

# d Kin

LOOKING FORWARD 40 YEARS



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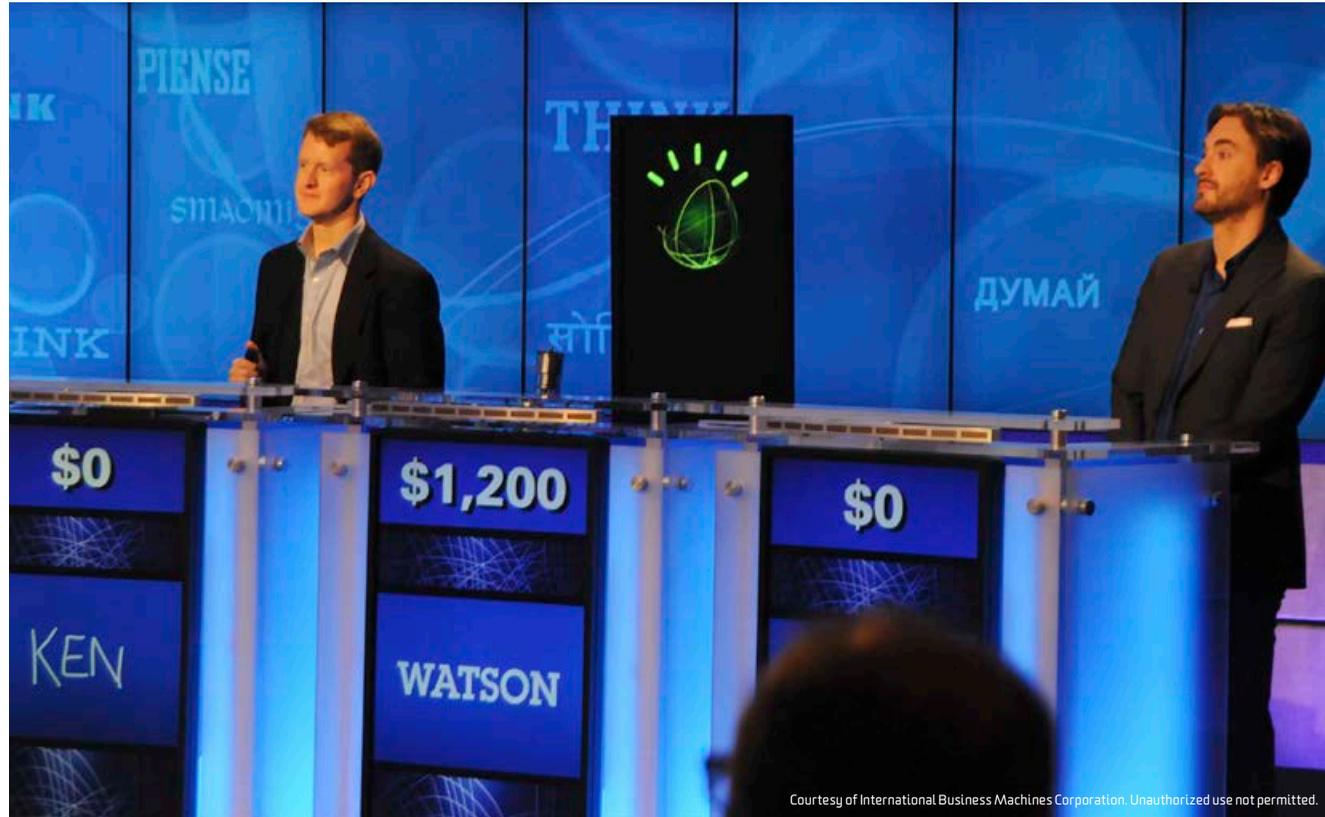


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William meets Watson

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*William Confalonieri*



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The two most successful Jeopardy contestants of all time stood at their podiums, locked in battle with a rookie, first-time contender – and they looked worried. By the end of the second round, the newcomer was already \$25,000 up on the nearest opponent, and they were about to head into the fast-paced, big money Double Jeopardy segment.

Up until this match, Ken Jennings and Brad Rutter were the undisputed champions of Jeopardy. Jennings had the longest unbeaten run of 74 appearances, while Rutter had earned the biggest prize pool of US \$3.25 million. And now they were getting it handed to them on national TV by Watson.

Although Watson had never appeared on the popular American TV game show, Watson kept his cool. Watson's voice never wavered, never stumbled over words and never appeared rattled by the opponents.

And Watson knew it all, correctly answering questions about Beatles songs, Olympic Games history, and literary allusion. OK, Watson wasn't crash hot on Harry Potter and got a bit muddled when it came to dates, but, despite valiant fight backs from Jennings and Rutter, Watson was comprehensively victorious in this exhibition game that had the whole world watching.

All three contestants answered the final question correctly, although Jennings added to his answer a statement that said it all: 'I, for one, welcome our new computer overlords.'

Because Watson wasn't an academic, a genius or even a very bright lay person: Watson was a robot.

Possibly the most shocking thing about this story, is that in the next decade, it will barely cause an eyebrow to be raised. It certainly won't send any shockwaves through the campuses of one Australian university, which will be quite au fait with Watson and artificial intelligence. Because in 2015, in a world-first, Watson is going to Deakin University.

'We will see in the next decade what the market is calling the rise of the smart machines,' says William Confalonieri, Chief Digital Officer at Deakin University.

Confalonieri says that so rapid is the development in technology, machines that replicate human thinking will soon be common place.

'Firstly, we are seeing great progress in the area of the artificial intelligence algorithms,' he explains. 'Computers are really moving away from being number crunchers and moving closer to mimicking the way that we think.'

'Also, we are seeing progress from the hardware perspective. We now have chips replicating the brain structure instead of following the typical model that has been around for many, many years.'

'The rise of artificial intelligence will transform the way we all live,' says Confalonieri, 'especially in terms of the workforce.'

'Most of the careers and professions that our kids are going to have don't even exist now,' he reveals.

'In the previous industrial revolution, machines were taking over the physical work of the masses. In this one, they will take over some of the work of our brains,' he says with a chuckle that suggests some amusement at the expressions on the faces of those who hear this.

'Of course not everything that is related to creativity and emotion can be replaced, but other things can be delegated to computers.'

'Google already has a driverless car,' he says. 'Now imagine it. Suddenly, all the taxi drivers are gone; all the truck drivers are gone; the car industry will be disrupted. I am not going to have three cars. My car will drive me here, then drive home, and then drive my kids to their things.'

If the image of smart machines swallowing up entire industries is frightening, consider this: it's already happening.

'There is a smart machine that is writing articles for Forbes,' Confalonieri says. 'This is happening now. Articles about financial advice are being written by Quill, an Artificial Intelligence Entity, developed by NarrativeScience. They are written without human supervision. This software takes the information, analyses it, decides what matters and it formulates an article.'

However, Confalonieri says, future readiness is not about being alarmed, it's about being prepared, and this, he says, is the primary objective of the world-first project to bring Watson to Deakin.

'What we are seeing is a shift in the configuration of the market,' he says. 'Where new jobs will be created and the simplest ones replaced by the smart machines.'

Deakin University is the first learning institution in the world

to take the step into this future by giving the Jeopardy-winning computer, Watson, a place in their University to provide advice and support to students.

'Watson is being developed by IBM and we have joined forces with them to revolutionise the student experience,' Confalonieri says.

But don't expect to bump into Watson at the University café or stand next to it at the next student union meeting. Watson, and all its intelligence, will be accessed via Deakin's digital platforms and will be available to all students.

'Watson is a computer that basically does three things,' explains Confalonieri. 'It manages natural language, so you can interact with the computer using English (they are working on other languages); it can create many hypotheses about a problem it is presented with, and decide what is the most sensible solution; and it is adaptive, it can receive feedback and adjust for next time.'

'With these three things this machine is really powerful.'

According to Confalonieri, Watson's role at the University will grow, as it is further customised, and as artificial intelligence technology develops.

Watson is being rolled out at Deakin in stages, the first being implemented at the beginning of 2015.

'Stage one is simple support in the role of an Information Assistant,' says Confalonieri. 'So it will answer general and how-to questions. For example, how do I apply for a student visa? Can I get credit for work experience?'

'The next stage is about Watson becoming a Personal Adviser, having a more personalised conversation by utilising student

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profile information. For example, what internships am I eligible to apply to?

'The following stage is about Watson becoming a Career Adviser, engaging students on a much deeper level. For example, I would like to become an IT architect. What are the gaps in my CV and how can I fill them?



'The final stage is the most complex advisory one. In this stage we are entering a realm where we will need to push the current limits of Artificial Intelligence.'

Deakin University students will also become some of the first students in the world to gain the experience of working on the development of Watson.

'We are going to teach Cognitive Computing and give access to Watson to the students in our IT courses,' says Confalonieri.

It's all part of the emphasis that Deakin puts on future readiness, an aspiration that is complex and mysterious, given that the jobs of the future are at this stage purely speculative.

'So we must have flexibility in what we teach,' Confalonieri says. 'Our kids must have broad skills and capabilities, as well as discipline-specific knowledge and capabilities. Things like problem solving, critical thinking, team work, self-management, digital literacy and communications skills are essential in the formation of future professionals.'

To this end, Deakin University is already rolling out a system of digital badging, a program in which students earn 'badges' for having demonstrated additional non-discipline specific skills.

Even before bringing Watson to Deakin, Confalonieri was named iTnews Education CIO of the Year, in recognition of his work in developing online student services.

'It is a time of big changes and Darwinian principles will continue ruling our existence,' Confalonieri says. 'The future belongs not to the strongest, not to the most intelligent, but to the ones most responsive to change.'