Written by **Bob Adelmann** on July 10, 2017

Robots May Take 2/3 of Las Vegas Service Jobs

Two college professors from the University of Redlands, California, looked at the occupations at the highest risk of being automated or replaced by robots, analyzed 100 American cities with working populations over 250,000, and listed those cities most at risk. They included Bakersfield and Riverside, California; El Paso, Texas; and at the top of the list, Las Vegas. The professors predict that over the next two decades, at the present rate that robots are replacing workers, 65 percent of the jobs in Las Vegas will be done by robots.

They will include robots selling tickets for events, offering free advice for various attractions, and transportation to and from attractions. Most will be invisible, behind-the-scenes: counting cash, monitoring games of chance, and providing security. The professors didn't say whether robots would replace Blackjack dealers; however, one of them, Johannes Moenius, director of Redland's Institute for Spatial Economic Analysis (ISEA), did state, "The replacement of jobs by machines has been happening continuously since the [start of the Industrial Revolution, around 1760], but it's expected to significantly accelerate in the coming 10 or 20 years. Pretty much everyone will be affected, but some metropolitan areas will see a lot more jobs vanish than others."

Those occupations most at risk, according to two Oxford University professors who published their results in 2013, include loan officers (98 percent chance of being replaced by a robot), receptionists and information clerks (96 percent), paralegals and legal assistants (94 percent), retail sales people (92 percent), taxi drivers and chauffeurs (89 percent), and fast food cooks (81 percent). At the bottom of the list are elementary-school teachers and physicians and surgeons (0.4 percent chance), lawyers (four percent), musicians and singers (seven percent), and reporters and correspondents (11 percent).

Robots are nearly commonplace now, with kiosks showing up at restaurants such as Red Robin and Panera Bread, and fast-food places such as McDonald's. News reports about self-driving cars are already passé. Behind the scenes, however, the robots are replacing paralegals, as they are much more efficient at processing the thousands of legal briefs and precedents their bosses need for pre-trial research and development. Fast-food cooks can see the handwriting on the wall, with a company called Miso Robotics selling "Flippy," a computer-driven robot that learns how to cook a burger, when to flip it, when the temperature indicates that it's ready, and then flips it onto a bun, adding sauce and condiments along the way.

Miso CEO David Zito explained, "Today our software allows robots to work at a grill, doing some of the nasty and dangerous work that people don't want to do all day.… These systems can be adopted so that robots can work, say, standing in front of a fryer or chopping onions. These are all areas of high [employee] turnover, especially for quick service restaurants."

Miso Robotics isn't alone. Its peers include Zume Pizza, Café X, Makr Shakr, Frobot, and Sally (automatic pizza, lattes, cocktails and milkshakes, frozen yogurt, and salads, in case one missed the

connections). Greg Creed, the CEO of Yum! Brands (KFC, Taco Bell, Pizza Hut, and Wingstreet) said his company will be replacing workers with robots by the mid-2020s, likely hastened by higher minimum-wage laws being adopted by states.

Other examples include robots such as da Vinci, helping surgeons do prostate removals and hysterectomies. Currently da Vinci has more than 4,000 of its robots in place in surgical labs across the country. Medical technology giants Stryker and Smith & Nephew are developing robots to do complete knee replacements, resulting in less patient trauma and recovery. They allow for precise positioning, accurate guidance for bone cutting and highly efficient insertion of artificial bone joints.

Banks and investment companies have been using robots to automate back-office tasks for years, but UBS has installed "adaptive strategy" software that helps traders trade more efficiently by learning strategies as the market changes and then implementing them. Its investment results so far are impressive, returning more than 10 percent in environments with index funds showing returns of half that.

In the broadest sense, every smartphone is essentially an AI (artificial intelligence) device, and 1.5 billion of them were shipped in 2016. More than 1.6 million industrial robots operated worldwide in 2015, and experts predict that number to grow by 70 percent in just four years. Here's the kicker: Each robot, on average, replaces the work done by 5.7 U.S. workers. This raises the eternal question: What happens to those who will be forced out of work?

The simple answer is, those who want to find other work will find it. Rob Steward, head of Acacia Research, explains, "Like the electronic spread sheet [from years ago that threatened the accounting industry], this [robotic revolution] will cause the jobs to go elsewhere. There will be new hospitality and culinary jobs we have yet to imagine. And those will be jobs where people will get paid a higher wage, and where they'll want to stay long-term."

According to the U.S. Bureau of Labor Statistics, U.S. companies added 136,748 robots to factory floors over the past seven years. If each of them displaced the average of 5.7 human jobs, that would have led to massive unemployment. And yet, over that same period of time, 894,000 new manufacturing jobs were created instead.

This is the lesson that is being taught: Some of those people being displaced are being trained by their employers for other work. Some are taking additional training to be ready when the pink slip arrives. Robotics and software coding are being offered at night schools. For example, Scott Blanck's company, Start Code, is a computer-programming lab for children. Said Blanck: "Like a blue-collar job, it's something that you learn over time. You start with it. But then you get better at your craft as you go along. Because really, this field is constantly changing. You've always got something new to learn."

That's how the free market responds — and has always responded — to change. It adapts, it shifts, offers new opportunities, and moves with, and often in advance of, changes. We shouldn't be afraid, as were the Luddites (19th-century textile workers who revolted after being replaced by machines), that millions of people, such as those perhaps facing change in Las Vegas and elsewhere, will be laid off and wind up starving in the streets. Instead, those being displaced will find other work — often in higher-paying and more satisfying jobs.

In other words, thanks to robotics, people will enjoy a higher standard of living in safer environments, holding jobs that they enjoy.

Photo of Las Vegas Strip at night by Carol M. Highsmith

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