Humanics: A way to 'robot-proof' your career?

BBC (http://www.bbc.com/capital/story/20190127-humanics-a-way-to-robot-proof-your-career) · by Tim McDonald · January 28, 2019

As artificial intelligence becomes both more useful and more widespread, workers everywhere are becoming anxious about how a new age of automation might affect their career prospects.

A recent study by Pew Research (http://www.pewglobal.org/2018/09/13/in-advanced-and-emerging-economies-alike-worries-about-job-automation/) found that in 10 advanced and emerging economies, most workers expect computers will do much of the work currently done by humans within 50 years. Workers are clearly anxious about the effects on the job market of artificial intelligence and automation.

Estimates about how much of the workforce could be automated vary from about 9% to 47% (https://www.oxfordmartin.ox.ac.uk/opinion/view/404). The consultancy McKinsey estimates up to 800 million workers (https://www.bbc.com/news/world-us-canada-42170100) globally could be displaced by robotic automation by 2030. Some jobs will change dramatically, while others will disappear altogether.

So if automation makes the job market a little like a game of musical chairs, is there a way to make sure you're still employed when the music stops? Can education help you robot-proof your career?

Future-proofing your career is less about picking a safe job and more about constantly updating your skills throughout your career, according to Northeastern University president Joseph Aoun, who wrote Robot-Proof: Higher Education in the Age of Artificial Intelligence.

View image of (Credit: Getty Images) (http://ichef.bbci.co.uk/wwfeatures/wm/live/624_351/images/live/p0/6z/75/p06z75lj.jpg)

He says education needs to change dramatically if workers are to adapt to this new environment. His solution, which he calls humanics, has three basic pillars:

Technical ability: understanding how machines function and how to interact with them. As both artificial intelligence and robotics become ever more capable, machines will step into roles once monopolised by humans. Some employees won't last, but others will find themselves working with machines, and probably being vastly more productive as a result. Workers with a grounding in coding and engineering principles will be better placed to thrive in this new kind of workplace.

Data discipline: navigating the sea of information that's generated by these machines. Workers will need data literacy to read, analyse and use the almost bottomless troves of information that are increasingly guiding everything from major business decisions to stock picks to purchasing decisions.

And the human discipline: "which is what we humans can do that machines for the foreseeable future, cannot emulate." Aoun says this includes creativity, cultural agility, empathy and the ability to take information from one context and apply it to another. In educational terms, this means less emphasis on the classroom and a greater emphasis on experiential learning.

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The World Economic Forum suggests many white-collar jobs, like accounting, will be at risk from future automation, while the OECD says low-skilled jobs will be most vulnerable and there'll still be a strong correlation (https://www.oecd.org/employment/Automation-policy-brief-2018.pdf) between education and income. Either way, skills are becoming outdated faster than ever before.

> A generation ago, the half-life of a skill was about 26 years. Today, it's four and half years and dropping – Indranil Roy

"A generation ago, the half-life of a skill was about 26 years, and that was the model for a career. Today, it's four and half years and dropping," says Indranil Roy, the head of the Future of Work Centre of Excellence, set up by global consultancy Deloitte.

Aoun says the rapid pace of change isn't necessarily a negative, but it does mean you'll probably never outgrow homework. It also means universities will need to shift their focus towards lifelong education and training mid-career workers.

"We're constantly becoming obsolete. And in some ways that's an enormous opportunity for us all to re-educate ourselves and update ourselves. Those that are able to do it will be able to flourish," he says.

Aoun worries that the tertiary education system currently isn't equipped for this new reality. He says many universities are far too focused on four-year undergraduate courses and academic research.

Equally important to helping students graduate, he says, is helping students master "the human discipline". The solution is a much greater emphasis on real-world experience. That might mean taking a job or a long-term internship while studying. In addition to career experience, this gives students the life-skills to negotiate and interact with colleagues.

"It also allows you to see opportunities and see gaps, and this is where you can say 'I'm going to start a company or a not-for-profit'," he says.

Roy agrees that less-tangible life skills are becoming more important to many employers. He says some of Deloitte's "more progressive" clients use artificial intelligence for skills like analytics, freelancers for deep technical skills and only fully employ people with "life skills" and values that align closely with the organisation. But he points out those are skills that mostly come from outside a university environment.

View image of (Credit: Getty Images) (http://ichef.bbci.co.uk/wwfeatures/wm/live/624_351/images/live/p0/6z/75/p06z75qk.jpg)

McKinsey suggests that by 2030, the workforce will spend 55% more time (https://www.mckinsey.com/featured-insights/future-of-work/ai-automation-and-the-future-of-work-ten-things-to-solve-for#part2) using technical skills than in 2016. The World Economic Forum (http://reports.weforum.org/future-of-jobs-2018/press-releases/), meanwhile, foresees a net gain in employment from automation, with some jobs killed off but more created.

Roy says that probably means a workplace in which robots work alongside humans – for example, he says some of Deloitte's clients have AI systems that attend and participate in meetings.

Aoun agrees that it's important to understand our changing our relationship with machines in the workplace, and to adapt education accordingly.

"In the same way that once we have self-driving cars, clearly teaching driving will be transformed. So technology is going to make certain fields obsolete, but it's not going to make humans obsolete," he says.

Perhaps above all, Aoun says humans need to focus on skills that are harder for artificial intelligence to replicate. Specifically, that means taking knowledge from one context or discipline and applying it to another. Humanics itself is about combining three separate disciplines.

"We humans are creative, innovative, entrepreneurial. We are able to interact with other people, work with them, be empathetic. We are able to be culturally agile, work with people with different backgrounds. We are able to be global," he said.

Roy says universities, particularly in the US, Canada and Australia, are increasingly focusing on interdisciplinary studies. However, tertiary institutions in other countries are still a little more traditional in their approach.

Technology is constantly upending our expectations, with change the only certainty. Roy says he is "surprised every day" at the barriers machines are breaking.

So perhaps it's not enough to help workers survive a musical chairs-style job market. Maybe they also need to survive in one where all the chairs are constantly moving.

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