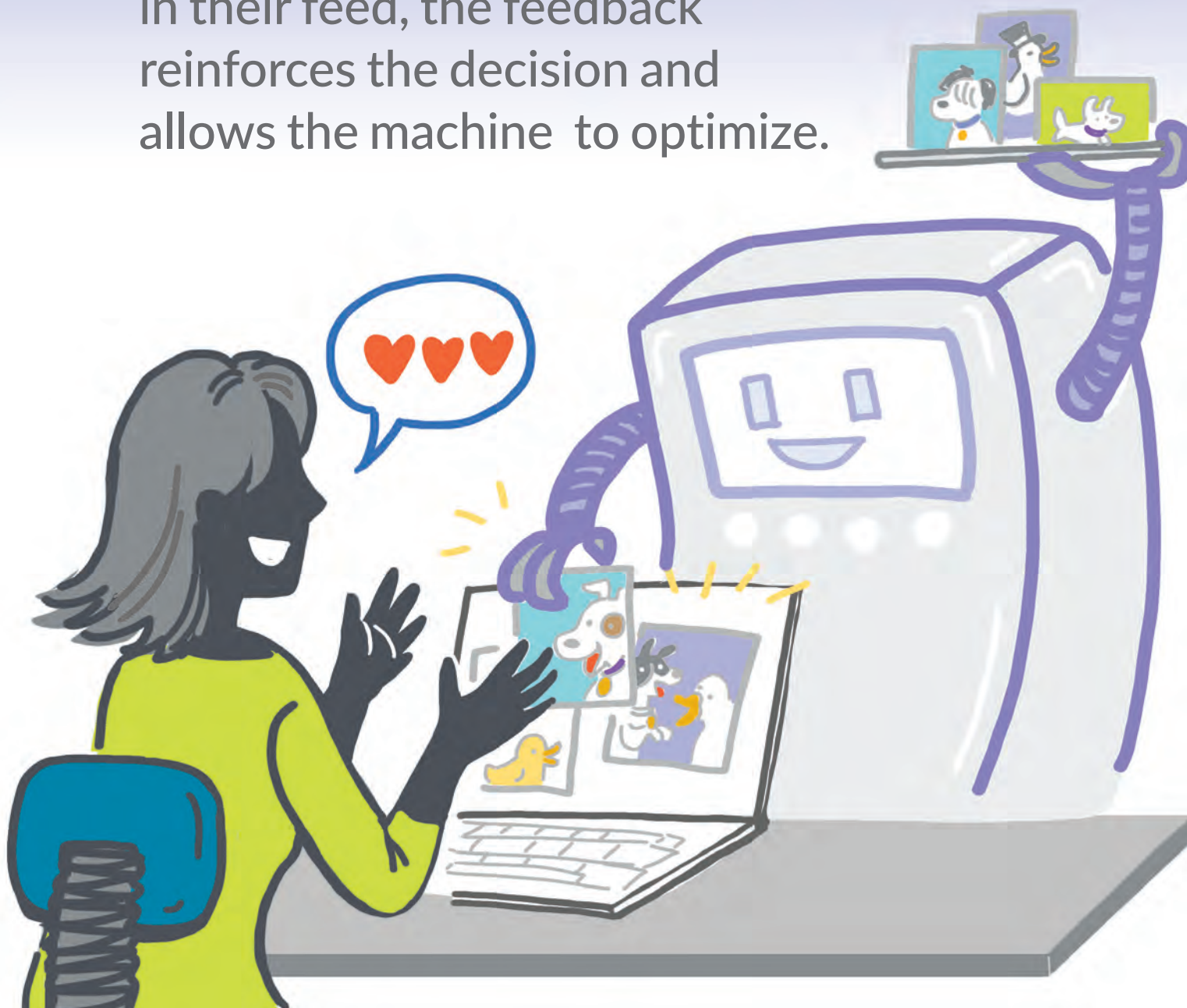


...only by sorting through data and
finding patterns does the machine learn.

A common machine learning model is *reinforcement learning*, when the machine is rewarded for achieving a better outcome.



Every time someone likes an article in their feed, the feedback reinforces the decision and allows the machine to optimize.



No matter how machines learn,
all AI requires training data.



The better the training data,
the better the AI will be.



Just as the finest wines
come from the best grapes,
the finest AI comes from the best data.



Leveraging all this data requires lots of resources.



Before the rise of the cloud, this meant that AI was a domain primarily for researchers and specialists.

But as applications and data
move to the cloud, AI has become
more relevant to more people...



... including IT.

So, what will AI mean for IT?



Whether monitoring users, application and infrastructure, or tracking down user issues and malicious behavior...



...IT has always been about pattern matching and remediation.

But if a pattern has already been identified
could AI find it again?
That's precisely the role of AI for IT.

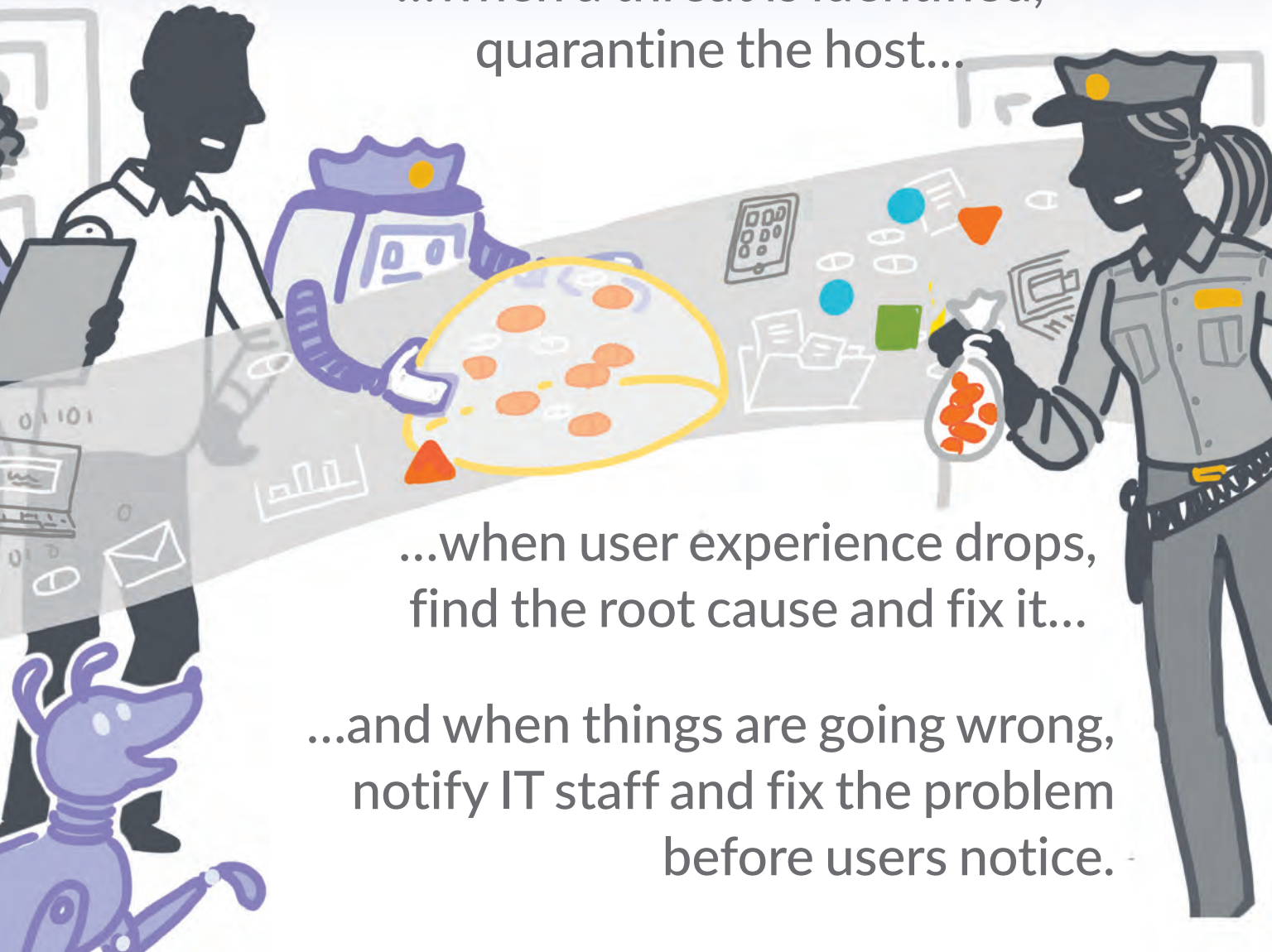


It's about repeatably finding patterns and taking the appropriate actions...

...when a threat is identified, quarantine the host...

...when user experience drops, find the root cause and fix it...

...and when things are going wrong, notify IT staff and fix the problem before users notice.



There's lots of hype around AI...



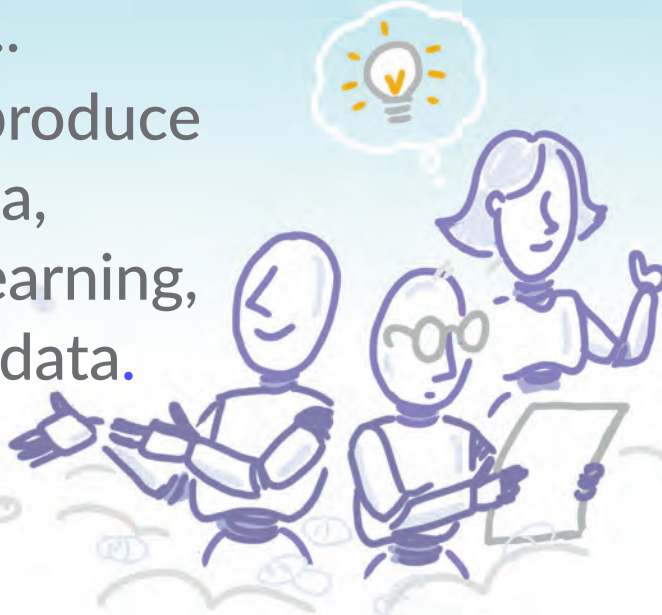


...so how do you know what's real?

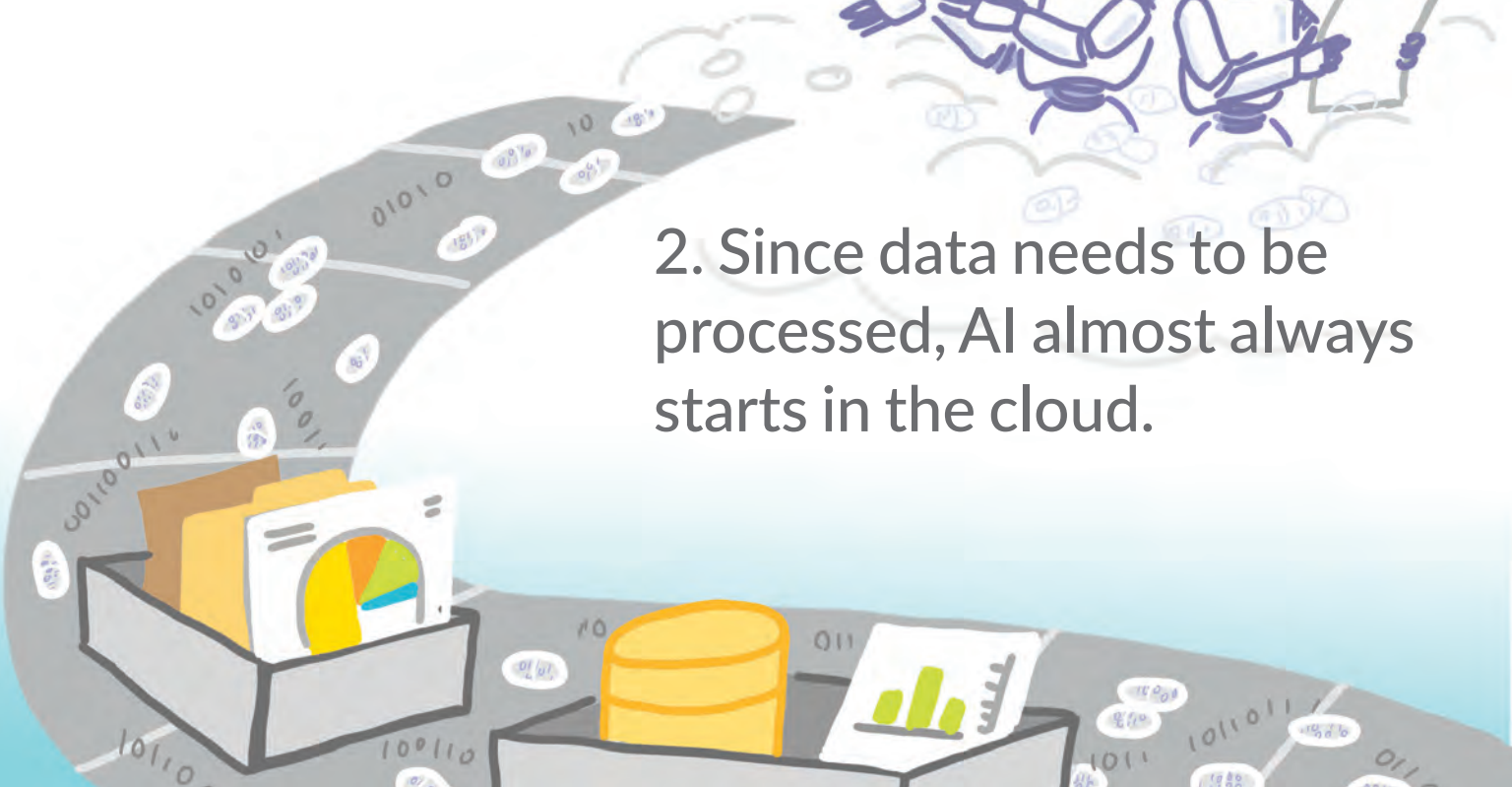


Look for these attributes...

1. Use systems built to produce and use high-quality data, because AI starts with learning, and learning starts with data.



2. Since data needs to be processed, AI almost always starts in the cloud.



3. Look at how AI systems are trained:

What patterns are being identified?



How do they map to a set of well-defined workflows?

How mature and tested are the data science algorithms?



As artificial intelligence transforms IT,
better systems will be built to leverage
AI in all kinds of ways...

...from the data center
to the branch...



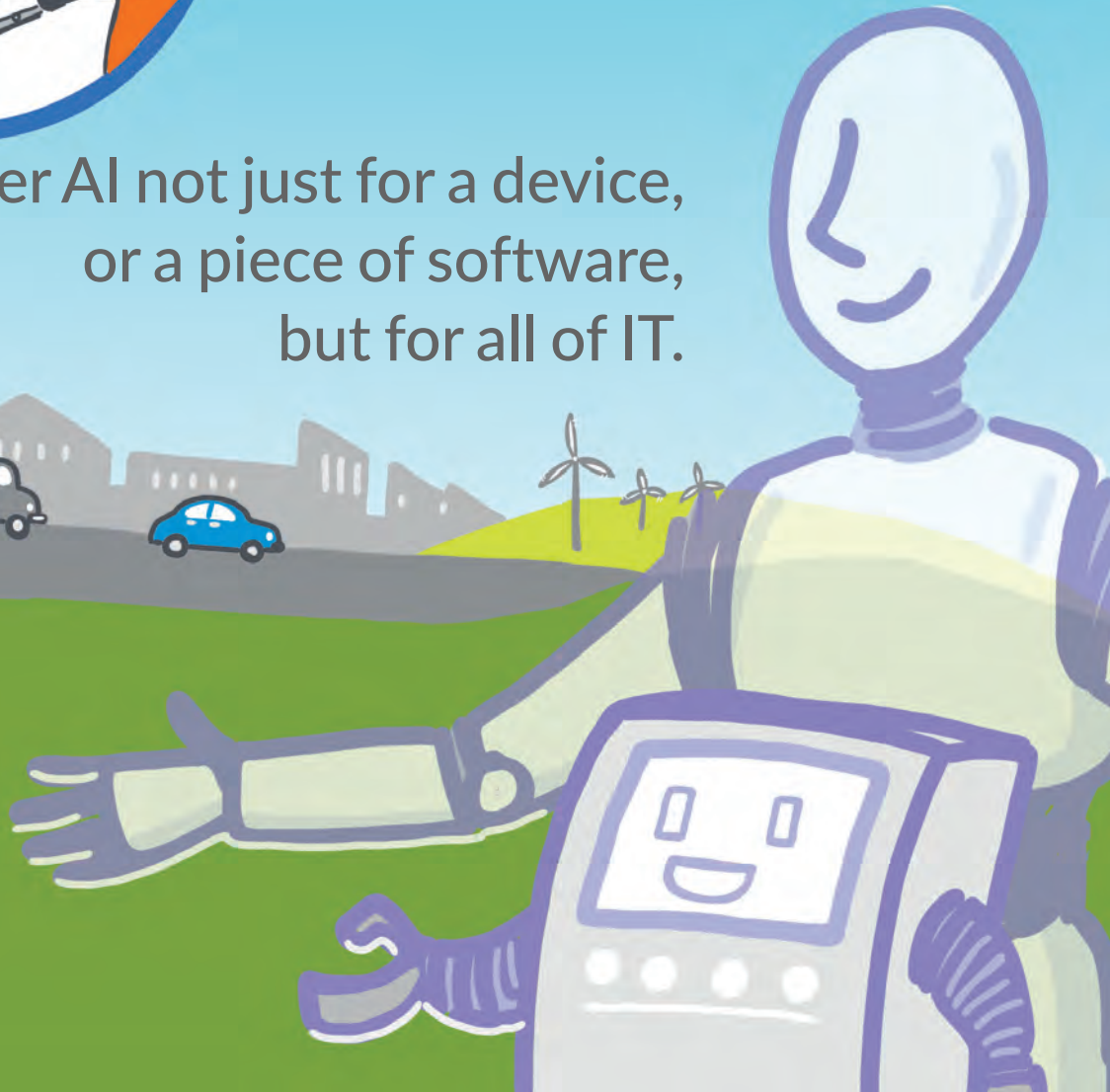
...from physical to virtual...

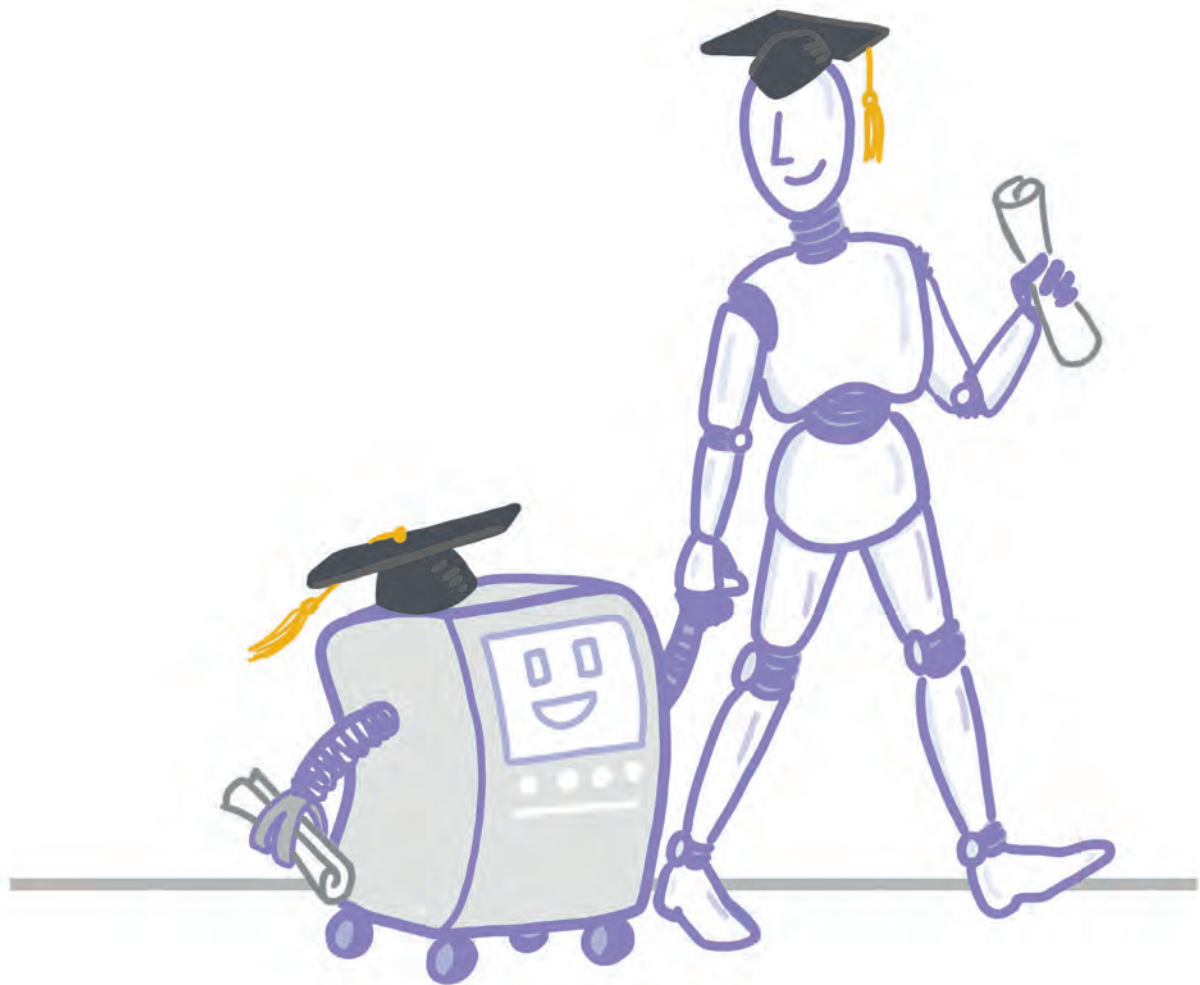




...from wired to wireless...

...to deliver AI not just for a device,
or a piece of software,
but for all of IT.





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