JOBS AND THE ROBOT REVOLUTION

Technology has given birth to new career paths, but some jobs have disappeared as machines do them faster. An Oxford study claims that computerisation puts nearly half of jobs into the high-risk category, which means they could be redundant within 10 to 20 years. So is there any way to make sure you don’t become surplus to requirement?

The jobs that seem to be at high risk are those intermediary roles, a lot of office and administration work and sales work. The rise of robots is far from science fiction. Amazon is already putting robots to work in its warehouses, and plans to use drones to deliver products to customers in 30 minutes or less.

Innovations in self-driving cars are set to transform travel and transportation, while automation is also transforming agriculture, retail and the financial services, and looks set to do the same for law and medicine.

But there are areas where humans can outperform machines. People will be hired for things robots can’t do. Take journalism. Some news writing has already been automated, but as journalism is not a pure transmission of information, it isn’t a natural field for a robot to excel in. These profoundly human skills, along with others such as creativity, problem solving and caring, are the ones people will get hired for in the future.

So what can you do if you are worried about the long-term potential of your chosen career? One option is to look at the skills shortages where you live and invest in the relevant training.

In the UK, the IT sector is a massive growth area. It is predicted there will be 750,000 computer science jobs to fill by 2017, – but just 50,000 computer science students graduated in 2014. This massive IT skills shortage in the UK market is a big risk to the economy.

But for some of us, future proofing our careers may be easier than expected. In fact, many people that are immersed in social media have grown up with skills that are invaluable in the workplace.

Employers need to learn from digital savvy people who are quick to pick up on new trends, who adapt quickly to change and are task-led rather than confined to the narrow remit of their job role.

However, schools have yet to take advantage of the potential of technology in the classroom to give every student the skills they need in today's connected world.

Embracing technology is likely to be the best way to survive the changing face of jobs. But unlike the previous generation where you could work in one industry for your whole life, it is more normal now to jump from career to career.

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ROBOT REVOLUTION

Could the rise of “thinking machines” exacerbate inequalities or create more jobs? According to a new sociological study, a “robot revolution” will transform the global economy over the next 20 years, cutting the costs of doing business but exacerbating social inequality. In the short term, indeed, machines are expected to take over everything from assembling machine parts to flipping burgers, sweeping and cleaning offices and warehouses. Robots are also expected to perform most manual jobs in the house, such as hoovering the living room or even caring for the elderly.

Such development of artificial intelligence means computers will increasingly be able to “think”. “Thinking”, as far as computers are concerned, essentially means performing analytical tasks that were once seen as requiring human judgement.

Will then robots replace humans such as, for example, doctors and lawyers? Yes, specialists say. It’s a change we should embrace. In a 300-page report, revealed exclusively to The Guardian, analysts from an investment bank outline the impact of what they regard as the fourth industrial revolution, after steam, mass production and electronics.

“We are facing a paradigm shift which will change the way we live and work,” the authors say. “The pace of disruptive technological innovation has gone from linear to parabolic in recent years. Penetration of robots and artificial intelligence has hit every industry sector, and has become an integral part of our daily lives.”

However, this revolution could leave many workers at risk of being displaced by technology over the next 20 years. According to the Oxford University research cited in the report, up to 35% of all workers in the United Kingdom, and 47% in the United States could lose their jobs. Those job losses would likely be concentrated at the bottom of the income scale.

The trend is worrisome in markets like the US because many of the jobs created in recent years are low-paying, manual or service jobs which are generally considered ‘high risk’ for replacement by robots. “One major risk of the take-up of robots and artificial intelligence is the potential for increasing labor polarization, particularly for low-paying jobs such as service occupations, and a hollowing-out of middle income manual labor jobs.”

The authors have calculated that the total global market for robots and artificial intelligence is expected to reach $152.7bn (£99bn) by 2020. Therefore, they have also estimated that the adoption of these new technologies could improve productivity by 30% in some industries. This increase could then, in the longer term, lead to the creating of more jobs, especially at the top of the income scale…

So, we are back to our initial question: Will the rise of “thinking machines” exacerbate inequalities or create more jobs?

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WILL MACHINES EVENTUALLY TAKE ON EVERY JOB?

Dire warnings are frequently issued. As machines, software and robots become more sophisticated, some fear that we stand to lose millions of jobs. According to one unpublished study, the coming wave of technological breakthroughs endangers up to 47% of total employment in the US.

In the past, as some jobs have disappeared, others have risen in their wake. Artisanal skills were replaced by factory work when industrial-scale manufacturing took over in the 19th Century. But by the 1980s, many of the Industrial Revolution-era assembly-line jobs had themselves fallen into the figurative hands of machines.

Compared to the past, however, what is different about today is the pace at which market transformations are taking place. Never before have we seen such rapid rates of societal and workforce change. While it is too early to say for sure, data indicate that the employment market is not necessarily evolving fast enough to keep up with this change: the ratio of employment to the overall population has been falling in developed countries.

“My reading of the evidence is that the digital economy hasn’t created many jobs directly,” says Carl Frey, co-director of the Oxford Martin Programme on Technology and Employment at the University of Oxford. “And the jobs it has created tend to be concentrated in cities like London, San Francisco, New York and Stockholm, which drives up prices, creates inequality and makes it difficult for people to live in, or move to, places where new jobs are emerging.”

Demand is steeply growing for highly skilled, highly educated workers, but precipitously declining for those with low to moderate education. This means that a large chunk of the population that could have maintained a middle-class lifestyle in past decades can no longer do so. Coming years will likely only see this problem intensify, as jobs that involve any kind of routine or repetitive work – mental or physical – are increasingly at risk of being ousted by automation. […]

Some countries, industries and companies are responding to these changes better than others. On one end of the spectrum, regulatory regimes can prevent innovation, as France is doing with the recent ban on Uber. On the other hand, some places are aggressively pursuing innovation. In Germany, 1.5 million people enroll in paid apprenticeships annually, emerging from the programmes as highly skilled technical workers. […]

Letting the machines take over to some extent is not necessarily all bad, especially as it is virtually guaranteed to lead to an increase in overall wealth and well being. Thanks to oil, Norway, for example, enjoys one of the highest GDPs in the world and one of the shortest average workweeks: just 33 hours.

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