

Informative Essay

Between 2004 and 2009 almost 40,000 mass layoffs occurred in the US, affecting over 7 million workers. (Sucher et al.) Technology is advancing at a rapid rate, with advancements in Artificial Intelligence (AI) and robotics, your job could soon be automated. This paper will cover the ethical implications of replacing large amounts of workers with robotic systems. There are many issues with replacing workers with machines. What are the economic impacts of laying off hundreds of workers. Should employers be allowed to replace capable workers with machines? What should be done with the workers who have been replaced? I used to be an intern for a factory that assembled lithium-ion battery packs for medical and military level equipment. Every year that I was interning there there was another machine that was faster and could do more than the last year. While i was at the factory, they were in the process of expanding their operation so they did not need to lay anybody off, but I got to witness firsthand how automation has changed the manufacturing process.

Automation of a job is not the same as the automation of a task, Bessen states in his paper that a group of researchers evaluated 70 occupations and deemed 37 of them "fully automatable," and predicted that in the future, half of all jobs are susceptible to complete automation. However, none of the 37 jobs listed have been completely automated so far. (Bessen) Automation is usually not the main cause of job loss, older occupations like telegraph operators were made obsolete because of the advancement of technology, not because the process was automated. Automation is the sole purpose of the decline of elevator operators however. Soon another industry might be at risk of being completely automated, truck drivers. Autonomous vehicles are expected to revolutionize road travel soon. Truck driving provides many jobs for low-skill workers with 93% of the work force having less than a bachelors degree.(Austin)

Automating jobs could be a good thing for the workers, people in the welding profession can develop eye, nose and throat irritation as well as pulmonary infections, heart disease, and lung and throat cancer as a product of working with hazardous materials. (Pham et al.) Replacing these workers with a machine would not only increase production for the company, it will reduce health issues caused by welding. Pham also states that just because workers that retain their jobs might not see conditions improve, because the pace of the machines is much faster than the humans, the machines must work at the pace of the humans, which

means that the people are overworked compared to a machine that can do many more cycles in less time than a human.

The time frame for the complete automation of jobs is not academically agreed upon. Some (Ford) argue that the cognitive capability of automation carries an actual threat of massive job destruction over the coming decades. And (Frey and Osborne) Oxford economists predict that 47% of total US employment is at risk of being taken away by automation. While a MIT Technology Review survey of dozens of global economic and technology experts shows no consensus on the number of jobs lost or when. (Winick)

All in all, automation is inevitable, but the automation of jobs does not have to be a bad thing, there are many cases where automation has increased the number of jobs in the field effected. This just brings to light how fragile the economy is and how careful we need to be when deploying new technologies in mass quantities.

Works Cited

- Austin, Algernon. “Stick Shift: Autonomous Vehicles, Driving jobs, and the Future of Work” (2017).
- Bessen, James E. “How computer automation affects occupations: Technology, jobs, and skills”. *Boston Univ. school of law, law and economics research paper* 15-49 (2016).
- Ford, Martin. “Rise of the Robots: Technology and the Threat of a Jobless Future” (2015).
- Frey, Carl Benedikt and Michael A Osborne. “The future of employment: How susceptible are jobs to computerization?” *Technological forecasting and social change* 114 (2017): 254–280.
- Pham, Q-C, et al. “The impact of Robotics and Automation on Working Conditions and Employment [Ethical, Legal, and Societal Issues]”. *IEEE Robotics & Automation Magazine* 25.2 (2018): 126–128.
- Sucher, Sandra j, et al. “Layoffs: Effects on Key Stakeholders” (2010).